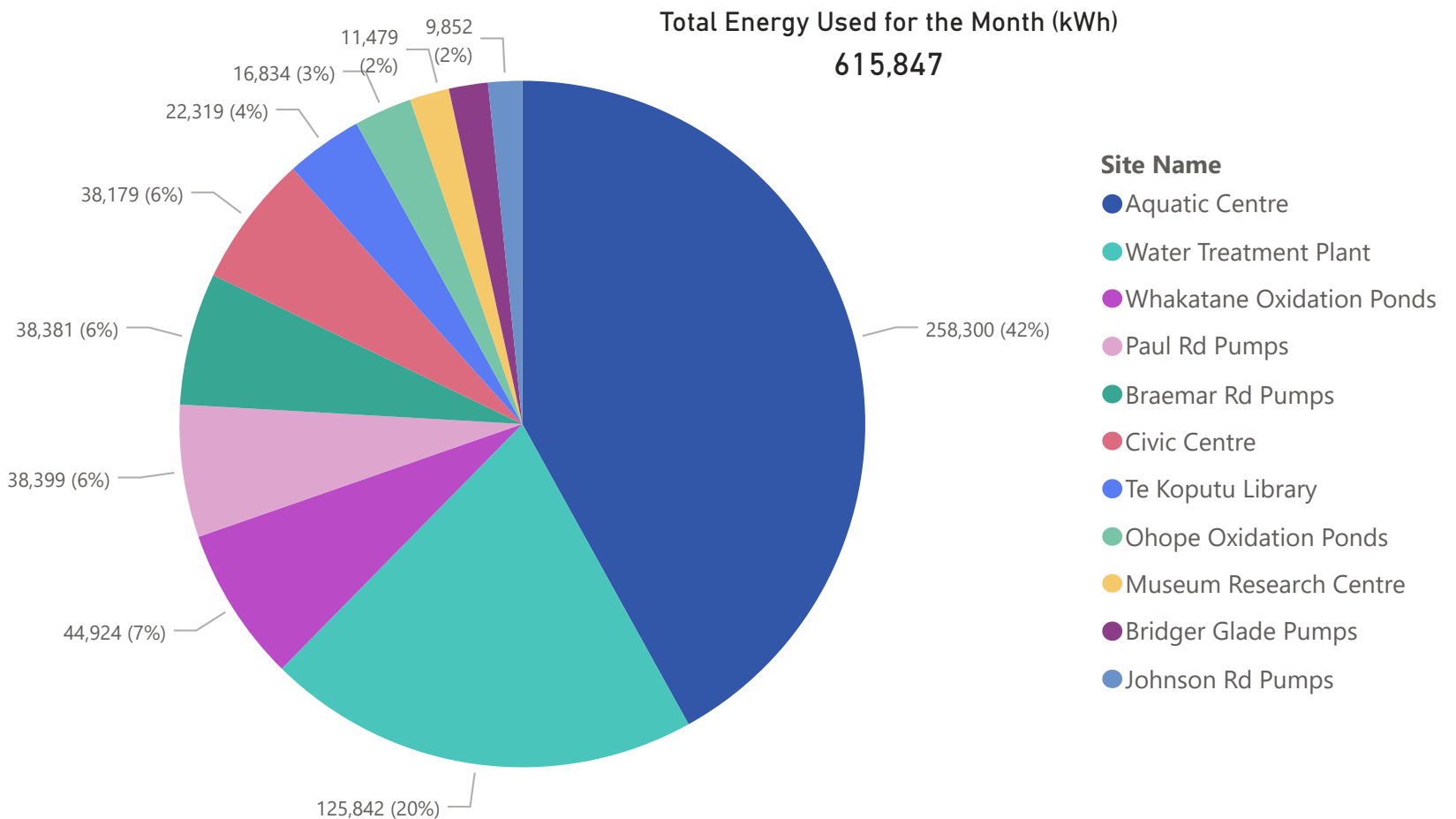


Whakatane District Council

Summary

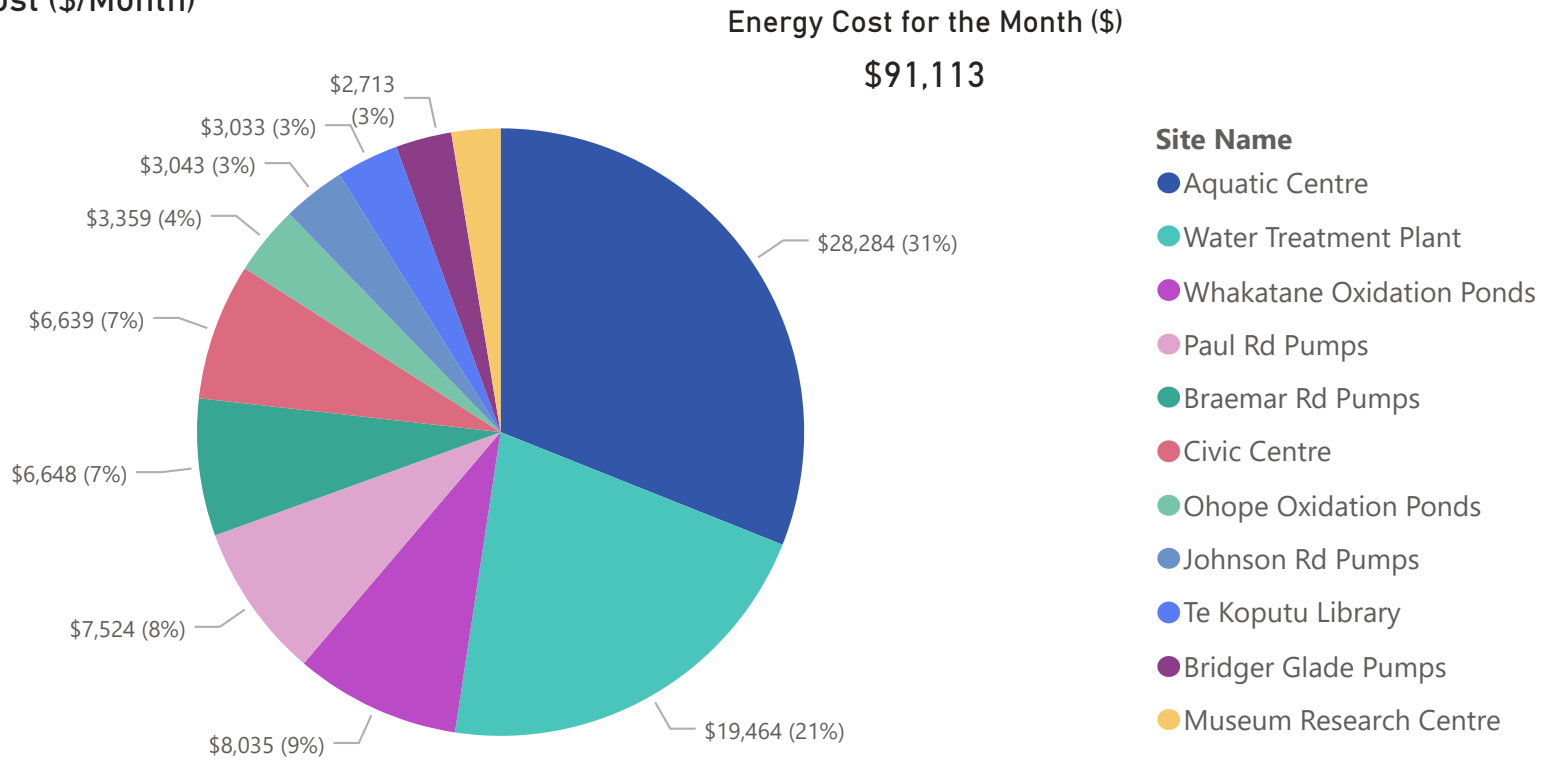
<p>\$17,912</p> <p>Monthly Energy Cost Savings</p>	<p>-33,512</p> <p>Elec. Savings (kWh/mo)</p>	<p>-7%</p> <p>Elec. Savings (%)</p>	<p>-111,590</p> <p>R12M Electricity Savings (kWh/yr)</p>	<p>62,528</p> <p>CO2e Savings (kg/mo)</p>
<p>\$60,166</p> <p>R12M Energy Cost Savings</p>	<p>307,773</p> <p>Gas. Savings (kWh/mo)</p>	<p>71%</p> <p>Gas. Savings (%)</p>	<p>1,001,258</p> <p>R12M Gas Savings (kWh/yr)</p>	<p>166,705</p> <p>R12M CO2e Savings (kg/yr)</p>

Total Energy (kWh/Month)

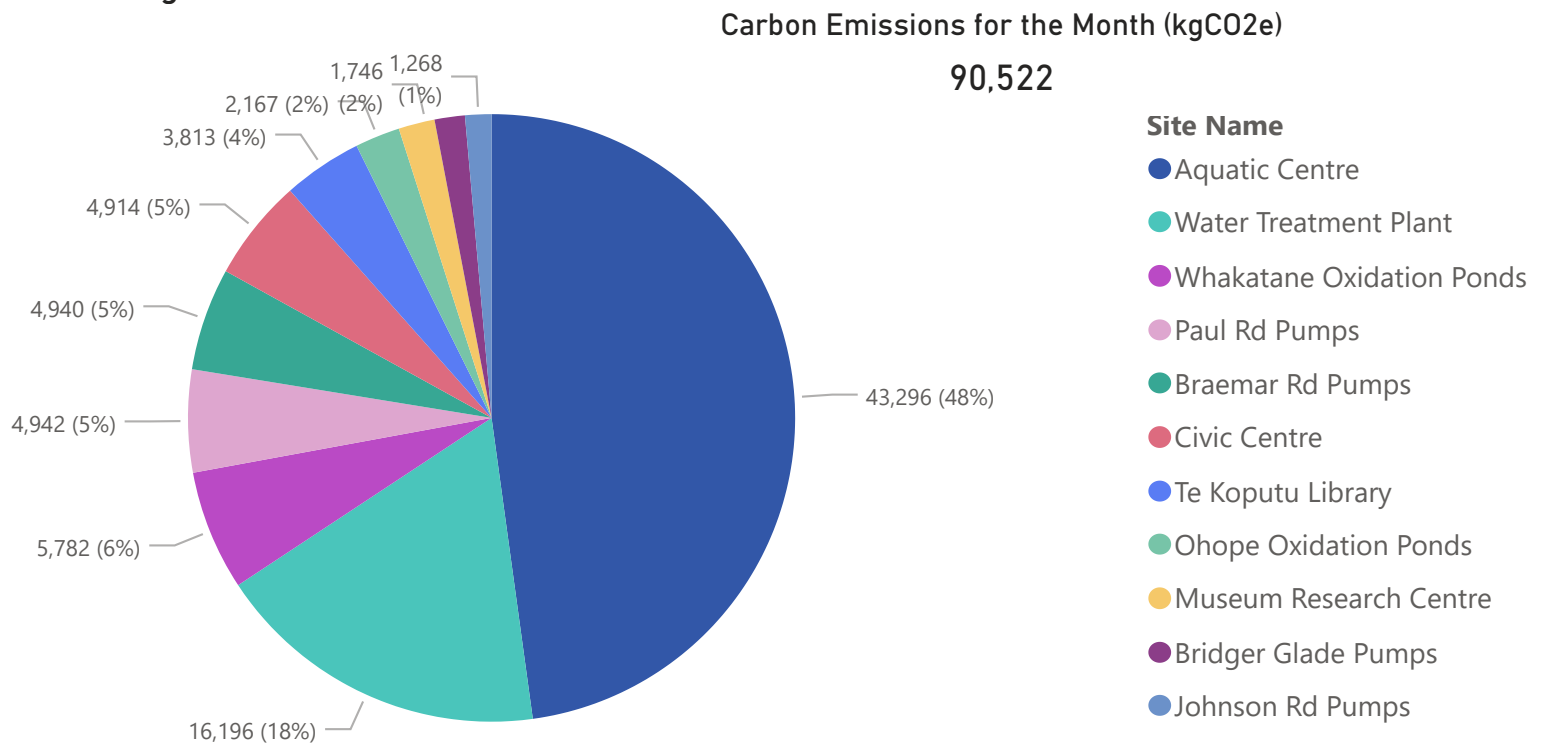


Whakatane District Council Summary

Energy Cost (\$/Month)



