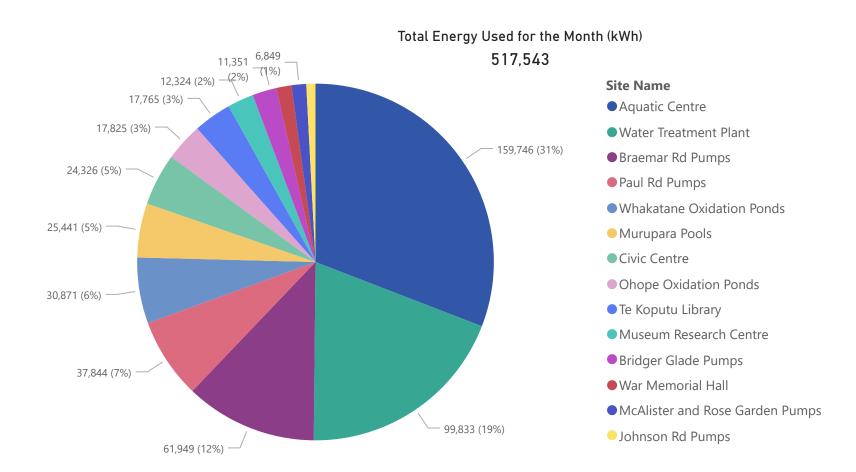


Summary

\$1,586 Monthly Energy Cost Savings	30,650 Elec. Savings (kWh/mo)	6% Elec. Savings (%)	587,064 R12M Electricity Savings (kWh/yr)	- 5,666 CO2e Savings (kg/mo)
\$89,963 R12M Energy Cost Savings	-40,791 Gas. Savings (kWh/mo)	-164% Gas. Savings (%)	-236,658 R12M Gas Savings (kWh/yr)	1,010 R12M CO2e Savings (kg/yr)

Total Energy (kWh/Month)



War Memorial Hall

Johnson Rd Pumps

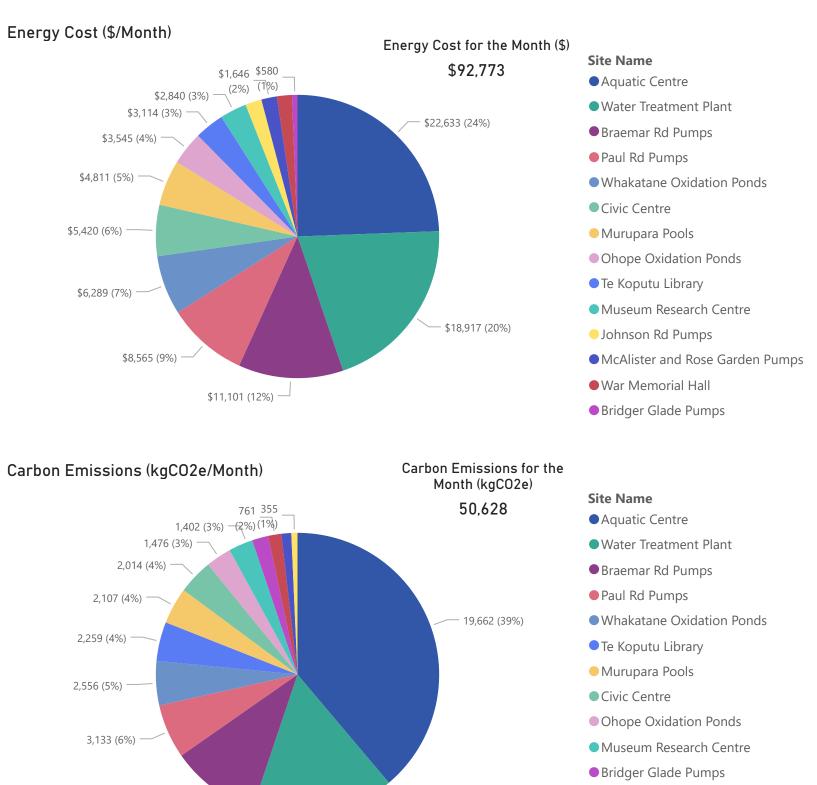
McAlister and Rose Garden Pumps



Whakatane District Council

5,129 (10%)

Summary

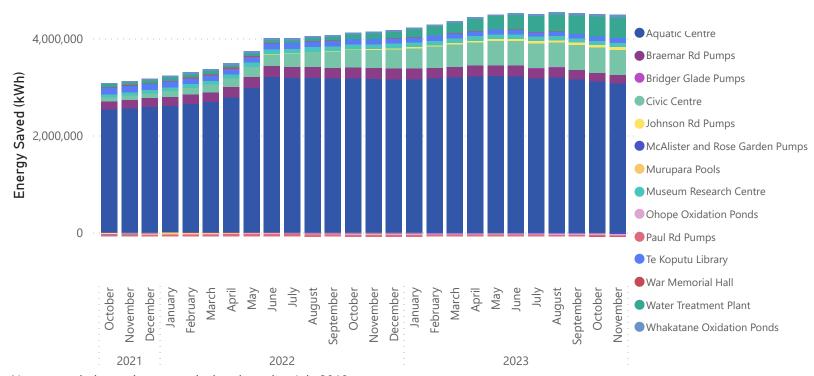


8.266 (16%)



Summary

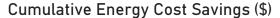
Cumulative Energy Savings (kWh)

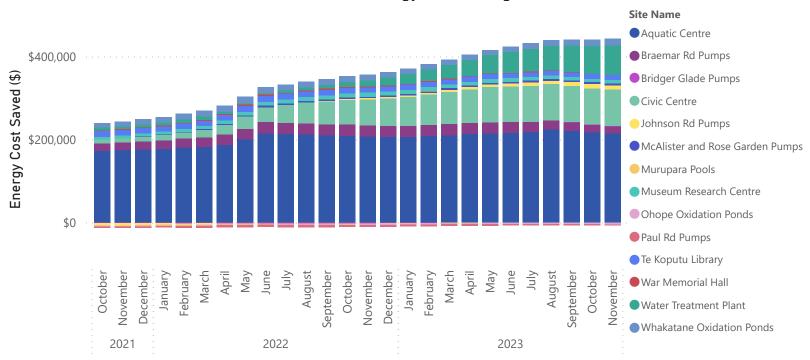


Note, cumulative savings are calculated starting July 2018

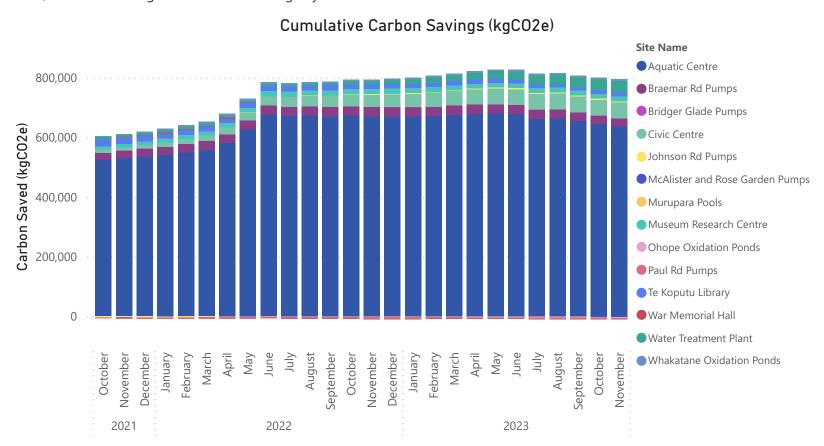


Summary



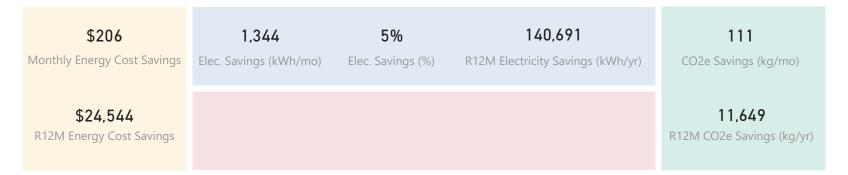


Note, cumulative savings are calculated starting July 2018





Civic Centre

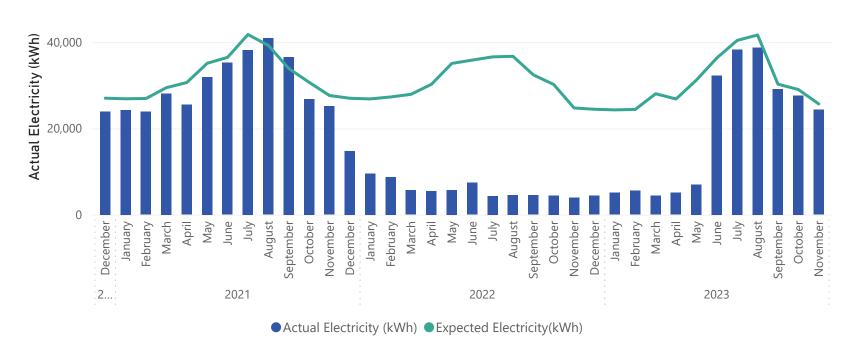


Comments:

The Civic Centre has returned to normal operation after ongoing refurbishments. It can be seen from TOU electricity afterhours has stabilised to approximately 20 kW in November. Afterhours electricity in October ranged from 13-57 kW. Demand for the Civic Centre rises sharply from 5:00am and is likely attributed to HVAC. With most staff starting from 8:00am onwards, HVAC is running for approximately 3 hours with minimal occupancy. HVAC start should be delayed as long as possible in the morning, while still achieving a comfortable temperature by the time staff arrive. Overall, electricity use is less than expected.

Electric vehicle charging stations have been in use from March 2021, non-routine adjustments are on-going to account for the increased electricity use.