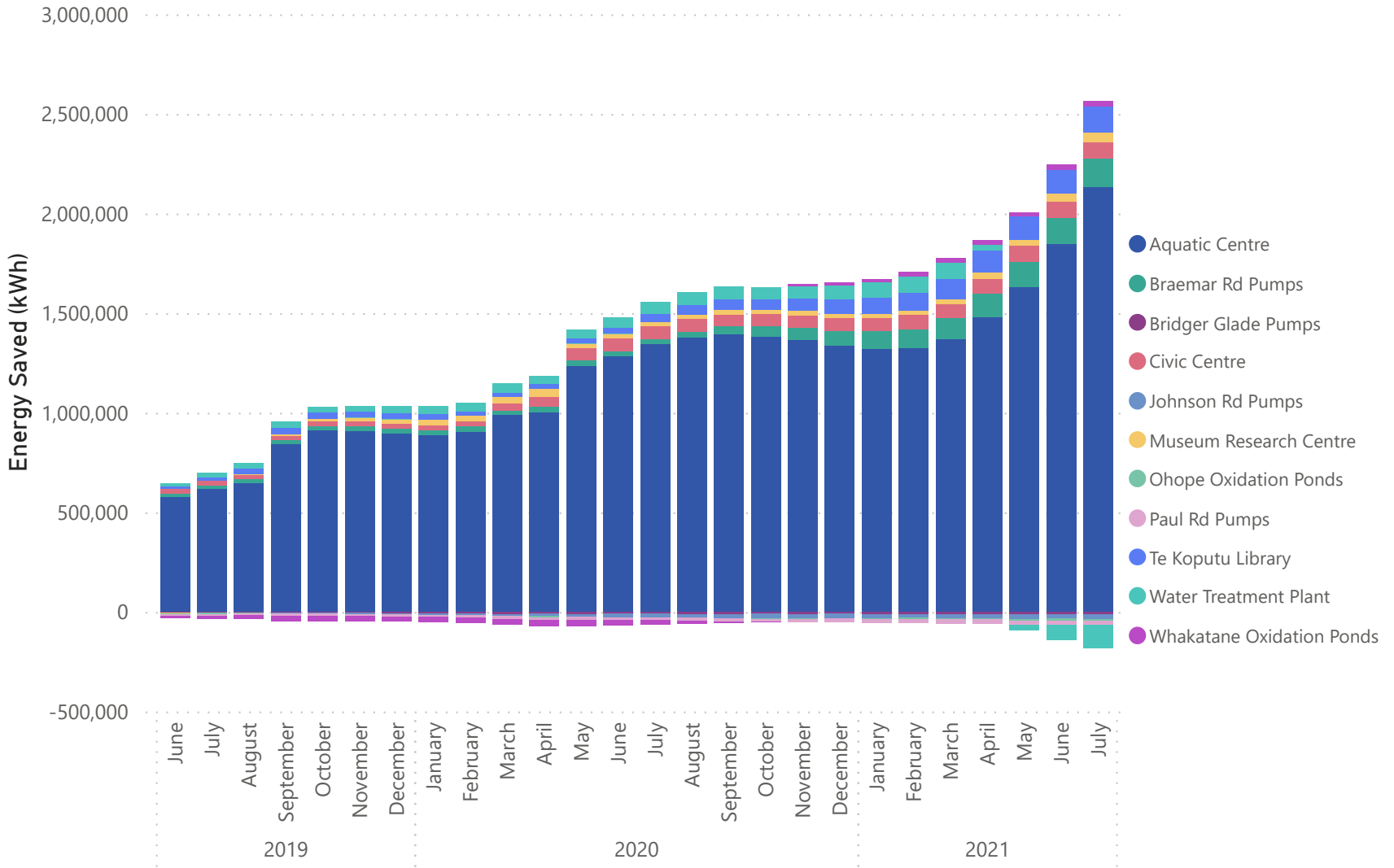
Carbon Emissions (kgCO2e/Month)



Whakatane District Council

Summary

Cumulative Energy Savings (kWh)

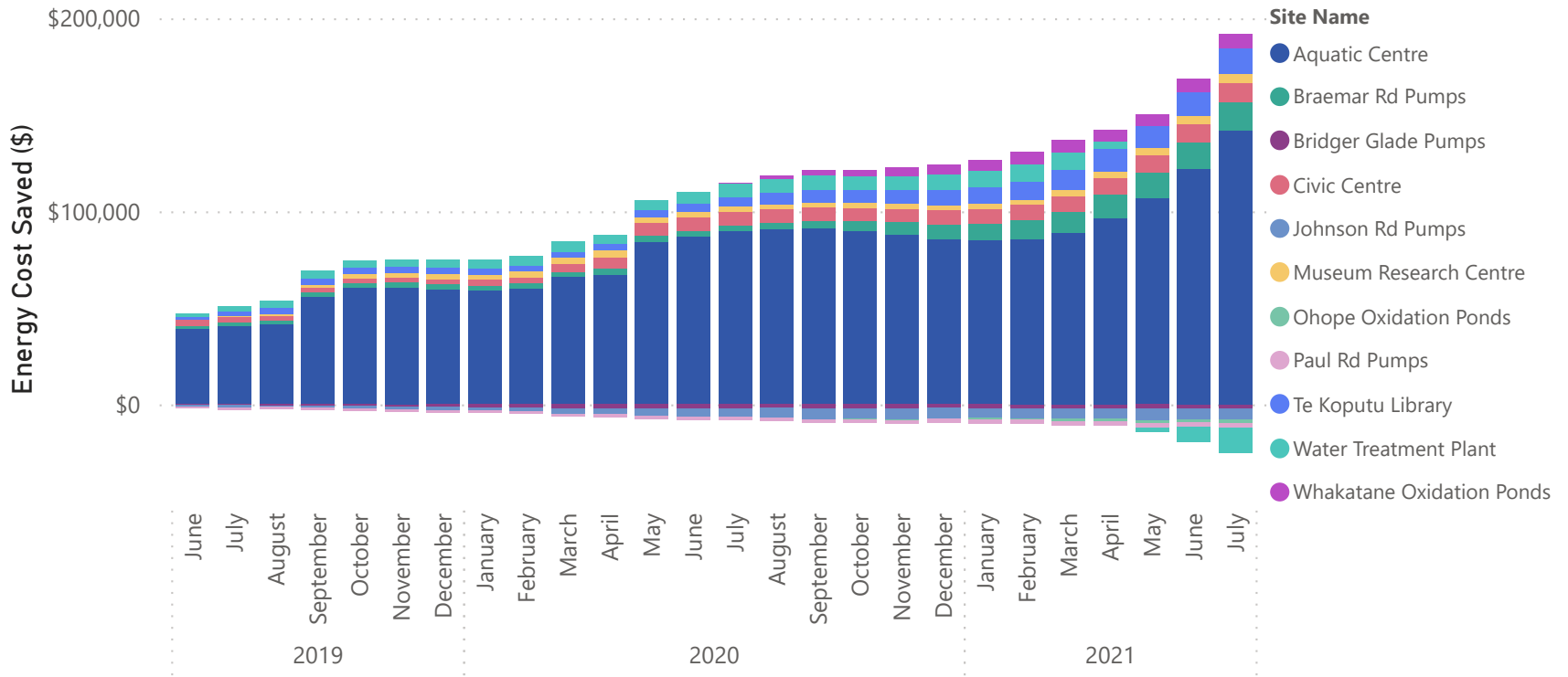


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

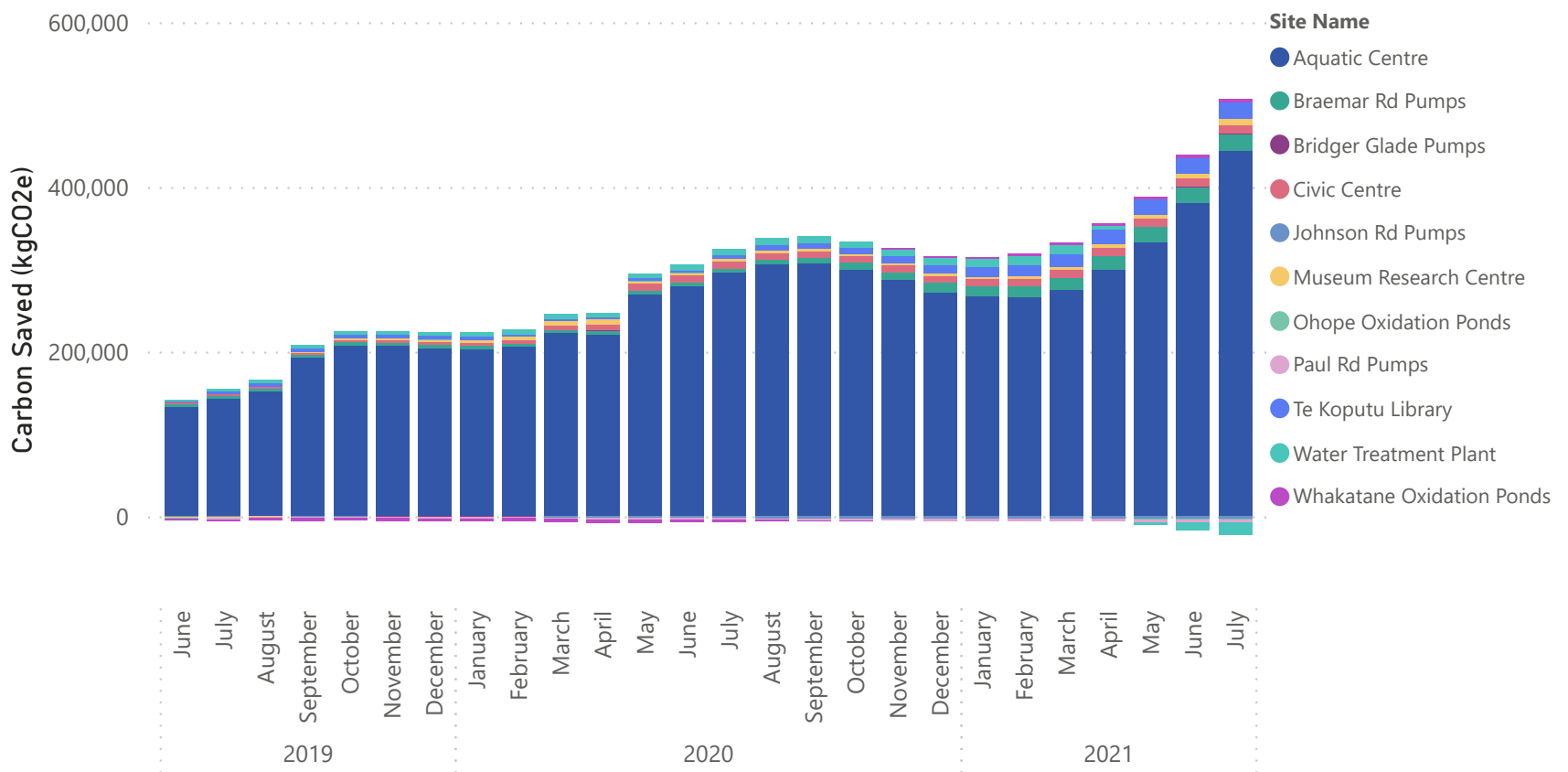
Whakatane District Council

Summary

Cumulative Energy Cost Savings (\$/month)