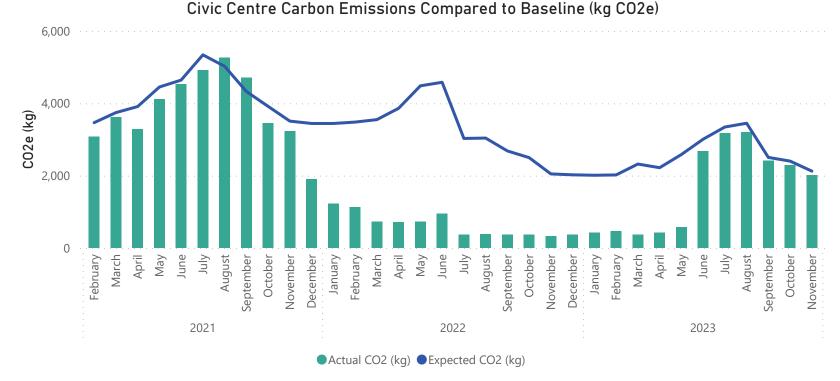
Civic Centre Electricity Use Compared to Baseline (kWh)

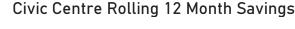


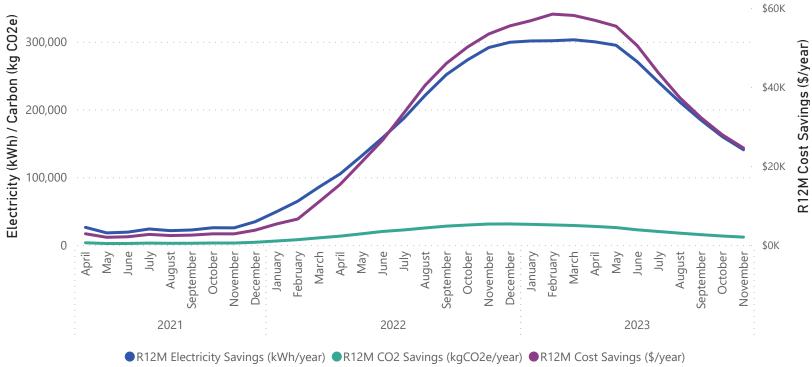


Civic Centre





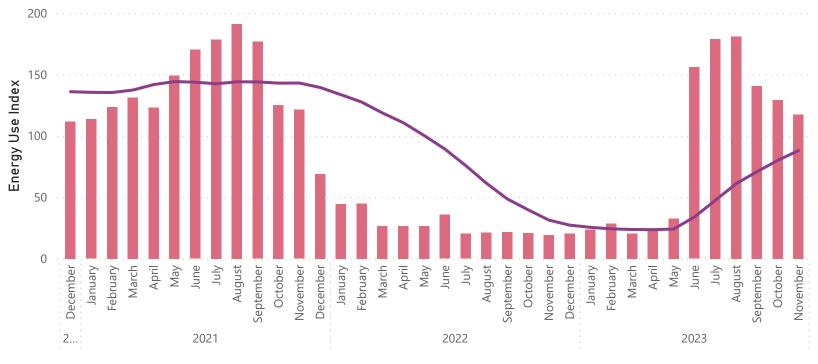






Civic Centre

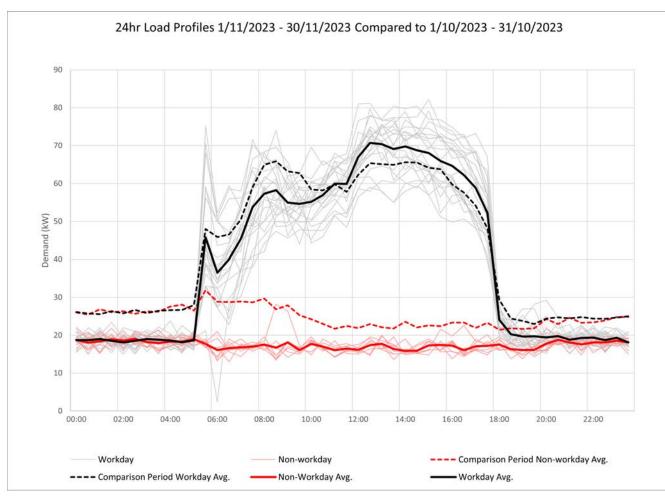


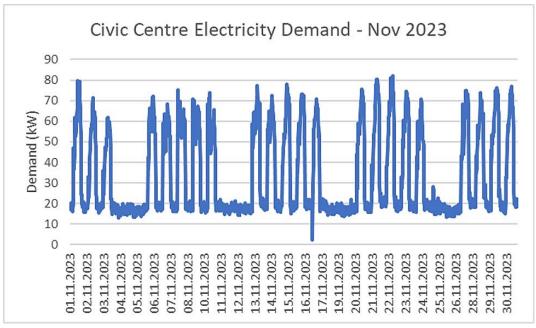


● EUI Monthly (kWh/year/m^2) ● EUI R12M (kWh/year/m^2)



Civic Centre







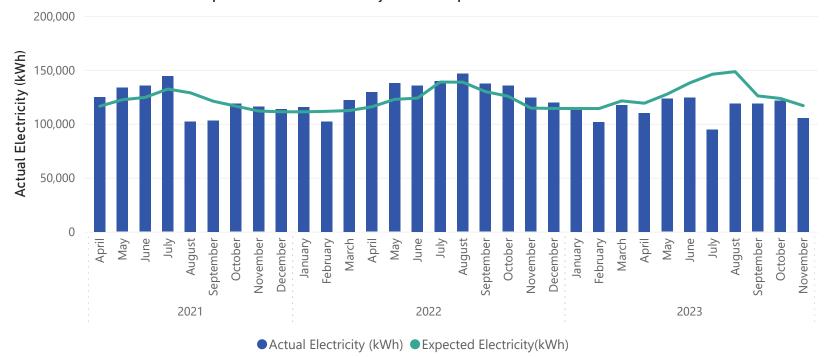
Aquatic Centre

-\$2,245 Monthly Energy Cost Savings	11,494 Elec. Savings (kWh/mo)	10% Elec. Savings (%)	138,436 R12M Electricity Savings (kWh/yr)	-8,372 CO2e Savings (kg/mo)
\$7,402 R12M Energy Cost Savings	-46,358 Gas. Savings (kWh/mo)	- 578% Gas. Savings (%)	-226,331 R12M Gas Savings (kWh/yr)	-34,059 R12M CO2e Savings (kg/yr)

Comments:

Electricity use was less than baseline in November 2023, gas use was more than six times greater than expected. The Aquatic Centre has been using the gas boilers as a temporary solution while heat pump and plant equipment are being repaired and redeveloped. The EUI for the month is close to average over the past 12 months, with more gas being used, the EUI is expected to be higher than typical, gas boilers use energy less efficiently compared to heat pumps.

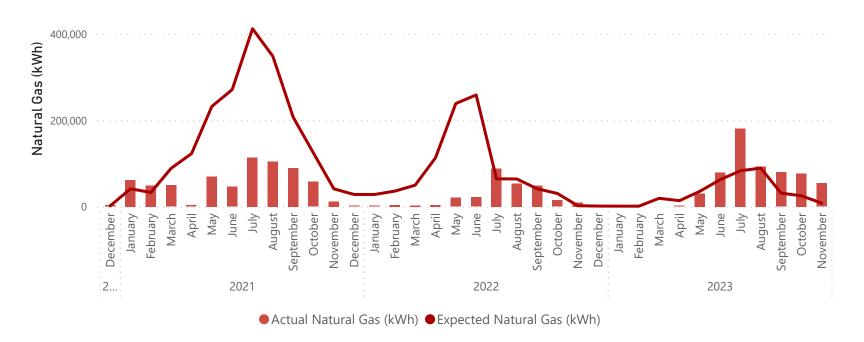
Aquatic Centre Electricity Use Compared to Baseline (kWh)



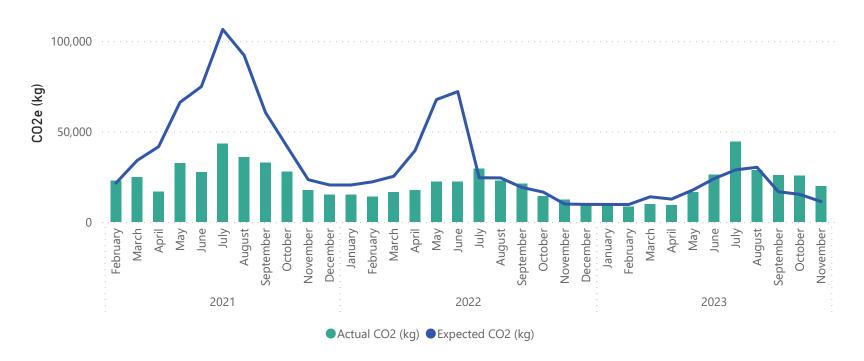


Aquatic Centre

Aquatic Centre Natural Gas Compared to Baseline (kWh)

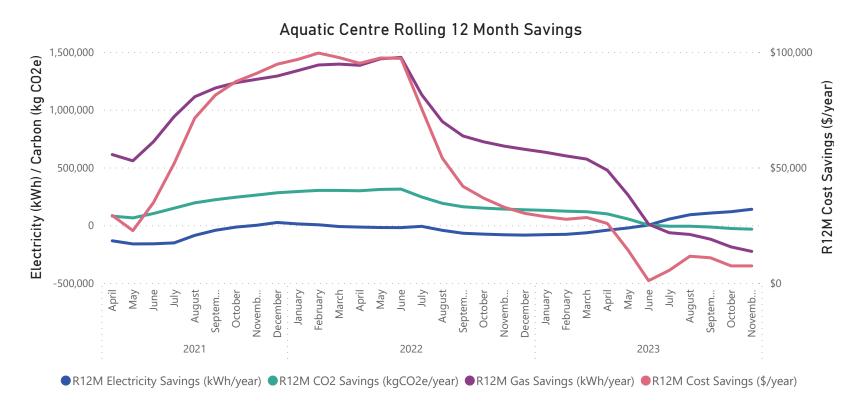


Aquatic Centre Carbon Emissions Compared to Baseline (kg CO2e)

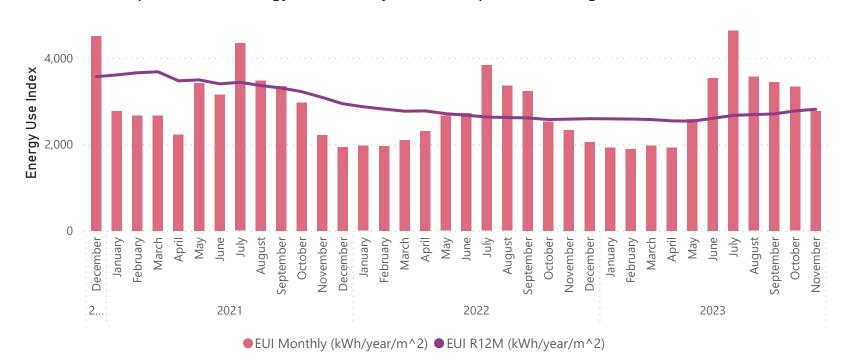




Aquatic Centre



Aquatic Centre Energy Use Index by Month Compared to Rolling 12-Month Values





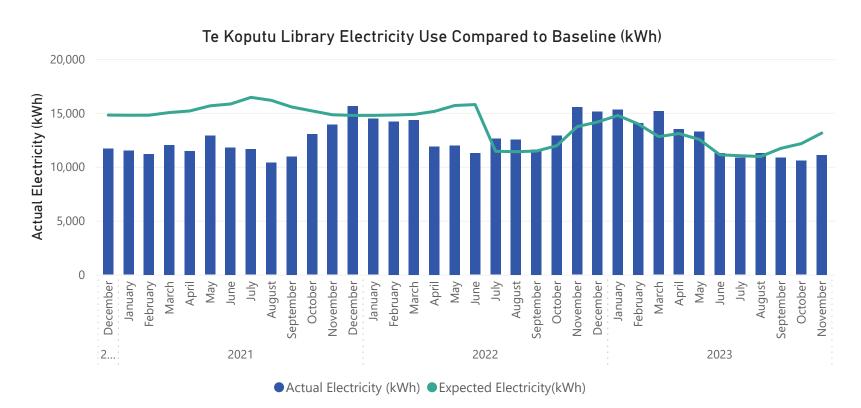
Te Koputu Library

\$767 Monthly Energy Cost Savings	2,026 Elec. Savings (kWh/mo)	15% Elec. Savings (%)	-913 R12M Electricity Savings (kWh/yr)	1,248 CO2e Savings (kg/mo)
-\$679 R12M Energy Cost Savings	5,371 Gas. Savings (kWh/mo)	45% Gas. Savings (%)	- 5,784 R12M Gas Savings (kWh/yr)	-1,239 R12M CO2e Savings (kg/yr)

Comments:

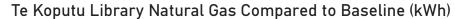
Electricity and natural gas use was significantly less than expected for the month, an excellent result. Both natural gas and electricity savings have increased over the past four months.

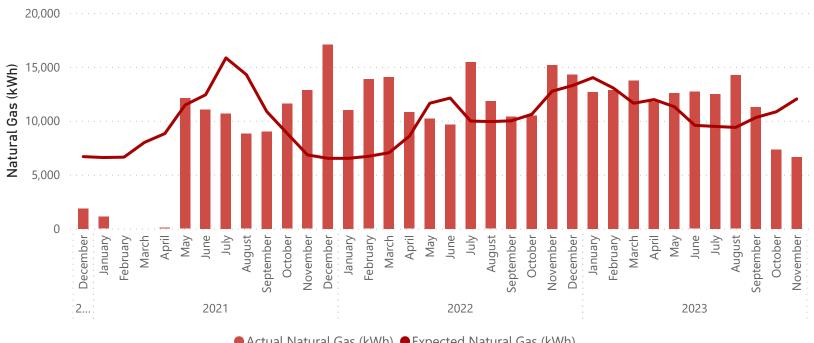
The Library's EUI for the month is 27% less than average compared to the last 12 months, which is great.



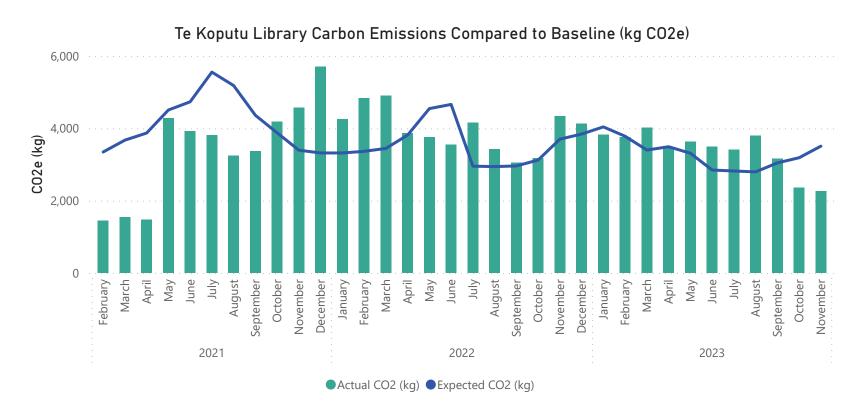


Te Koputu Library



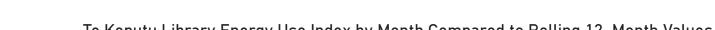


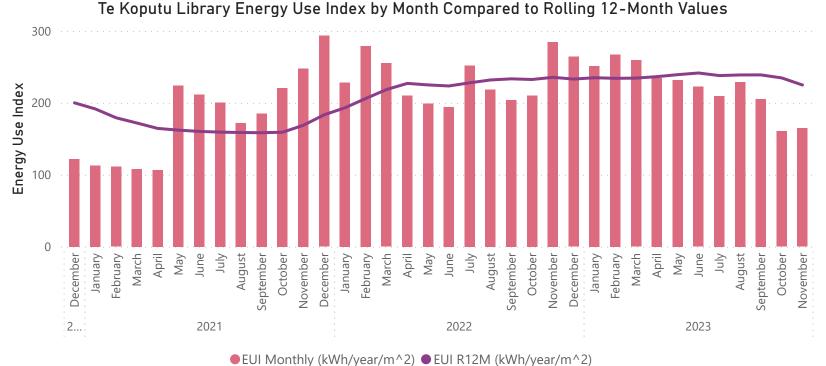
Actual Natural Gas (kWh)Expected Natural Gas (kWh)



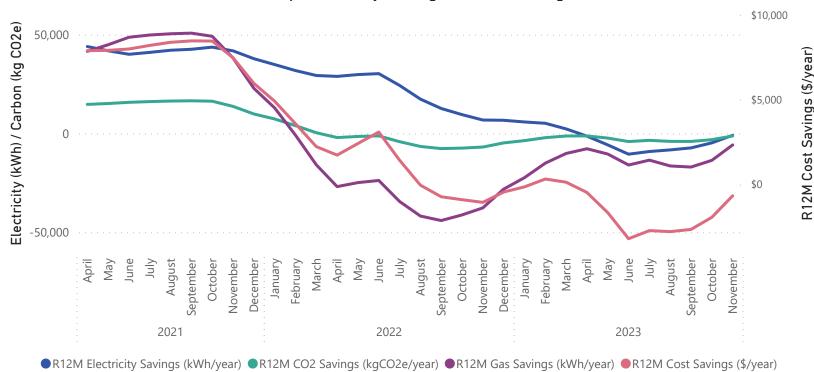


Te Koputu Library









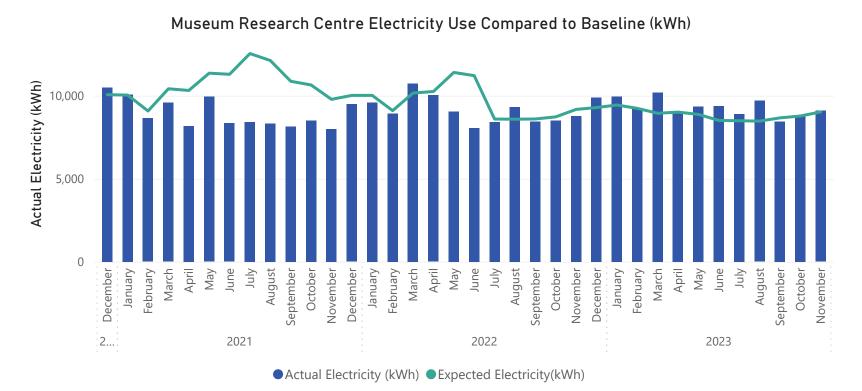


Museum and Research Centre

-\$46 Monthly Energy Cost Savings	-68 Elec. Savings (kWh/mo)	- 1% Elec. Savings (%)	- 5,180 R12M Electricity Savings (kWh/yr)	-89 CO2e Savings (kg/mo)
-\$1,448	-415	-15%	- 5,876	-1,611
R12M Energy Cost Savings	Gas. Savings (kWh/mo)	Gas. Savings (%)	R12M Gas Savings (kWh/yr)	R12M CO2e Savings (kg/yr)

Comments:

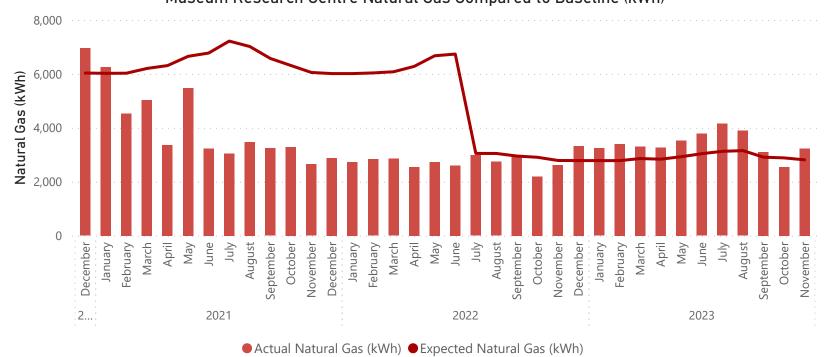
Natural gas use was significantly more than expected and electricity use was close to expected. With the exception of October 2023, natural gas has been more than expected since December 2022. November 2023 is the third month in a row where the EUI was less than average compared to the last 12 months, which is good.