Cumulative Carbon Savings (kgCO2e/month)



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

Whakatane District Council

Civic Centre

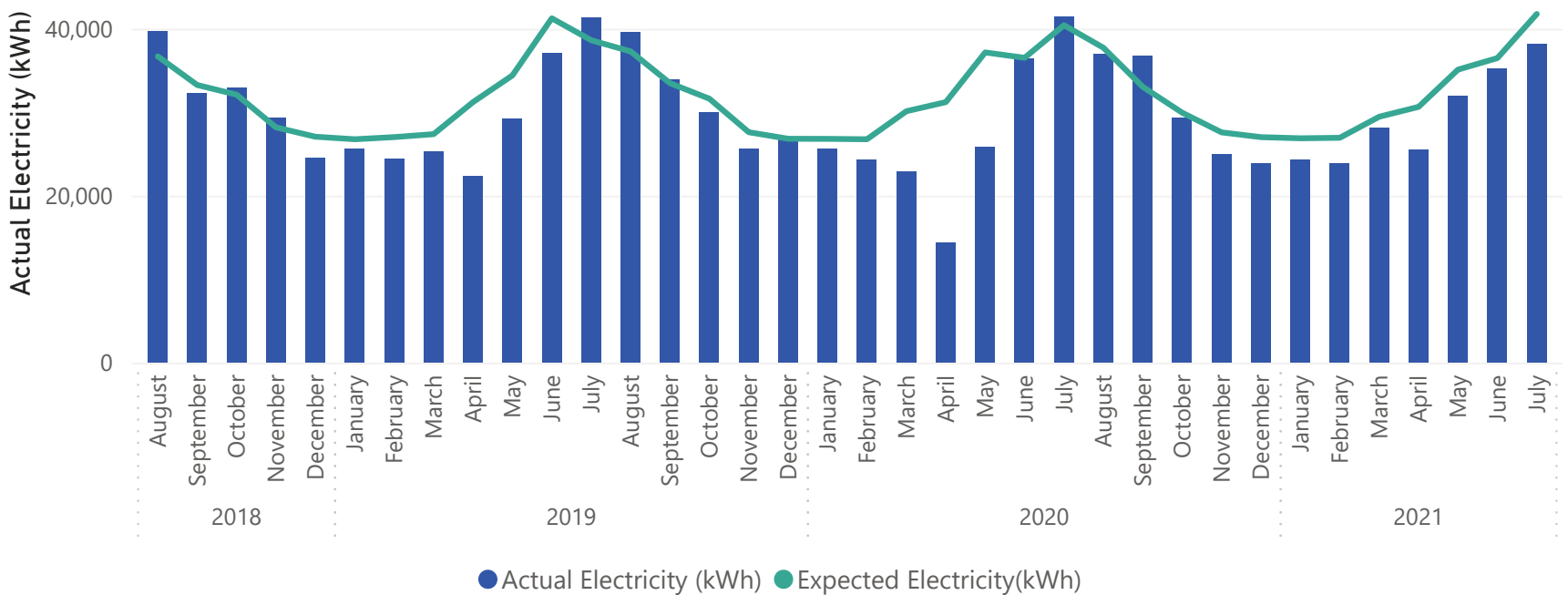
<p>\$465 Monthly Energy Cost Savings</p>	<p>3,579 Elec. Savings (kWh/mo)</p>	<p>9% Elec. Savings (%)</p>	<p>23,645 R12M Electricity Savings (kWh/yr)</p>	<p>426 CO2e Savings (kg/mo)</p>
<p>\$2,685 R12M Energy Cost Savings</p>				<p>2,813 R12M CO2e Savings (kg/yr)</p>

Comments:

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 July 2020, July 2021 used 8% less electricity, and this year was slightly cooler, which usually requires more heating.

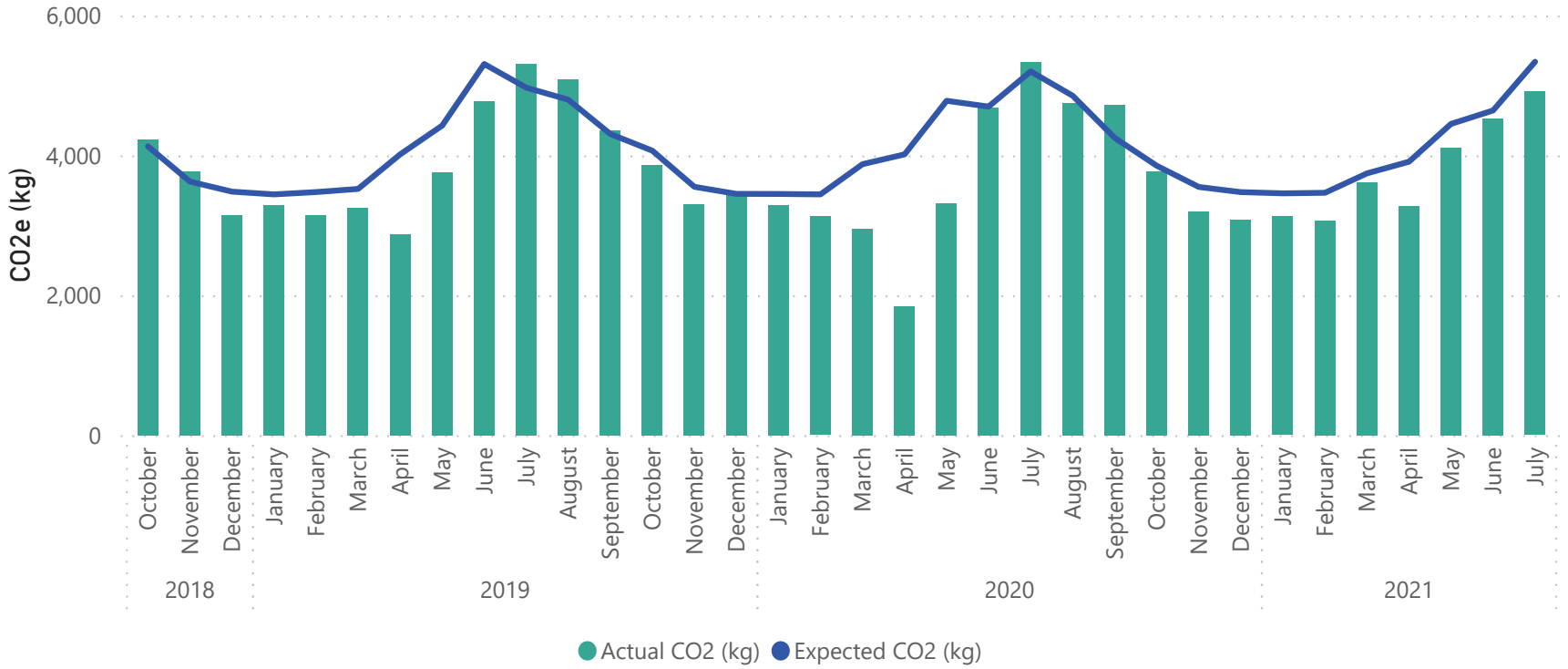
Civic Centre Electricity Use Compared to Baseline (kWh)



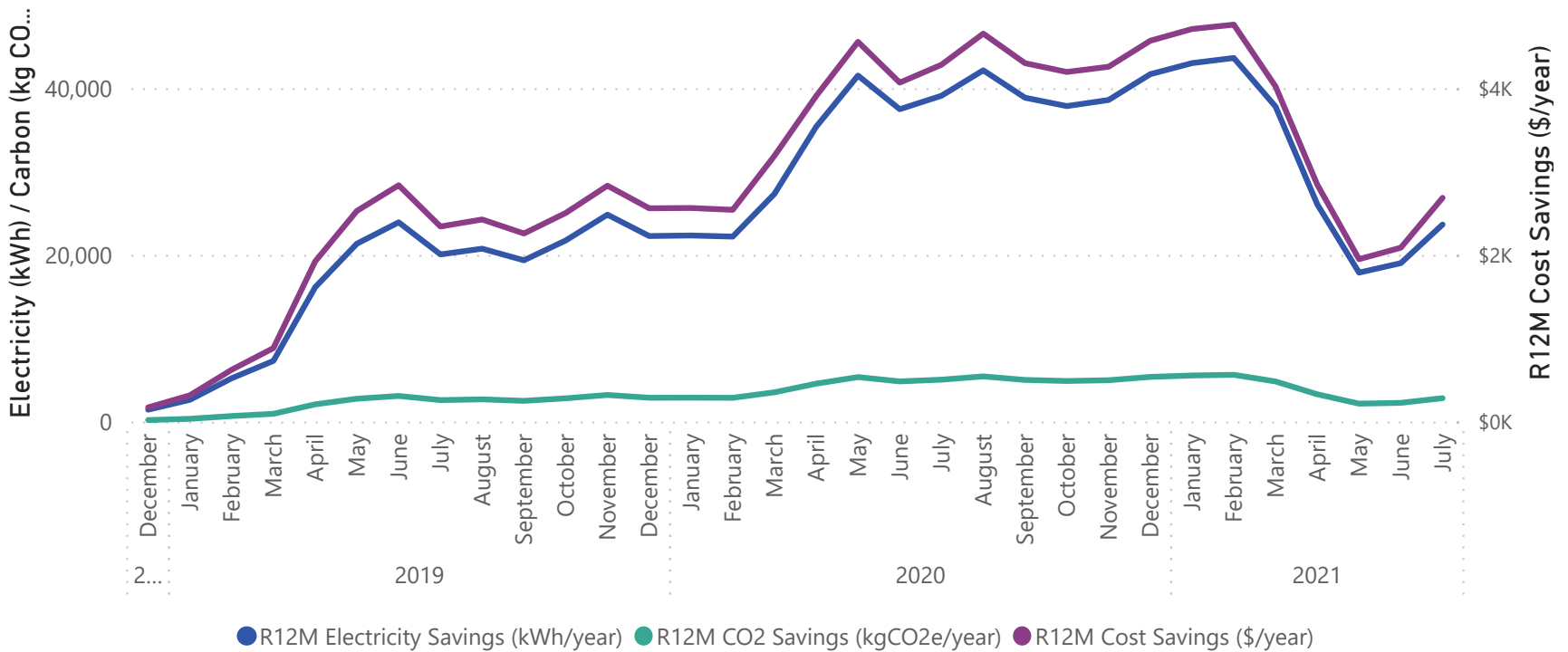
Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council Civic Centre

Civic Centre Carbon Emissions Compared to Baseline (kg CO2e)



Civic Centre Cumulative Rolling 12 Month Savings

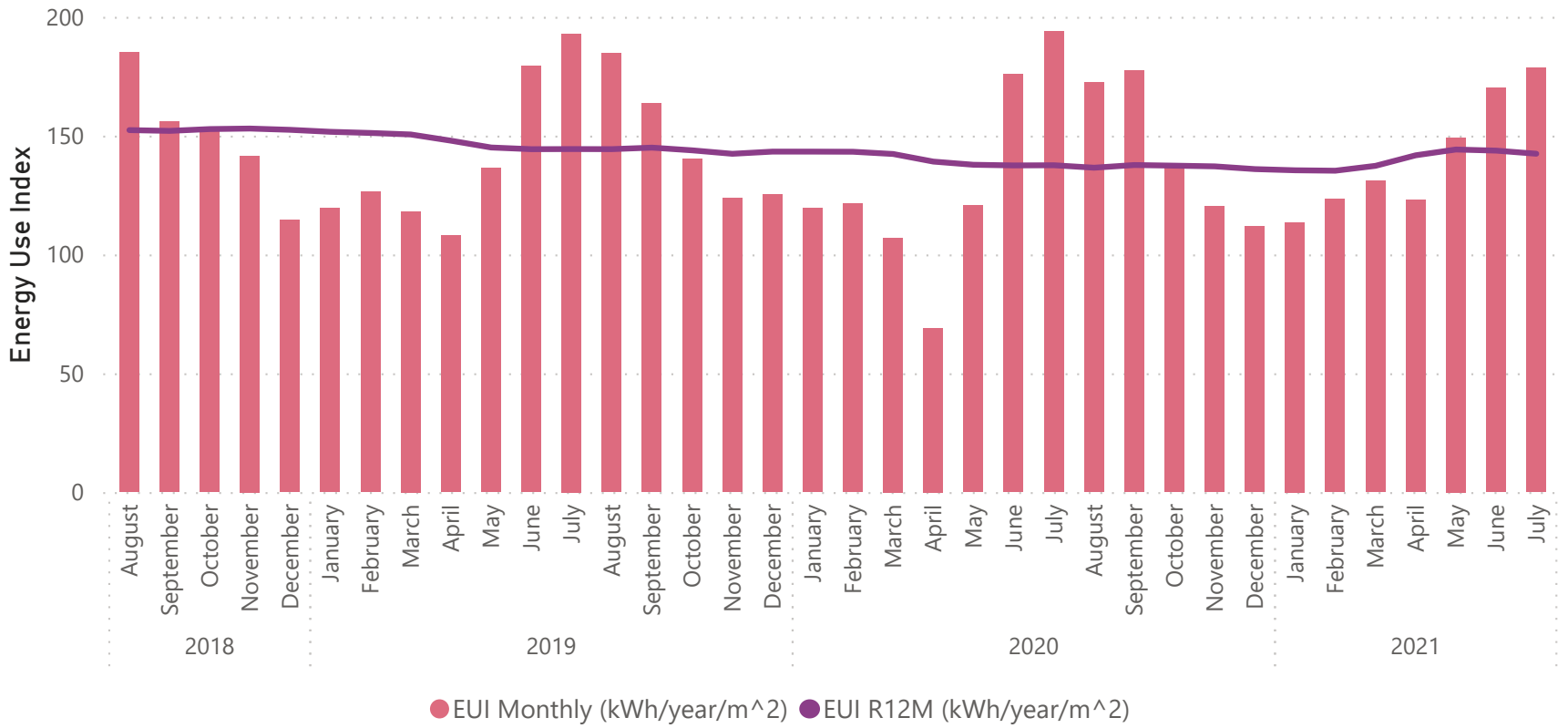


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Civic Centre

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



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

Whakatane District Council

Aquatic Centre

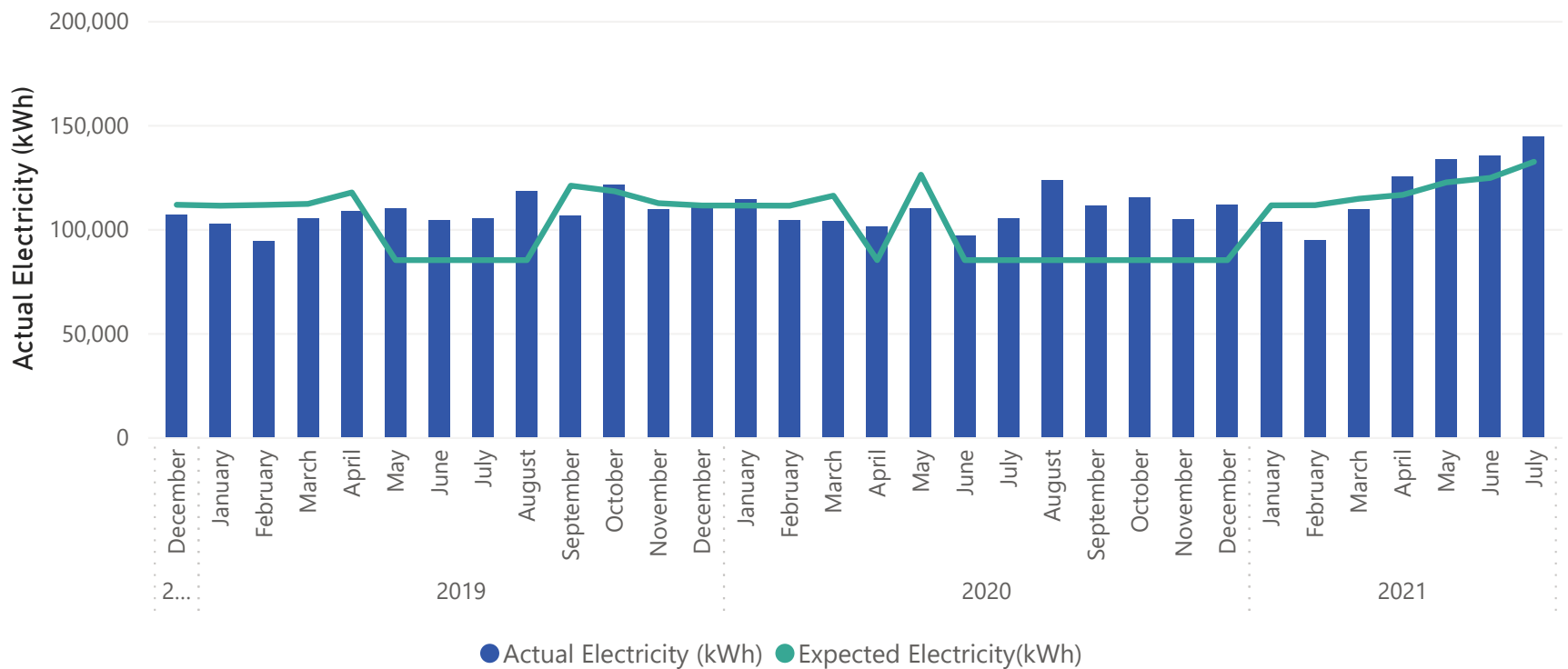
<p>\$19,836</p> <p>Monthly Energy Cost Savings</p>	<p>-11,946</p> <p>Elec. Savings (kWh/mo)</p>	<p>-9%</p> <p>Elec. Savings (%)</p>	<p>-152,713</p> <p>R12M Electricity Savings (kWh/yr)</p>	<p>63,204</p> <p>CO2e Savings (kg/mo)</p>
<p>\$51,723</p> <p>R12M Energy Cost Savings</p>	<p>298,456</p> <p>Gas. Savings (kWh/mo)</p>	<p>72%</p> <p>Gas. Savings (%)</p>	<p>940,785</p> <p>R12M Gas Savings (kWh/yr)</p>	<p>147,822</p> <p>R12M CO2e Savings (kg/yr)</p>

Comments:

The outdoor pool is now open year-round and uses a baseline that reflects this change.

Compared to July 2020, July 2021 used 37.5% more electricity and 5.3 times more natural gas. However, the outdoor pool is now open year round and natural gas is used to prevent condensation on the outdoor pool cover. Natural gas is also used to supplement the heat pump for the outdoor pool during periods of high demand. Gas savings for the month are 72% less than baseline.

Aquatic Centre Electricity Use Compared to Baseline (kWh)

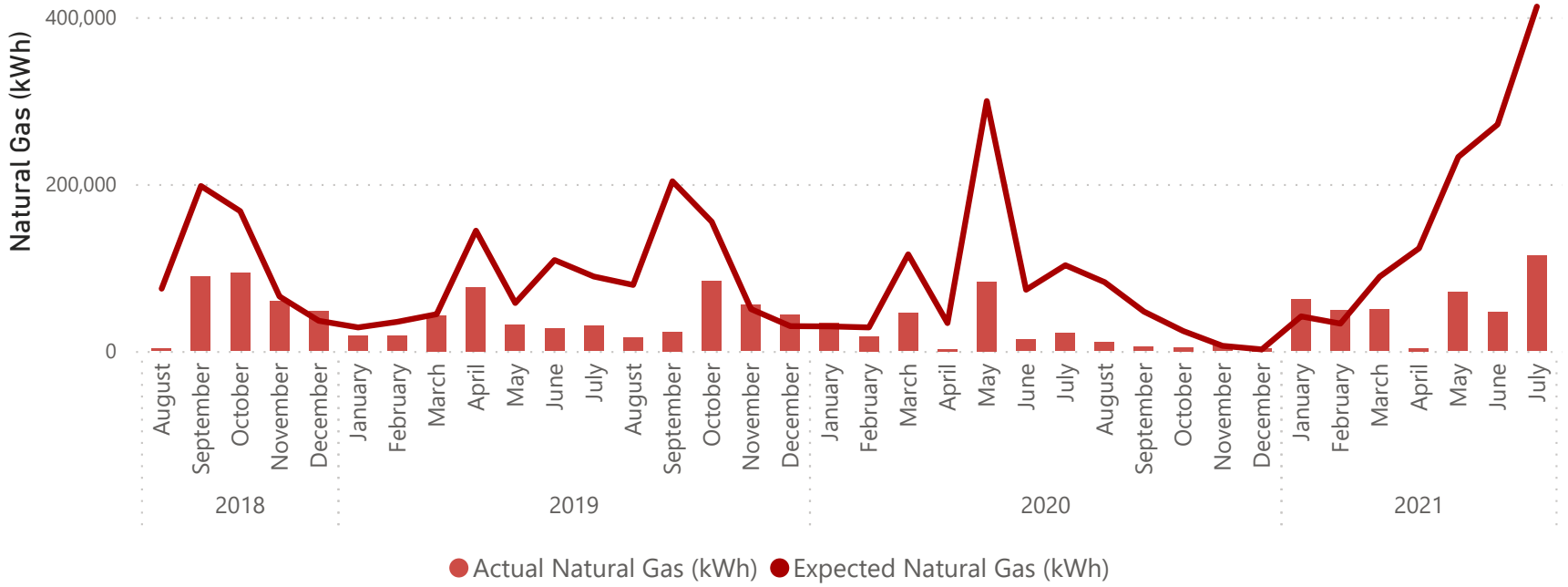


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

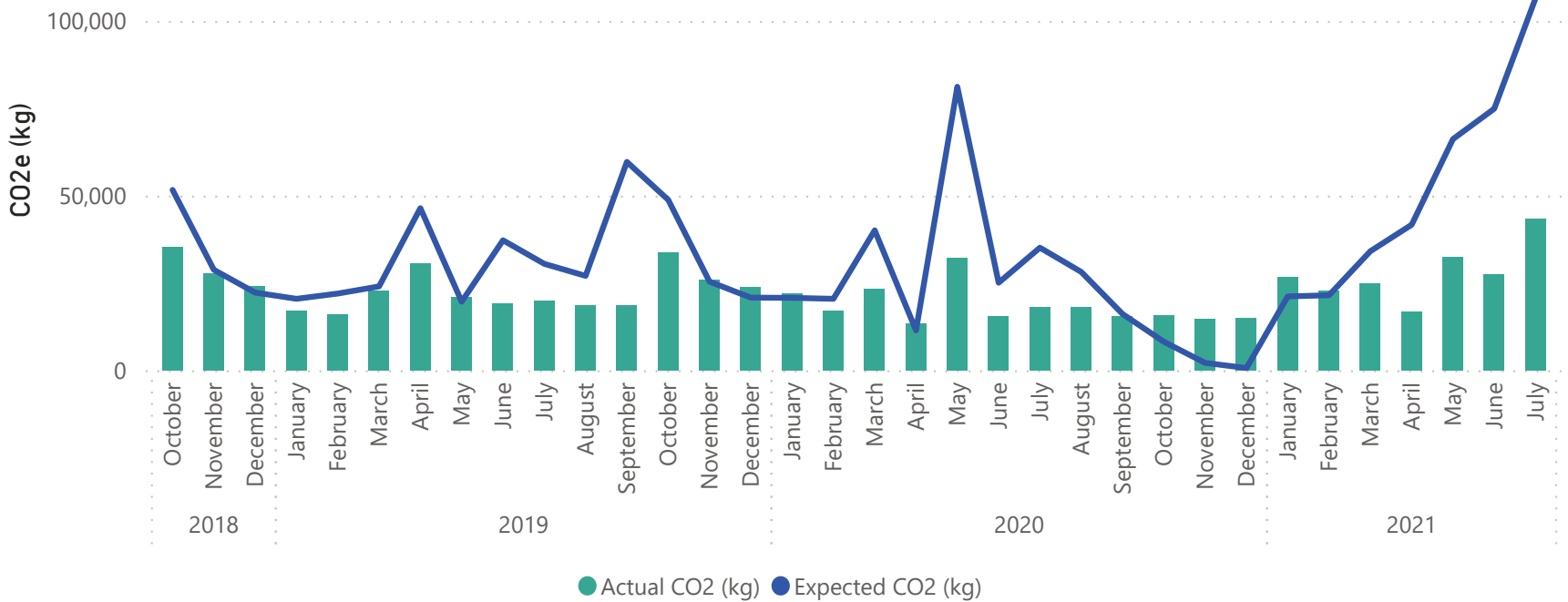
Whakatane District Council

Aquatic Centre

Aquatic Centre Natural Gas Compared to Baseline (kWh)