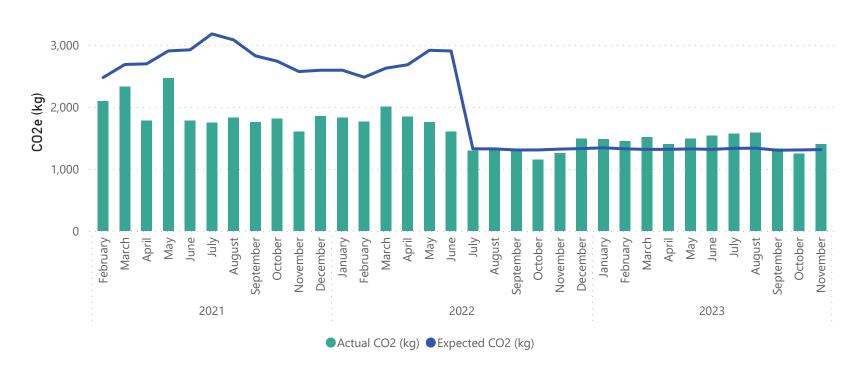


Museum and Research Centre



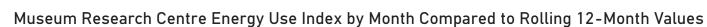


Museum Research Centre Carbon Emissions Compared to Baseline (kg CO2e)





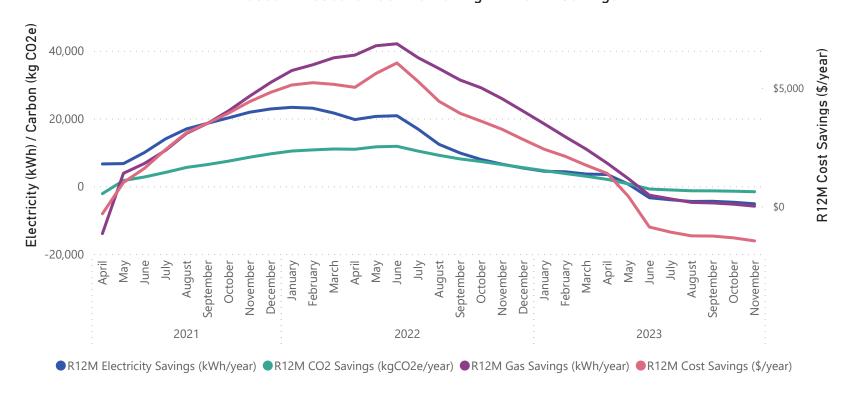
Museum and Research Centre





● EUI Monthly (kWh/year/m^2) ● EUI R12M (kWh/year/m^2)

Museum Research Centre Rolling 12 Month Savings





War Memorial Hall

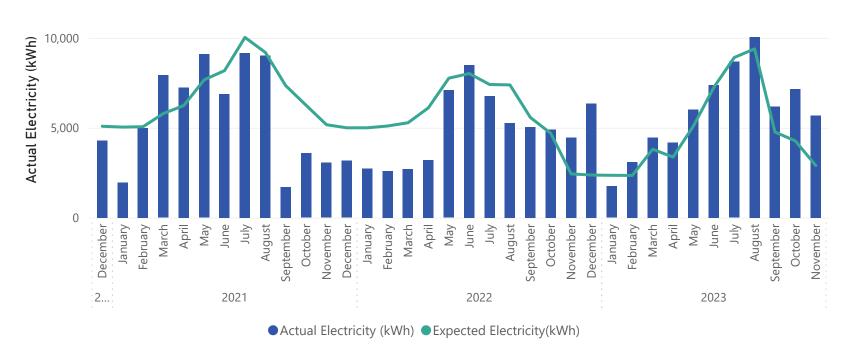
-\$370 Monthly Energy Cost Savings	-2,791 Elec. Savings (kWh/mo)	- 96% Elec. Savings (%)	-14,159 R12M Electricity Savings (kWh/yr)	-108 CO2e Savings (kg/mo)
-\$2,261 R12M Energy Cost Savings	612 Gas. Savings (kWh/mo)	30% Gas. Savings (%)	1,333 R12M Gas Savings (kWh/yr)	-904 R12M CO2e Savings (kg/yr)

Comments:

The War Memorial Hall used nearly twice as much electricity than expected. Ten of the past 12 months have used more electricity than expected. This may be due to higher occupancy rates than usual.

The hall has used less natural gas than expected in November. Natural gas use has decreased in recent months as ambient temperature is higher and less heating is required.

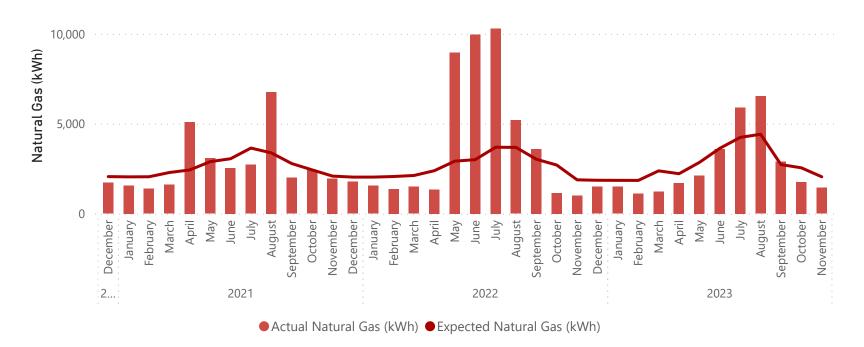
War Memorial Hall Electricity Use Compared to Baseline (kWh)



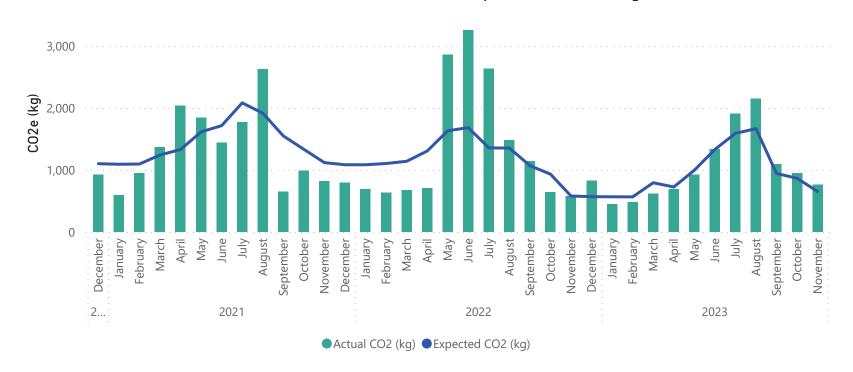


War Memorial Hall

War Memorial Hall Natural Gas Compared to Baseline (kWh)



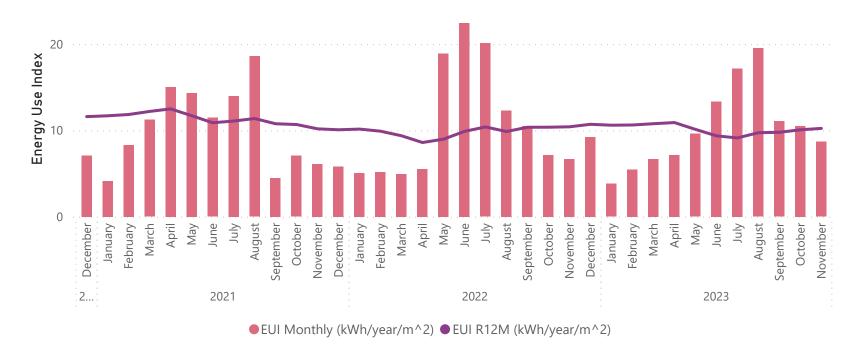
War Memorial Hall Carbon Emissions Compared to Baseline (kg CO2e)

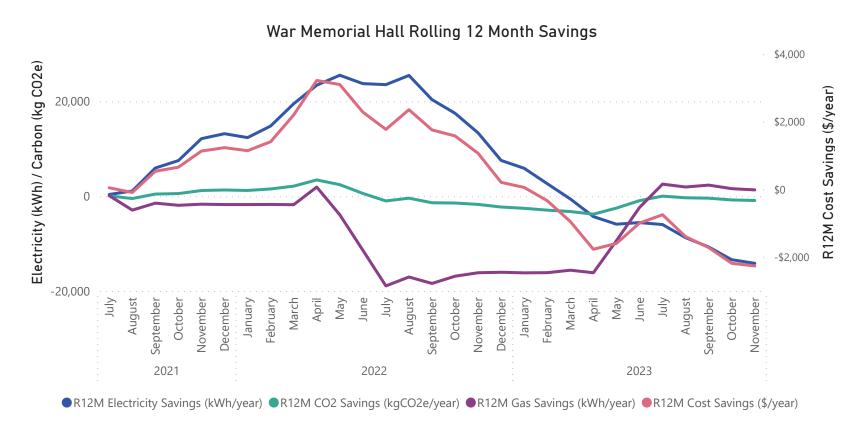




War Memorial Hall

War Memorial Hall Energy Use Index by Month Compared to Rolling 12-Month Values







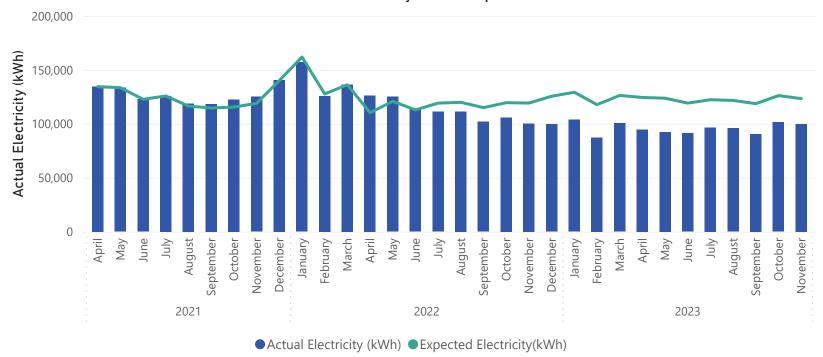
Water Treatment Plant

\$3,446	23,569	19%	324,830	1,952
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
* = / / / / /				0/00/
\$56,436 R12M Energy Cost Savings				26,896 R12M CO2e Savings (kg/yr)
3,				3 (3,7)

Comments:

Another month of savings has been achieved at the WTP in November 2023. Consistent savings between 15-25% have been observed since November 2022. Rolling 12 month savings have been increasing, with approximately \$56,400, 325,000 kWh, and 26,900 kgCO2e saved in the past 12 months, which is excellent.

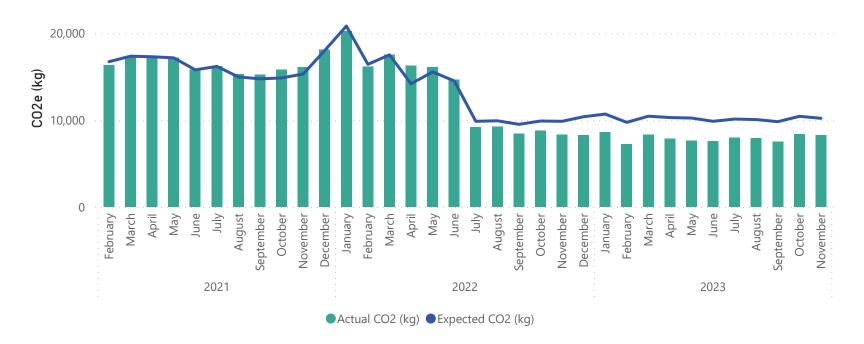
Water Treatment Plant Electricity Use Compared to Baseline (kWh)

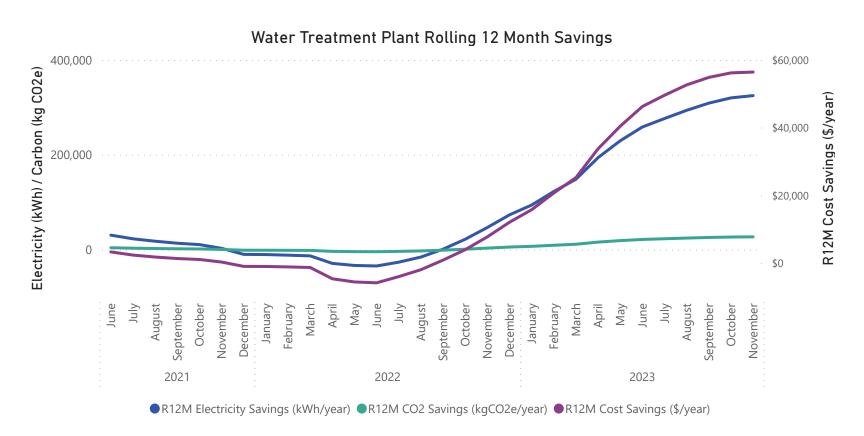




Water Treatment Plant

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

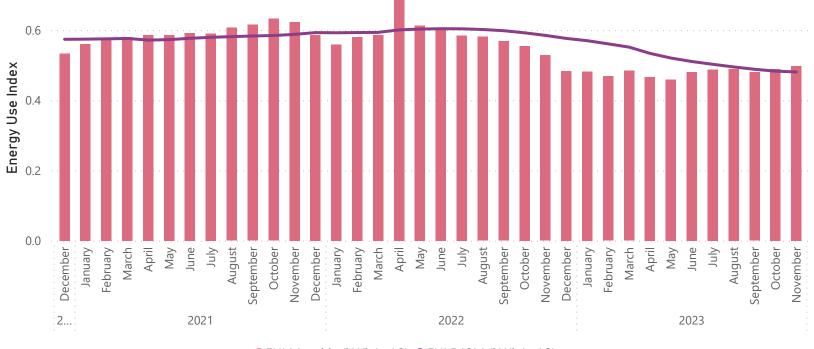






Water Treatment Plant

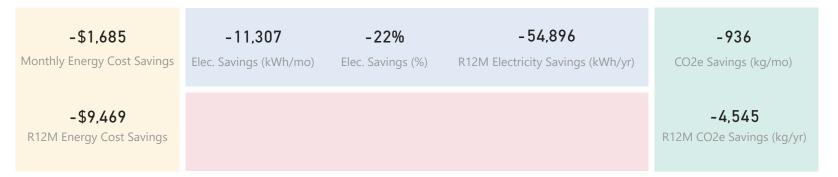
Water Treatment Plant Energy Use Index by Month Compared to Rolling 12-Month Values



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



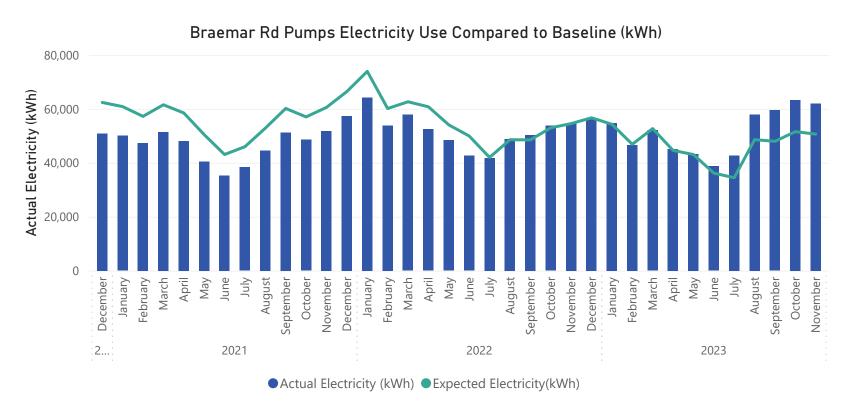
Braemar Road Pump Station



Comments:

Work has been completed at Braemar Rd which added filters and new low lift pumps. A contractor was able to supply accurate flows, which show the impact of increased pumping requirements from new filters, using around 20% more electricity than previous. New tags will be added to SCADA in future which will capture water metering.

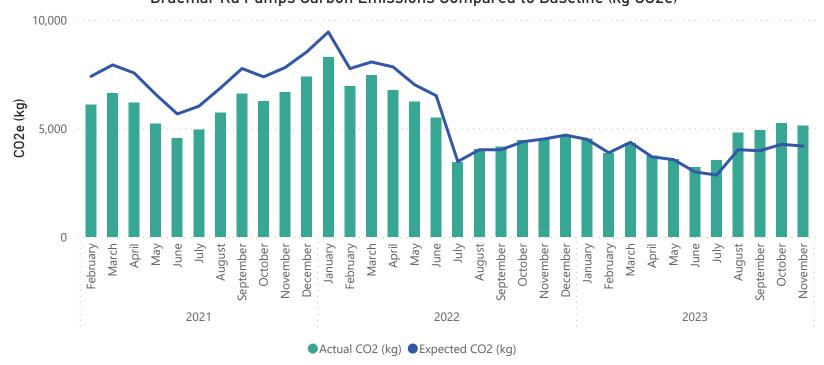
Due to the new equipment added and increased electricity demand, when more data is available a non routine adjustment will be added to account for the increased demand or the site will be re-baselined.



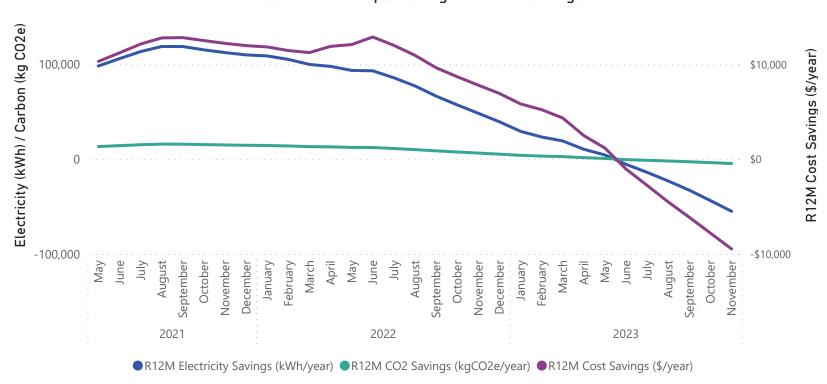


Braemar Road Pump Station





Braemar Rd Pumps Rolling 12 Month Savings





Braemar Road Pump Station

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





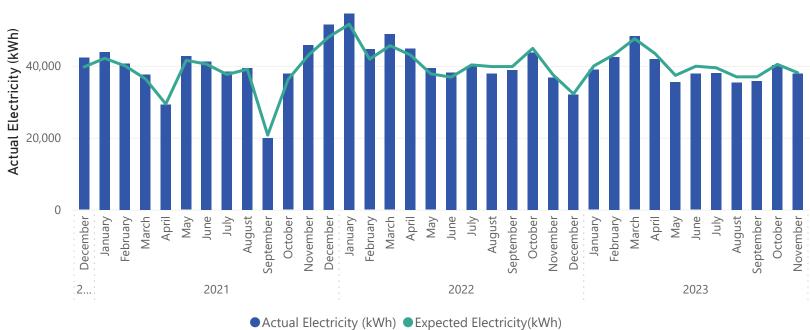
Paul Road Pump Station

\$38	255	1%	11,421	21
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$2,107				946
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

Electricity use was close to expected at Paul Road Pump Station. The monthly EUI is above average over the past 12 months. Energy performance has been consistent, with savings each month from April 2023.