Aquatic Centre Carbon Emissions Compared to Baseline (kg CO2e)

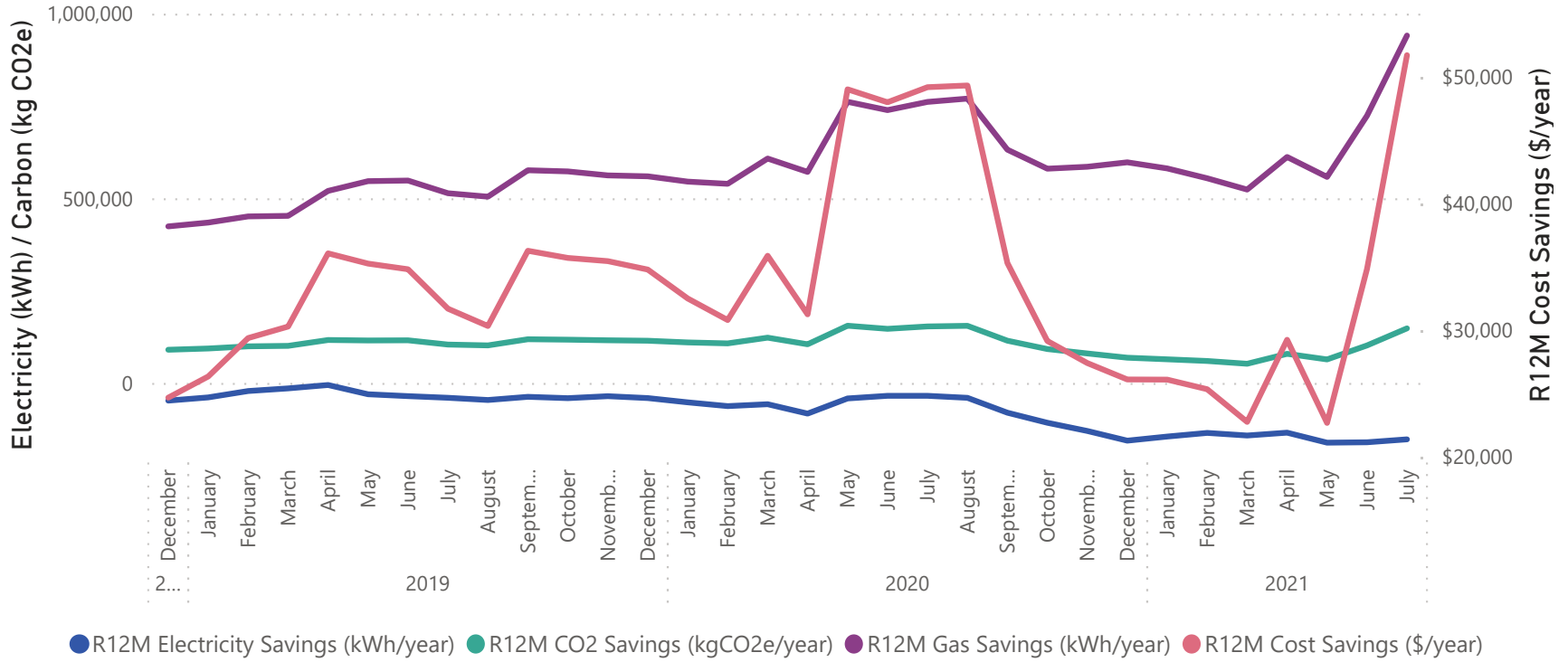


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

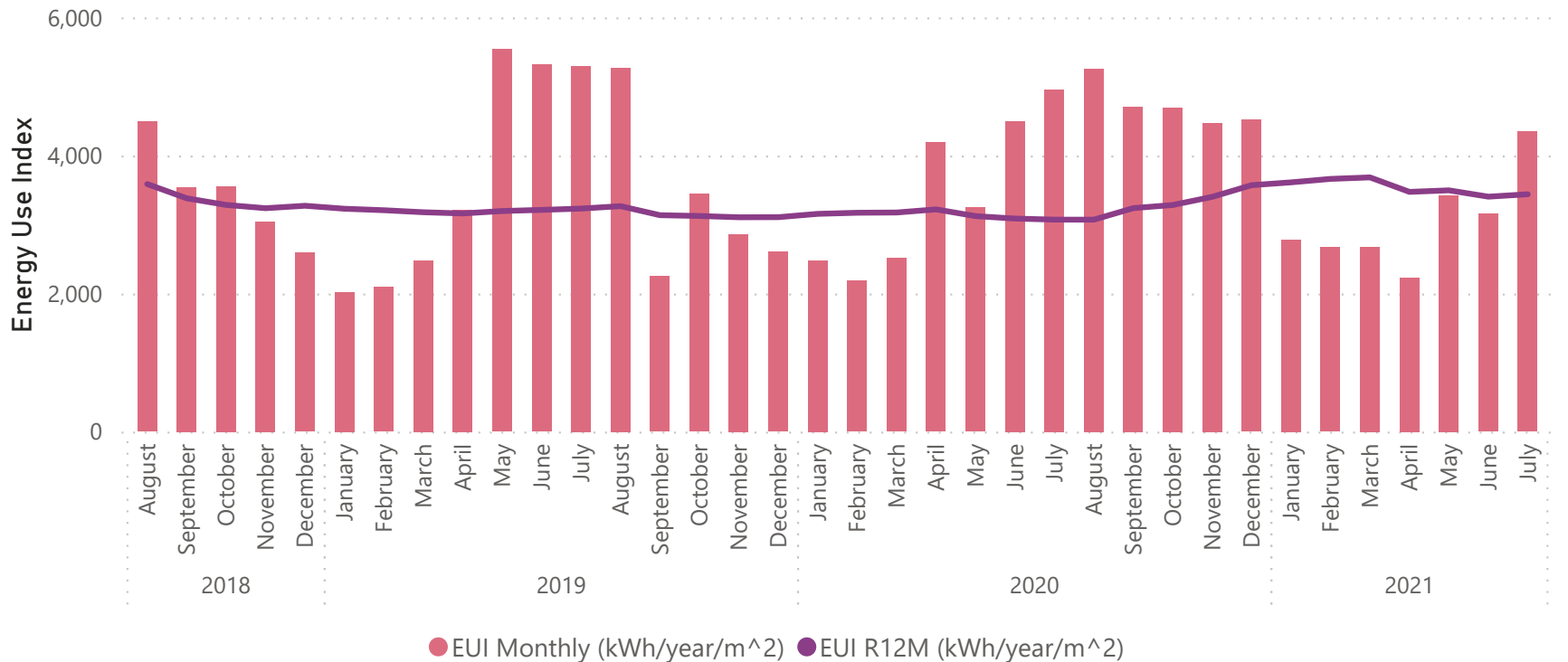
Whakatane District Council

Aquatic Centre

Aquatic Centre Cumulative Rolling 12 Month Savings



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



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

Whakatane District Council

Te Koputu Library

<p>\$984</p> <p>Monthly Energy Cost Savings</p>	<p>4,806</p> <p>Elec. Savings (kWh/mo)</p>	<p>29%</p> <p>Elec. Savings (%)</p>	<p>41,073</p> <p>R12M Electricity Savings (kWh/yr)</p>	<p>1,741</p> <p>CO2e Savings (kg/mo)</p>
<p>\$8,205</p> <p>R12M Energy Cost Savings</p>	<p>5,154</p> <p>Gas. Savings (kWh/mo)</p>	<p>33%</p> <p>Gas. Savings (%)</p>	<p>49,869</p> <p>R12M Gas Savings (kWh/yr)</p>	<p>16,151</p> <p>R12M CO2e Savings (kg/yr)</p>

Comments:

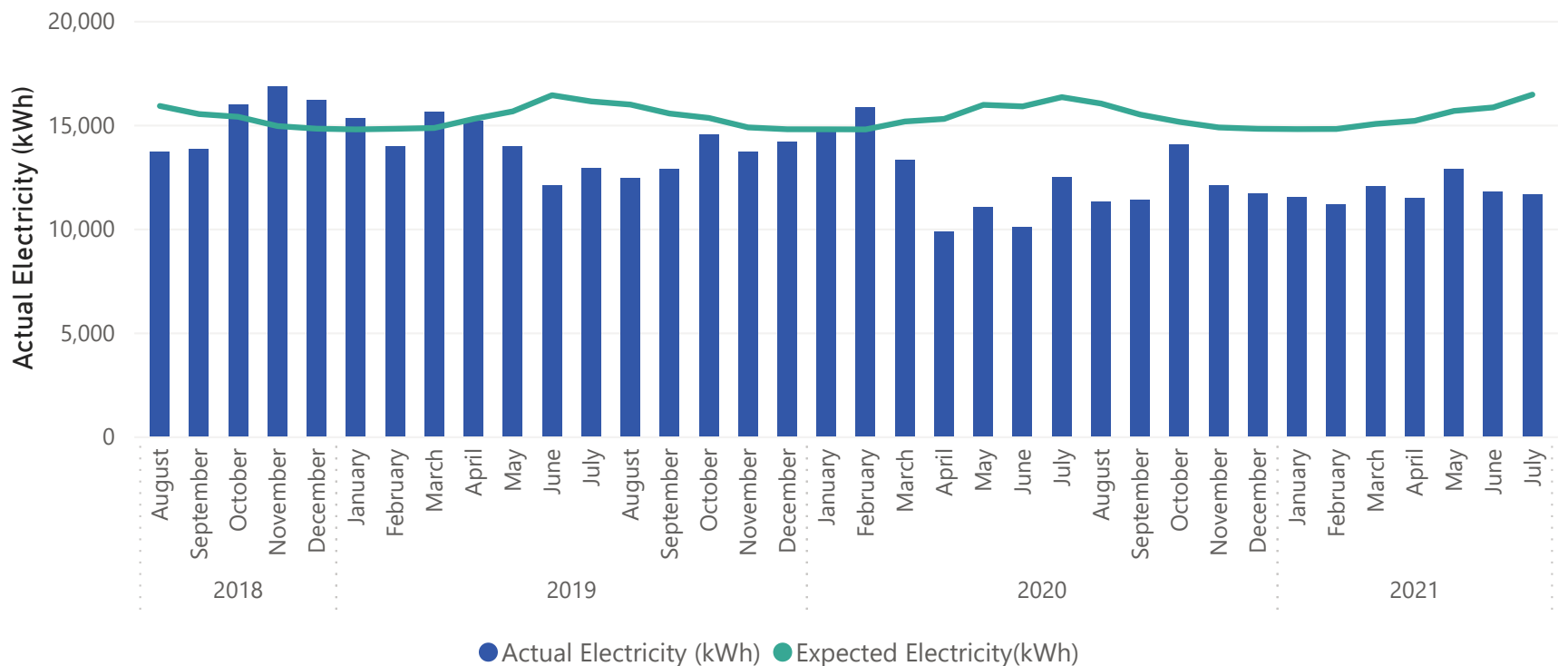
Electricity use has been less than baseline since March 2020.

Natural gas was previously switched off in February 2021. Natural gas was turned back on in May 2021.

The monthly EUI for the library has decreased compared to the past two months and compared to last year in July the EUI has decreased to from 212 to 200 kWh/m².

Rolling 12 month cost savings are at a new high, with approximately \$8,200 saved per year.

Te Koputu Library Electricity Use Compared to Baseline (kWh)

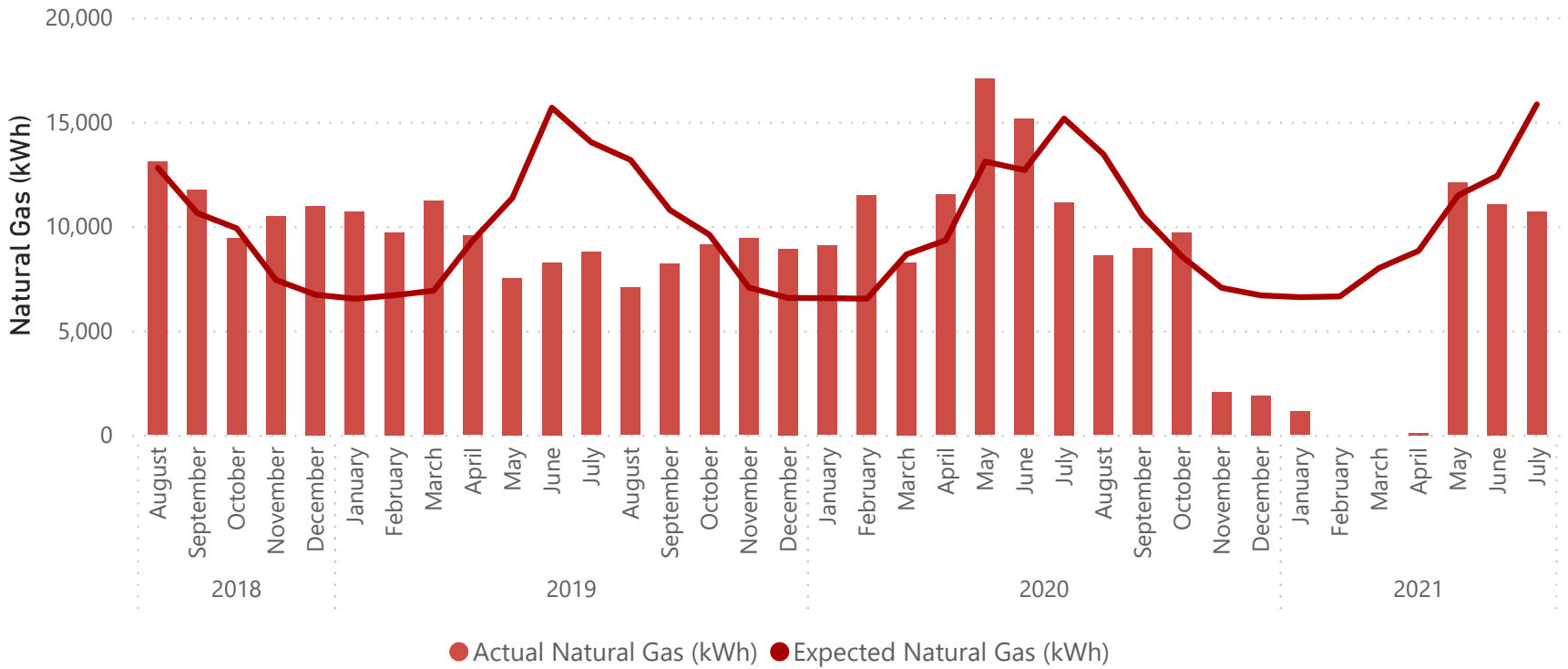


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

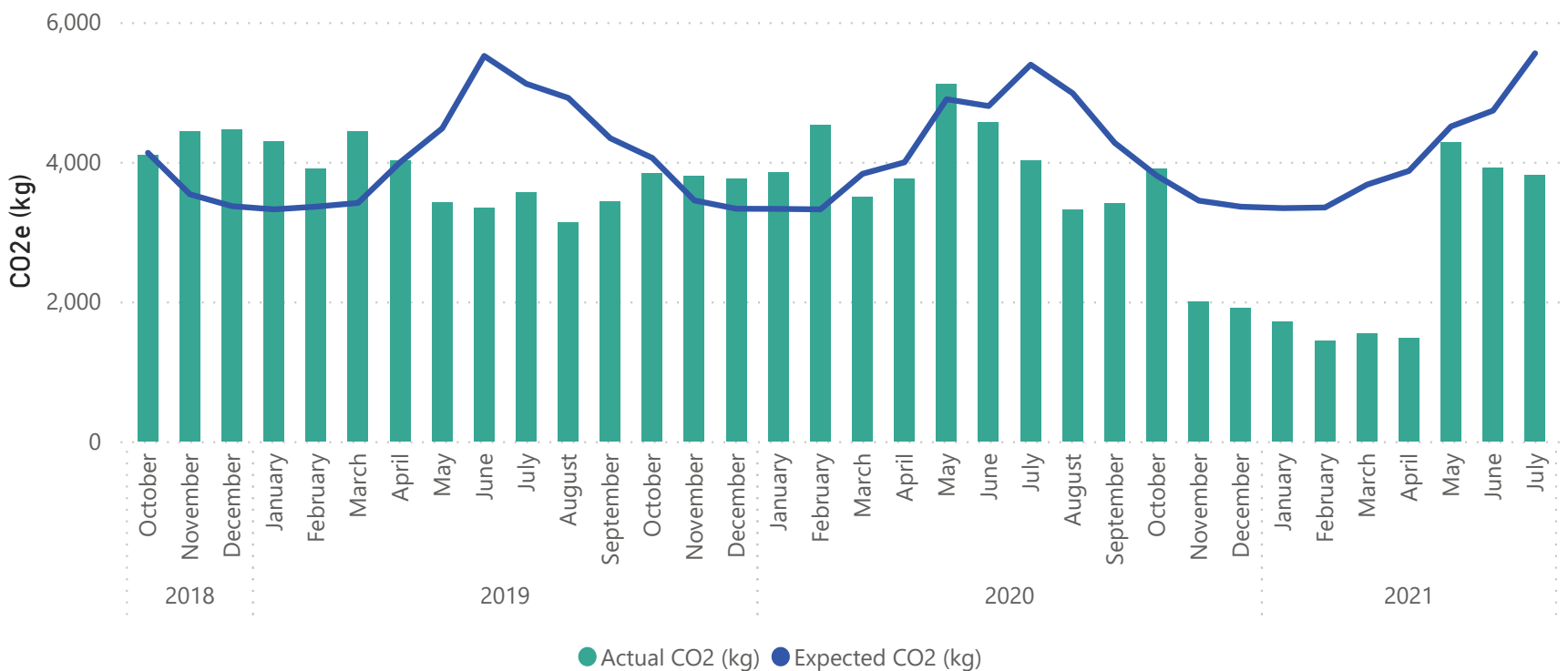
Whakatane District Council

Te Koputu Library

Te Koputu Library Natural Gas Compared to Baseline (kWh)