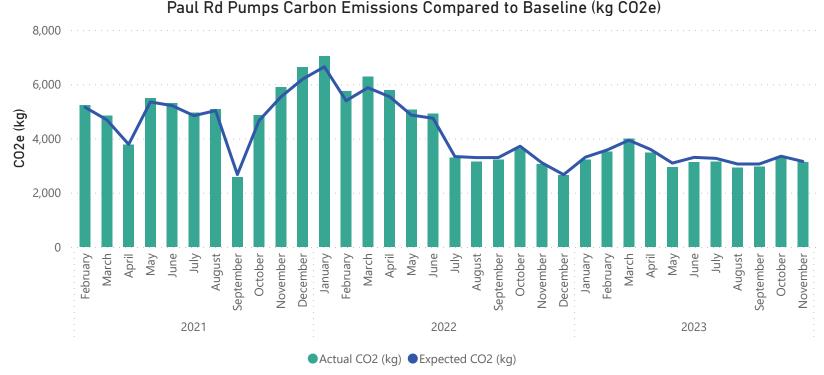
Paul Rd Pumps Electricity Use Compared to Baseline (kWh) 60,000



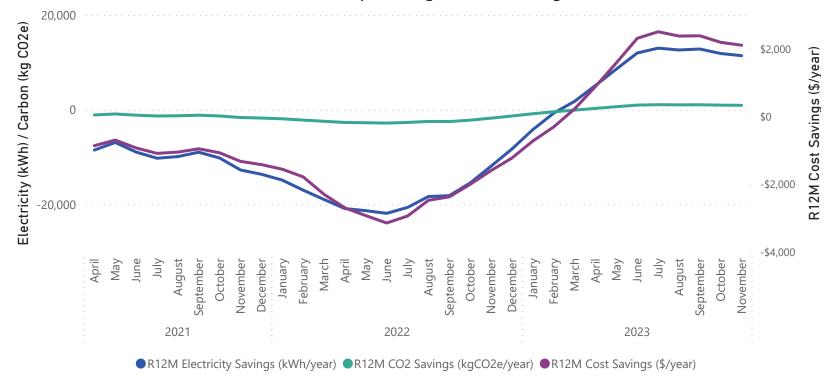


Paul Road Pump Station











Paul Road Pump Station

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



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



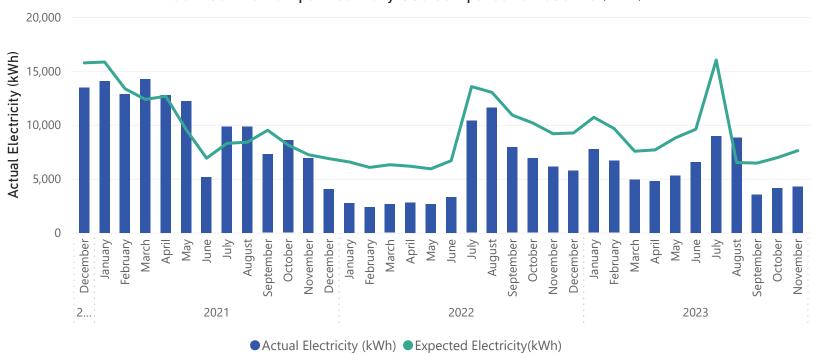
Johnson Road Pump Station

\$738	3,320	44%	35,186	275
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$7,636 R12M Energy Cost Savings				2,913 R12M CO2e Savings (kg/yr)

Comments:

Johnson Rd Pump used 44% less electricity than expected. The pump has been achieving consistent savings from Dec 2021, with the exception of August 2023, which may be due to when the electricity meter was read or that increased electricity use may be due to some interactive effects between Johnson and Braemar Rd pump stations.

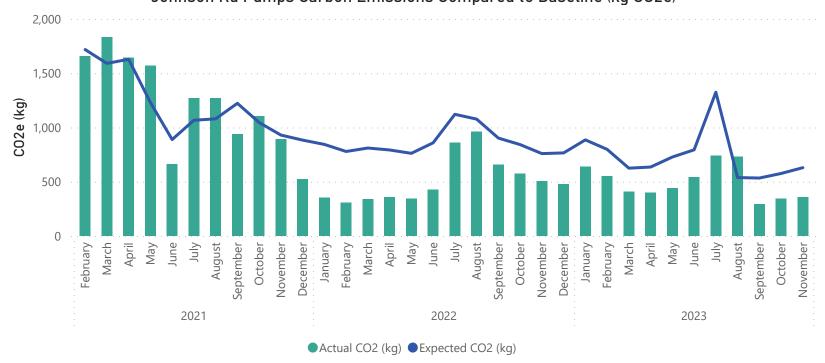
Johnson Rd Pumps Electricity Use Compared to Baseline (kWh)

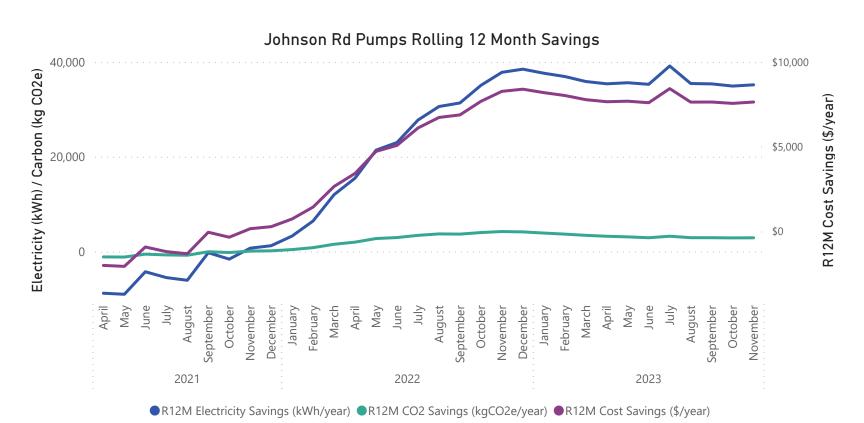




Johnson Road Pump Station









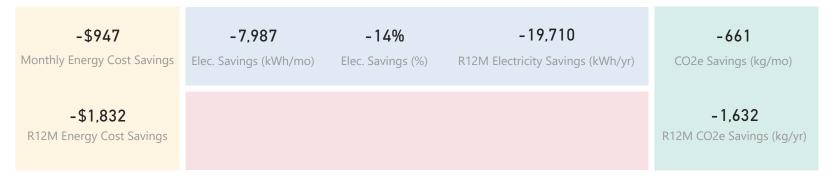
Johnson Road Pump Station







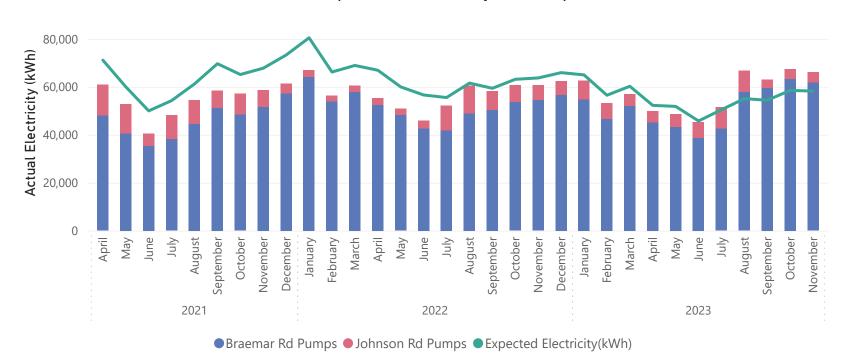
Johnson and Braemar Rd Pump Stations



Comments:

Braemar Rd pump station has used more electricity than expected from August - November 2023, this is mostly attributed to the new filters at Braemar Road, which have increased pumping requirements.

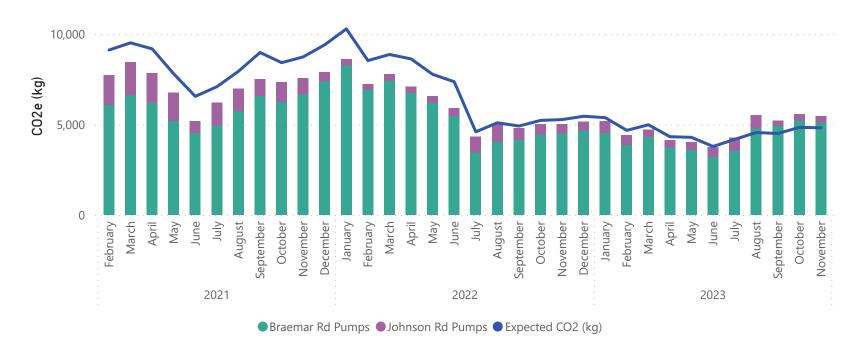
Johnson and Braemar Rd Pump Stations Electricity Use Compared to Baseline (kWh)