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

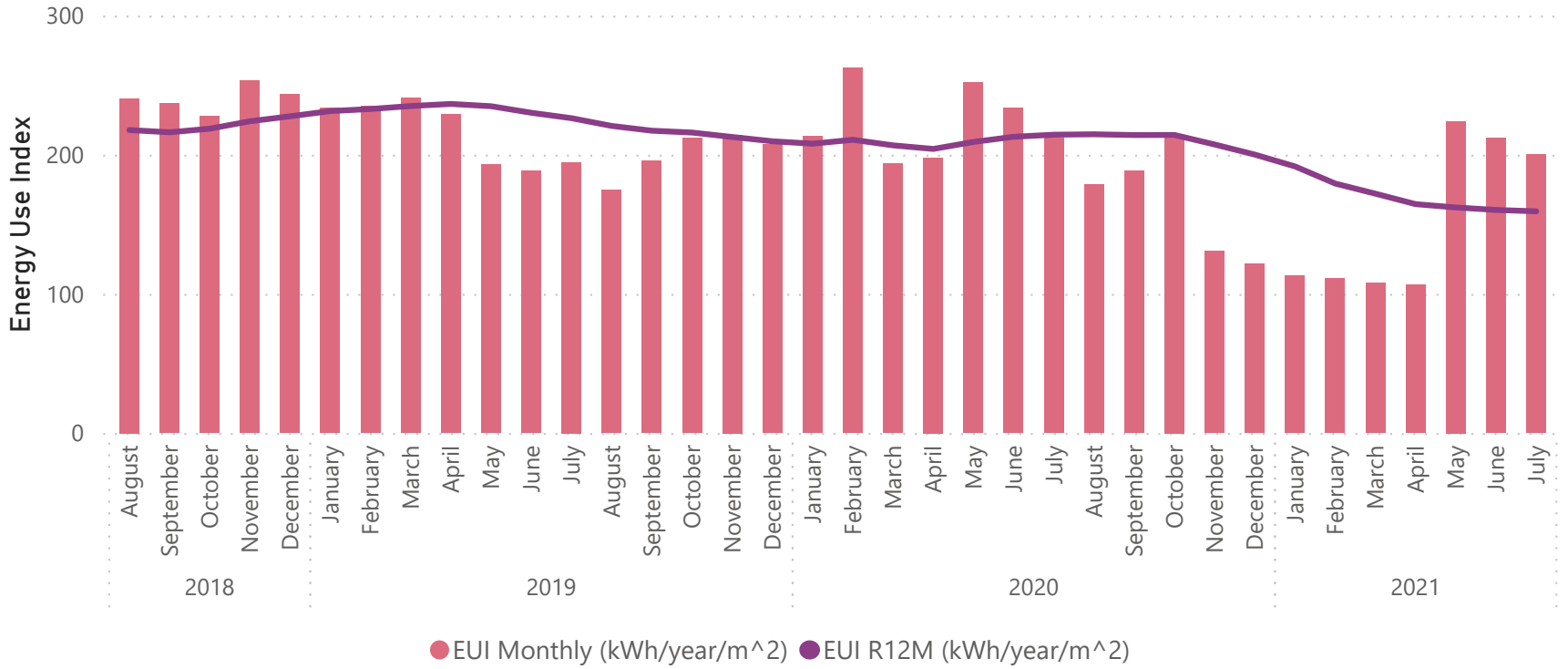


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

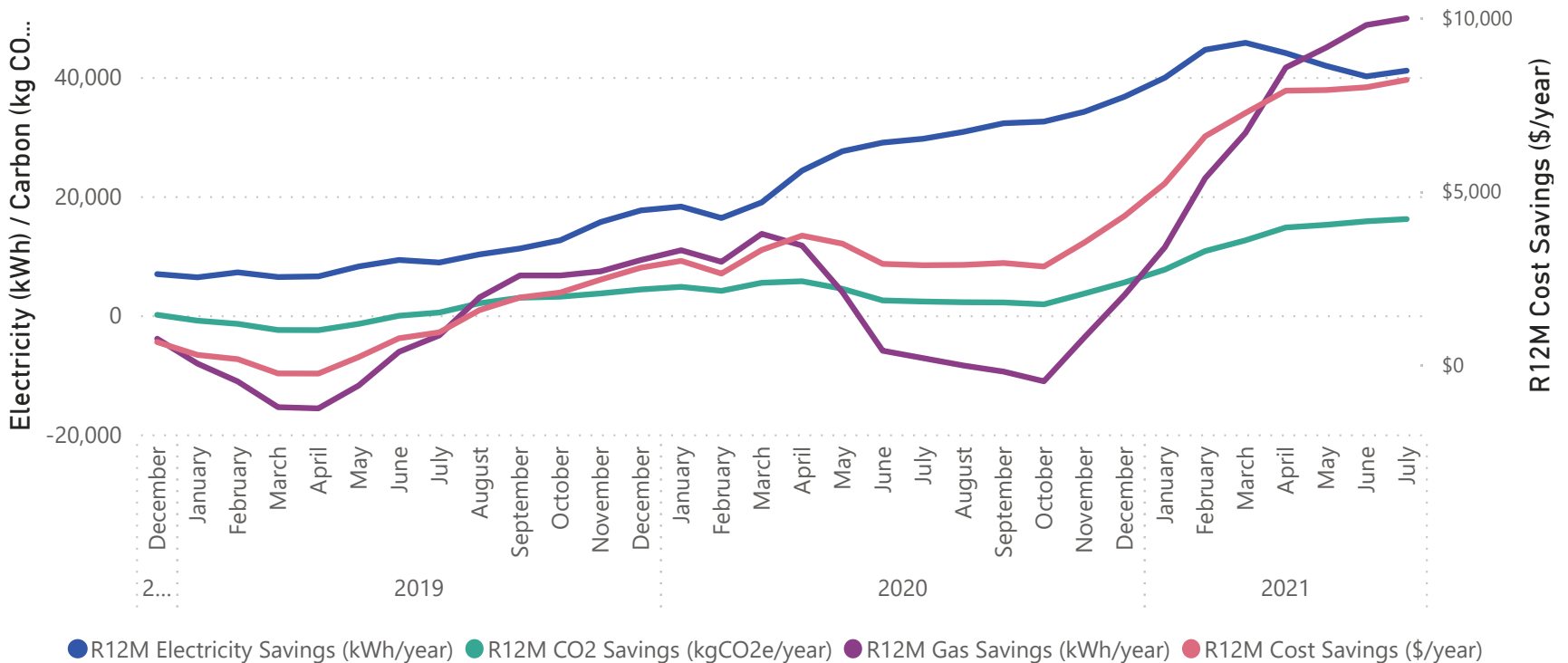
Whakatane District Council

Te Koputu Library

Te Koputu Library Energy Use Index by Month Compared to Rolling 12-Month Values



Te Koputu Library Cumulative Rolling 12 Month Savings



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

Whakatane District Council

Museum and Research Centre

<p>\$824</p> <p>Monthly Energy Cost Savings</p>	<p>4,119</p> <p>Elec. Savings (kWh/mo)</p>	<p>33%</p> <p>Elec. Savings (%)</p>	<p>14,000</p> <p>R12M Electricity Savings (kWh/yr)</p>	<p>1,433</p> <p>CO2e Savings (kg/mo)</p>
<p>\$2,406</p> <p>R12M Energy Cost Savings</p>	<p>4,164</p> <p>Gas. Savings (kWh/mo)</p>	<p>58%</p> <p>Gas. Savings (%)</p>	<p>10,604</p> <p>R12M Gas Savings (kWh/yr)</p>	<p>4,101</p> <p>R12M CO2e Savings (kg/yr)</p>

Comments:

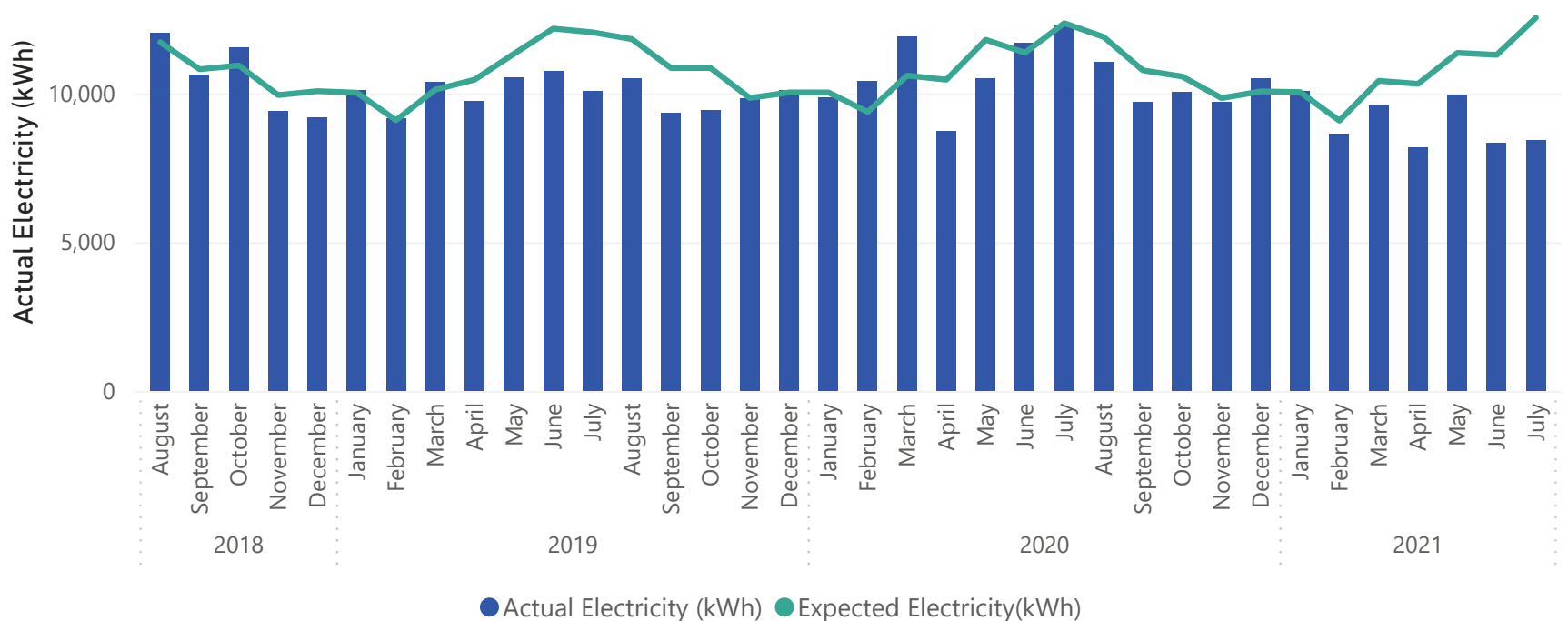
Electricity use at the Museum and Research Centre is 33% below baseline in July 2021 and compared to July 2020, electricity use has decreased by 31%.

Some of these savings reflect the recent work on the HVAC system, operation of the air handling unit has been changed as well as modifying timing on air conditioning.

The Museum and Research Centre achieved a savings of 58% below baseline for natural gas.

Rolling 12 month savings have increased this month.

Museum Research Centre Electricity Use Compared to Baseline (kWh)

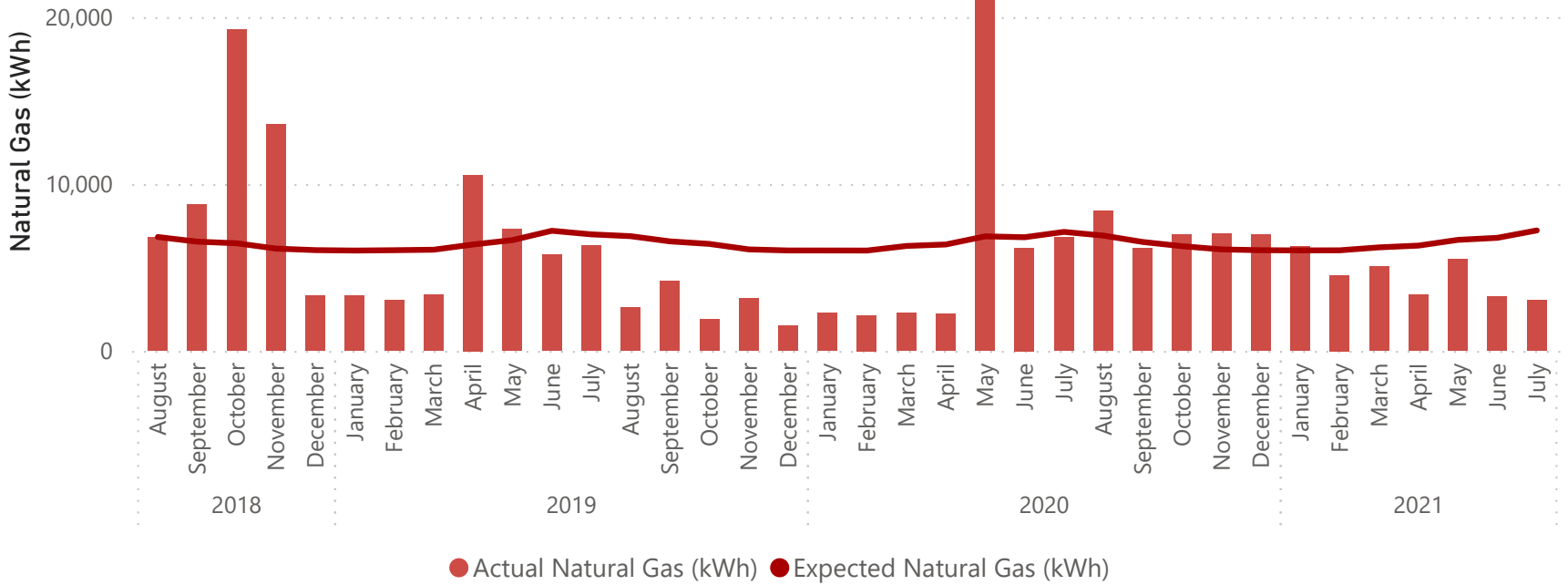


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

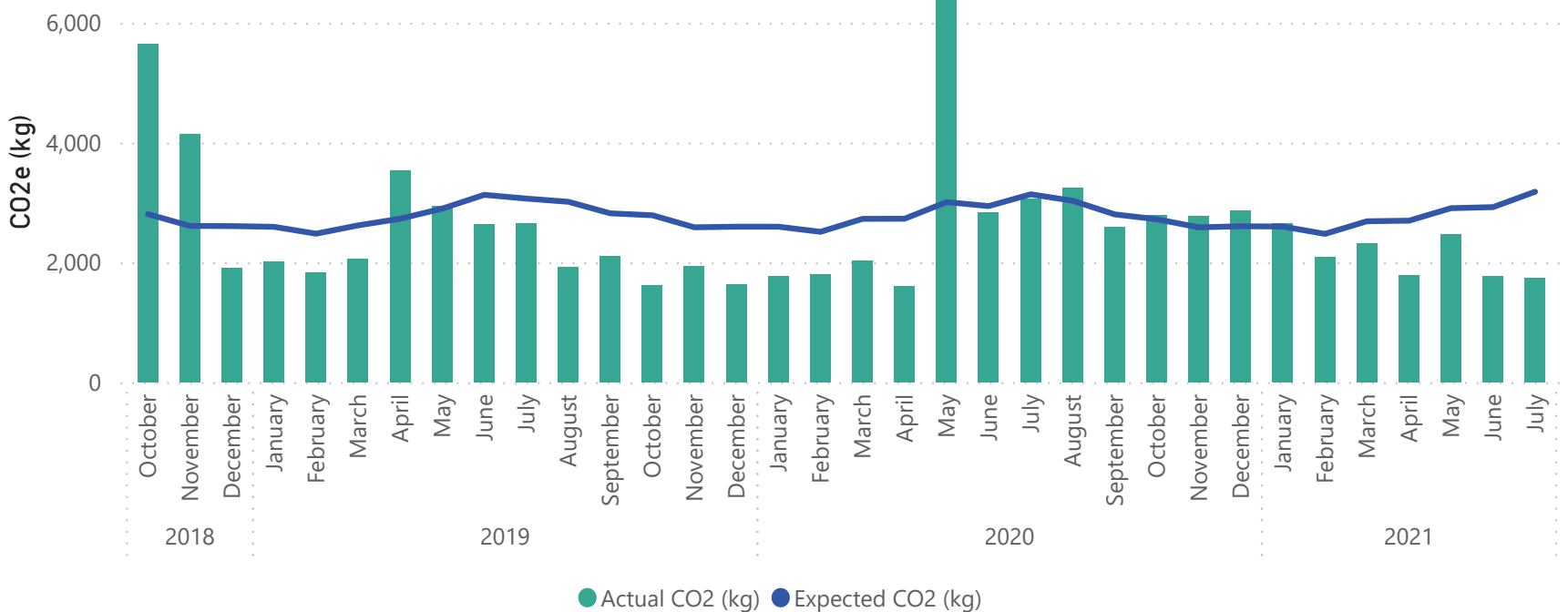
Whakatane District Council

Museum and Research Centre

Museum Research Centre Natural Gas Compared to Baseline (kWh)