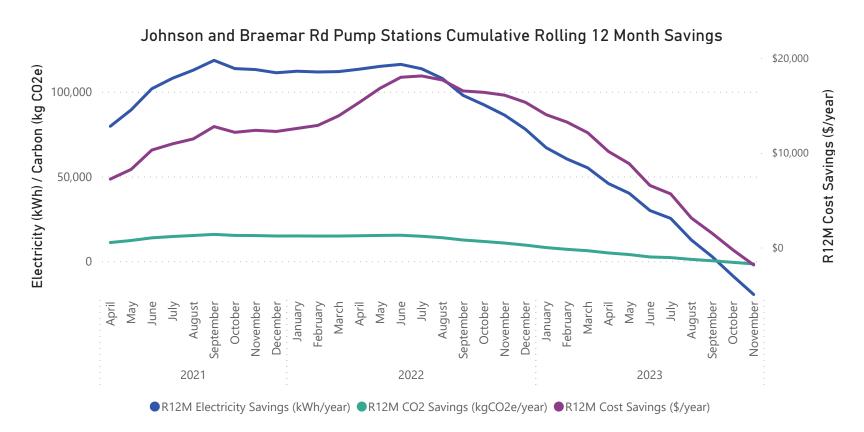




Johnson and Braemar Rd Pump Stations

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

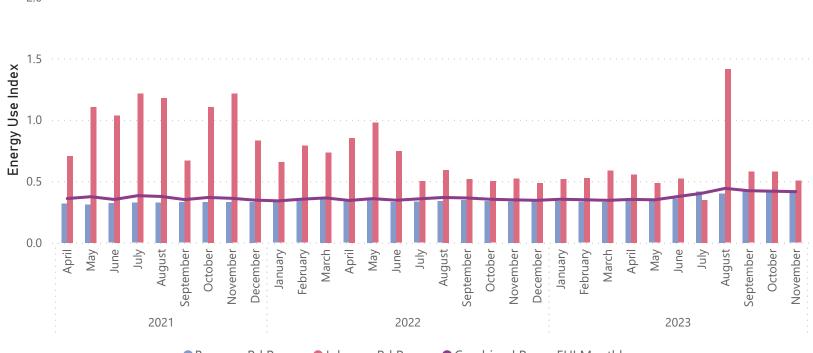






Johnson and Braemar Rd Pump Stations







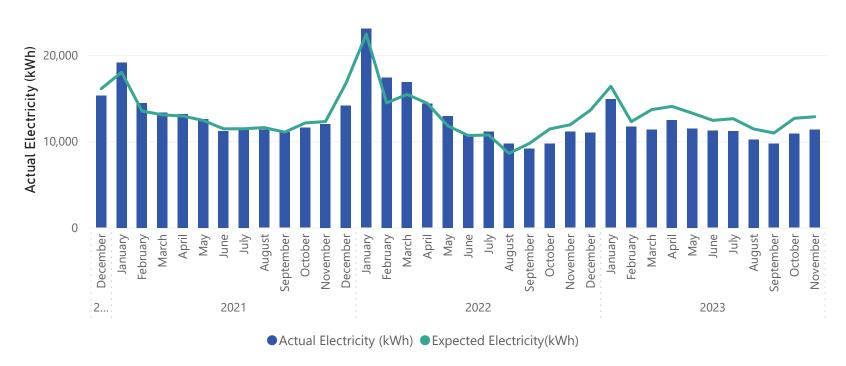
Bridger Glade Pump Station

\$266	1,504	12%	18,816	125
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$3,322				1,558
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

Bridger Glade Pump Station has used less electricity than expected since September 2022, which is excellent. This is due to new supply pumps that were installed in late August 2022. Savings over the past year are \$3,300, 18,800 kWh, and 1,560 kg CO2e.

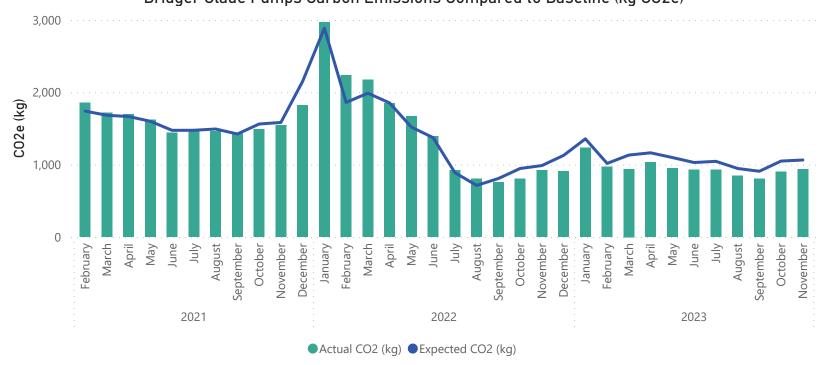
Bridger Glade Pumps Electricity Use Compared to Baseline (kWh)

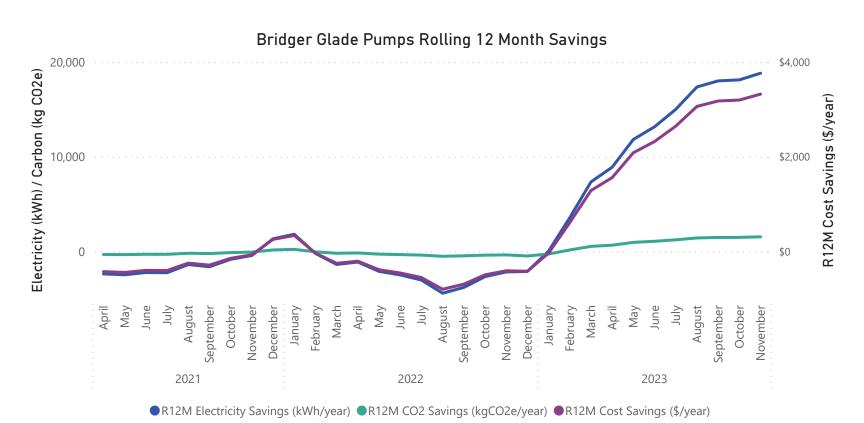




Bridger Glade Pump Station









Bridger Glade Pump Station

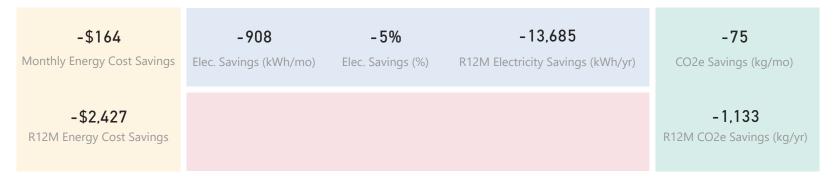




● EUI Monthly (kWh/m^3) ● EUI R12M (kWh/m^3)



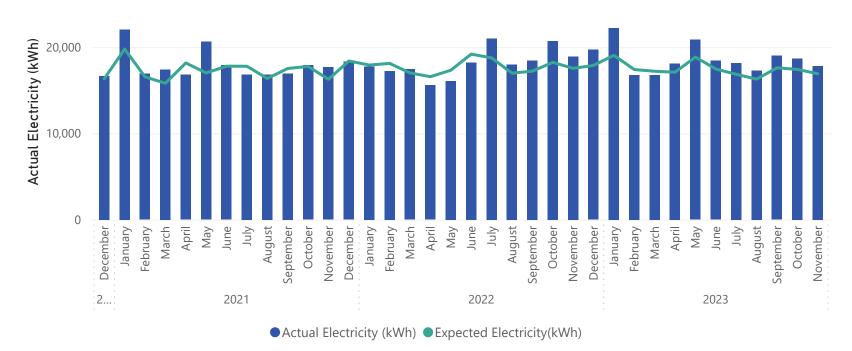
Ohope Oxidation Ponds



Comments:

Ohope Oxidation Ponds have used more electricity than expected in 10 of the last 12 months. Rainfall has generally been higher than usual, which may contribute to higher electricity usage. The monthly EUI in November is greater than average for the past 12 months.

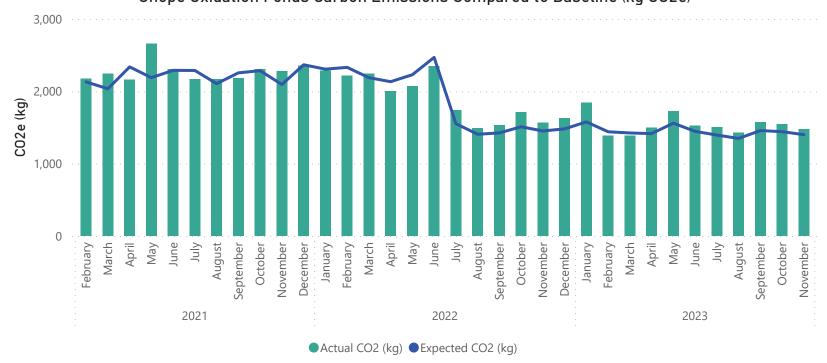
Ohope Oxidation Ponds Electricity Use Compared to Baseline (kWh)

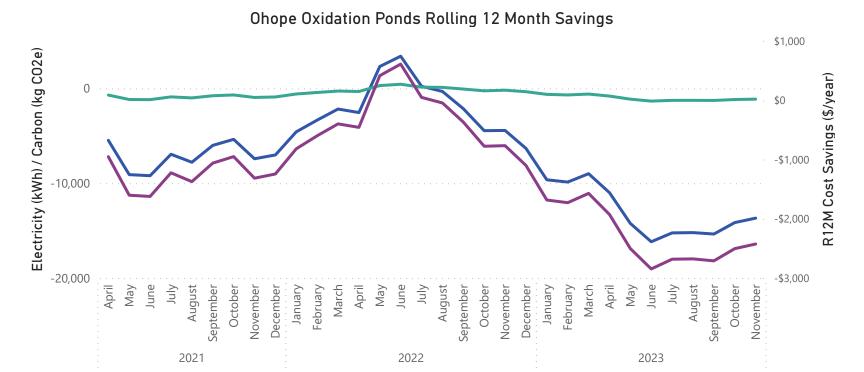




Ohope Oxidation Ponds







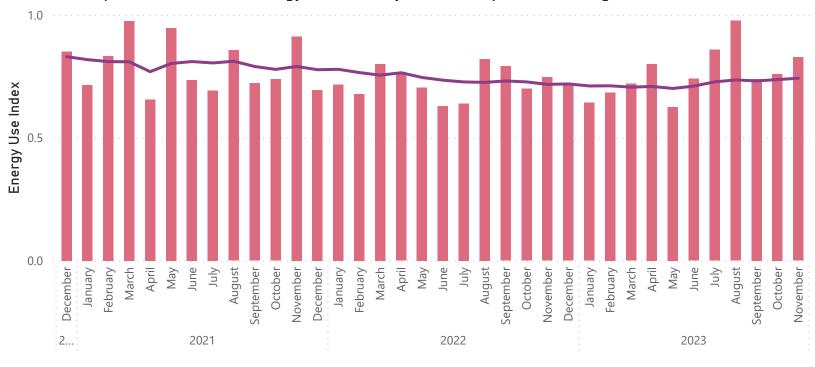
Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time *Baselines were updated for all sites from July 2022.*

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



Ohope Oxidation Ponds

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



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

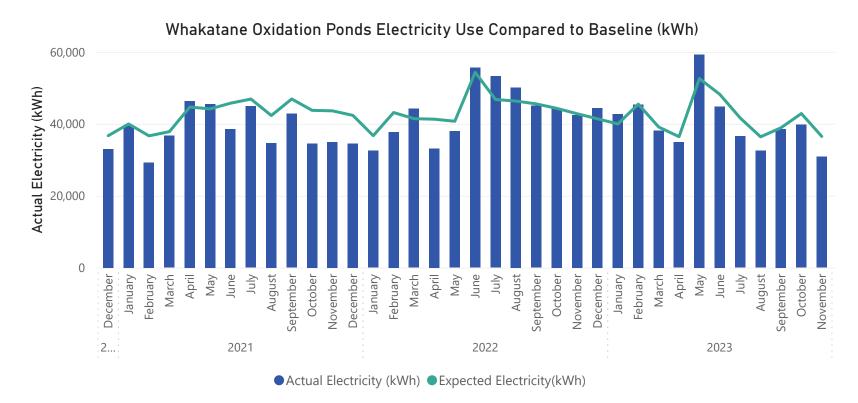


Whakatane Oxidation Ponds

\$956	5,656	15%	11,607	468
Monthly Energy Cost Savings	Elec. Savings (kWh/mo)	Elec. Savings (%)	R12M Electricity Savings (kWh/yr)	CO2e Savings (kg/mo)
\$2,235				961
R12M Energy Cost Savings				R12M CO2e Savings (kg/yr)

Comments:

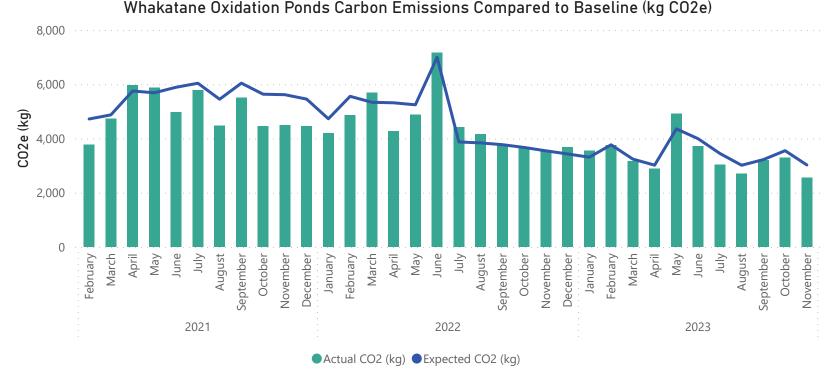
The oxidation ponds used less electricity than expected in November 2023. November 2023 was a month with lower than average rainfall, approximately 60mm of rain was recorded for the month. The EUI for the month is above average compared to the last 12 months.



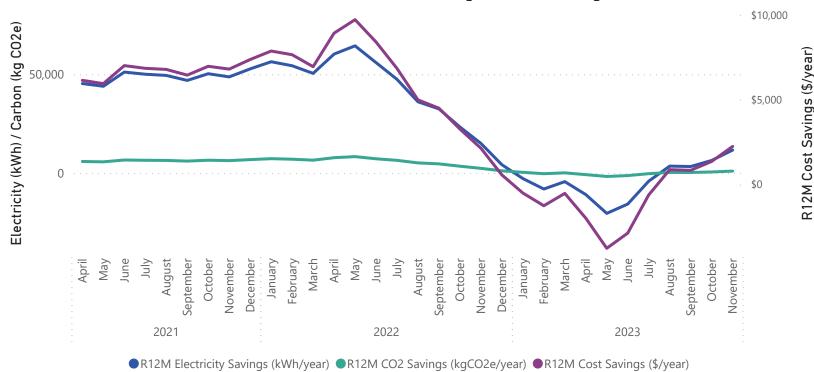


Whakatane Oxidation Ponds





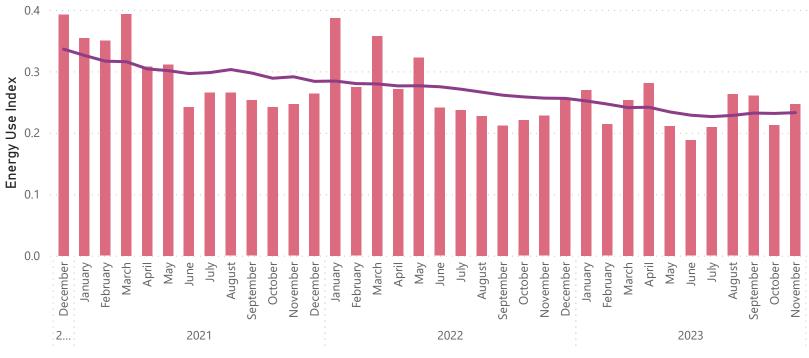






Whakatane Oxidation Ponds

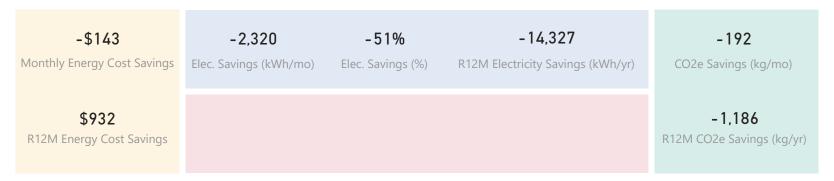




● EUI Monthly (kWh/m^3) ● EUI R12M (kWh/m^3)



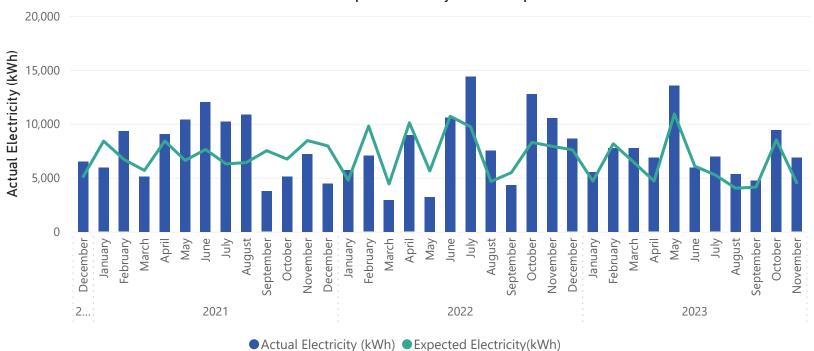
McAlister Street and Rose Garden Pump Stations



Comments:

The pump stations used 51% more electricity than expected this month. Approximately 65mm of rain coincided within the billing period. Rainfall over the past 12 months averaged about 130mm per month.

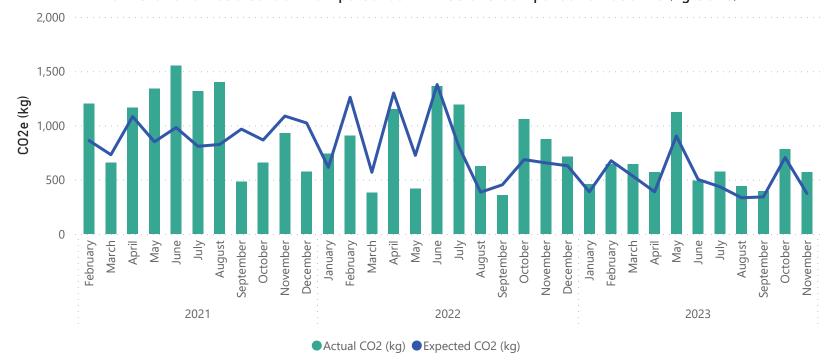
McAlister and Rose Garden Pumps Electricity Use Compared to Baseline (kWh)

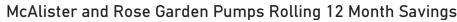


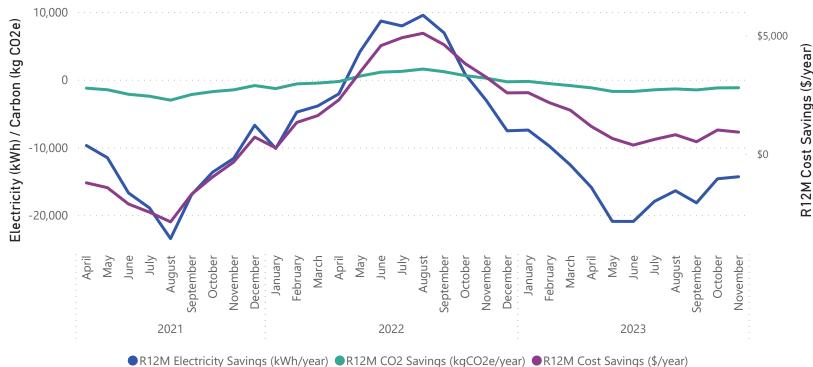


McAlister Street and Rose Garden Pump Stations



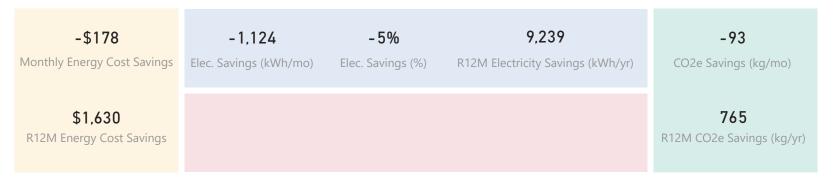






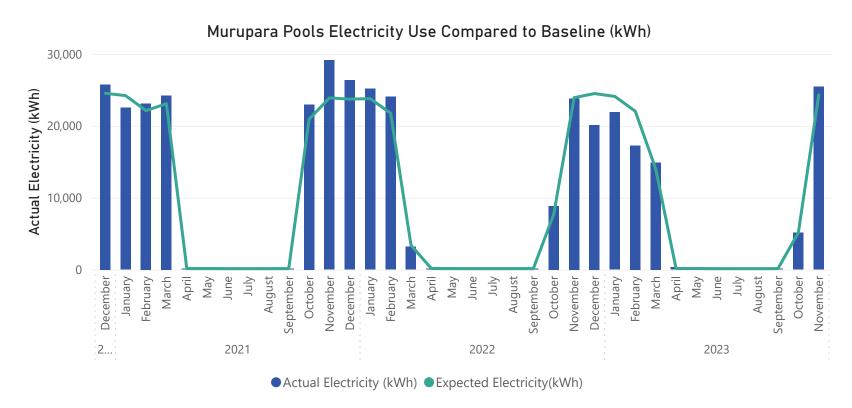


Murupara Pools



Comments:

Murupara Pools have opened for the season, heating of the pools started in late October 2023, electricity use in November was 5% more than expected.





Murupara Pools