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

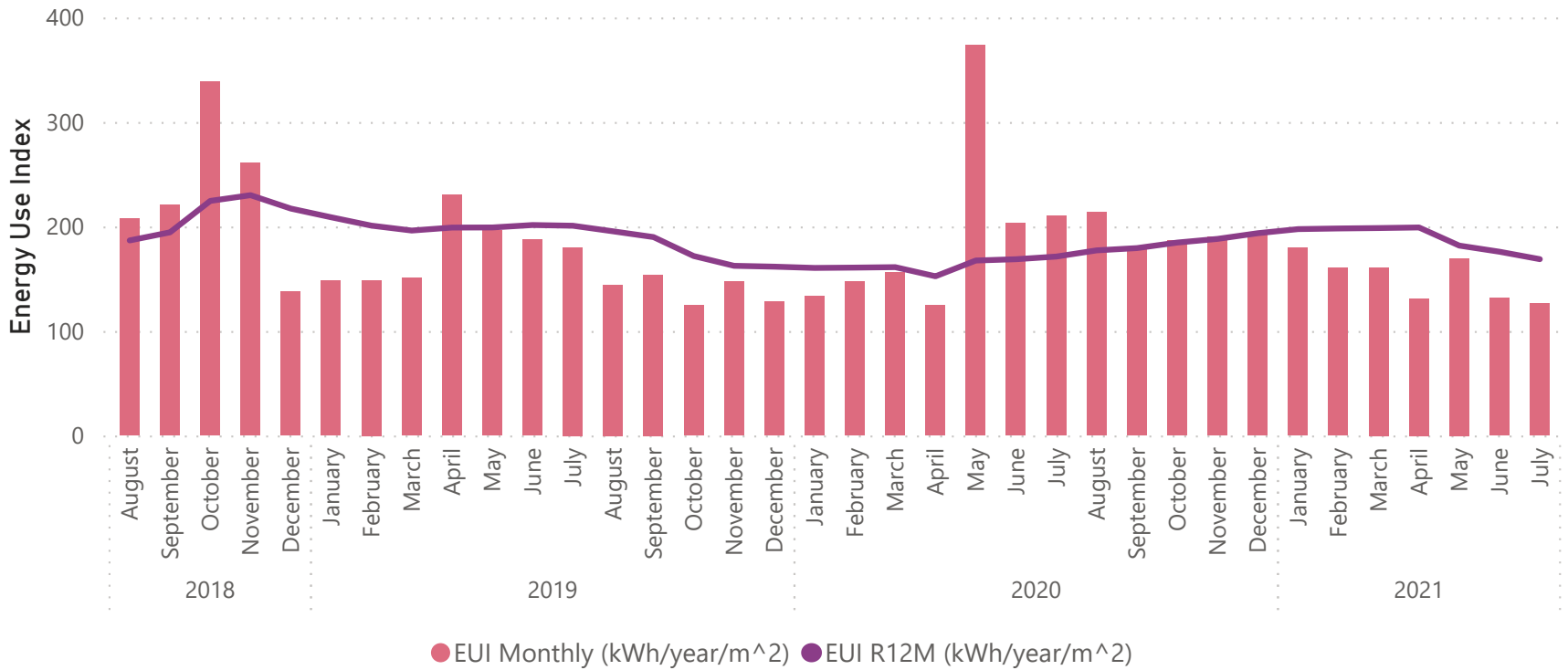


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

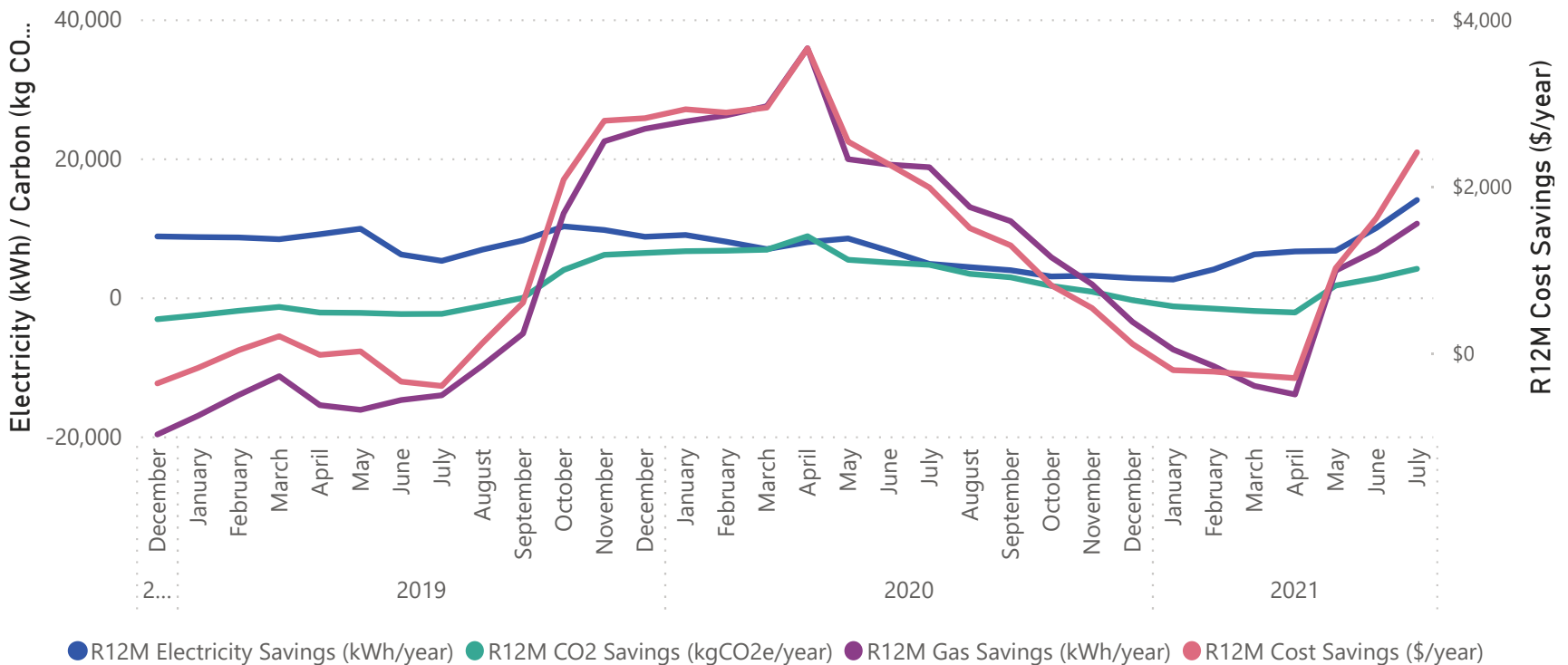
Whakatane District Council

Museum and Research Centre

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



Museum Research Centre Cumulative Rolling 12 Month Savings



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

Whakatane District Council

Water Treatment Plant

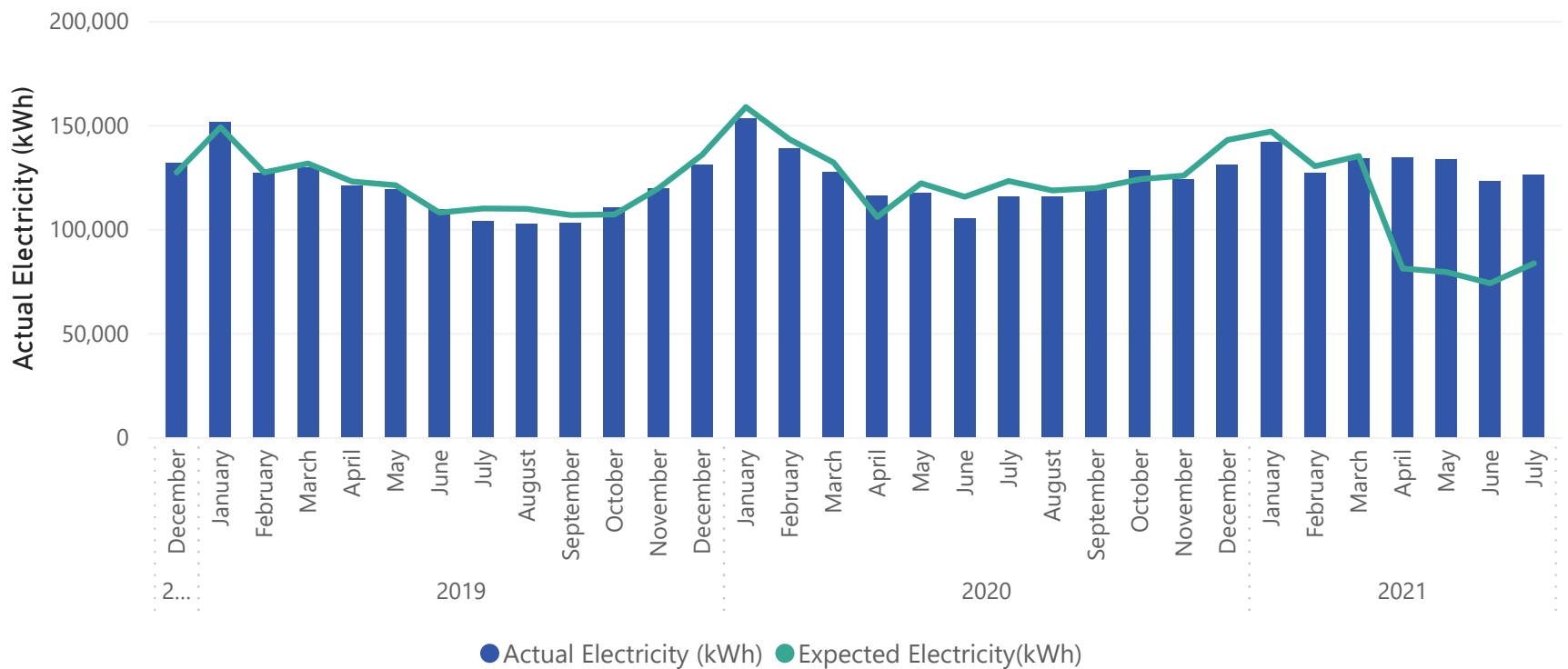
<p>-\$5,203 Monthly Energy Cost Savings</p>	<p>-42,384 Elec. Savings (kWh/mo)</p>	<p>-51% Elec. Savings (%)</p>	<p>-176,252 R12M Electricity Savings (kWh/yr)</p>	<p>-5,455 CO2e Savings (kg/mo)</p>
<p>-\$19,937 R12M Energy Cost Savings</p>				<p>-22,684 R12M CO2e Savings (kg/yr)</p>

Comments:

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. This trend has continued in July 2021.

Water Treatment Plant Electricity Use Compared to Baseline (kWh)

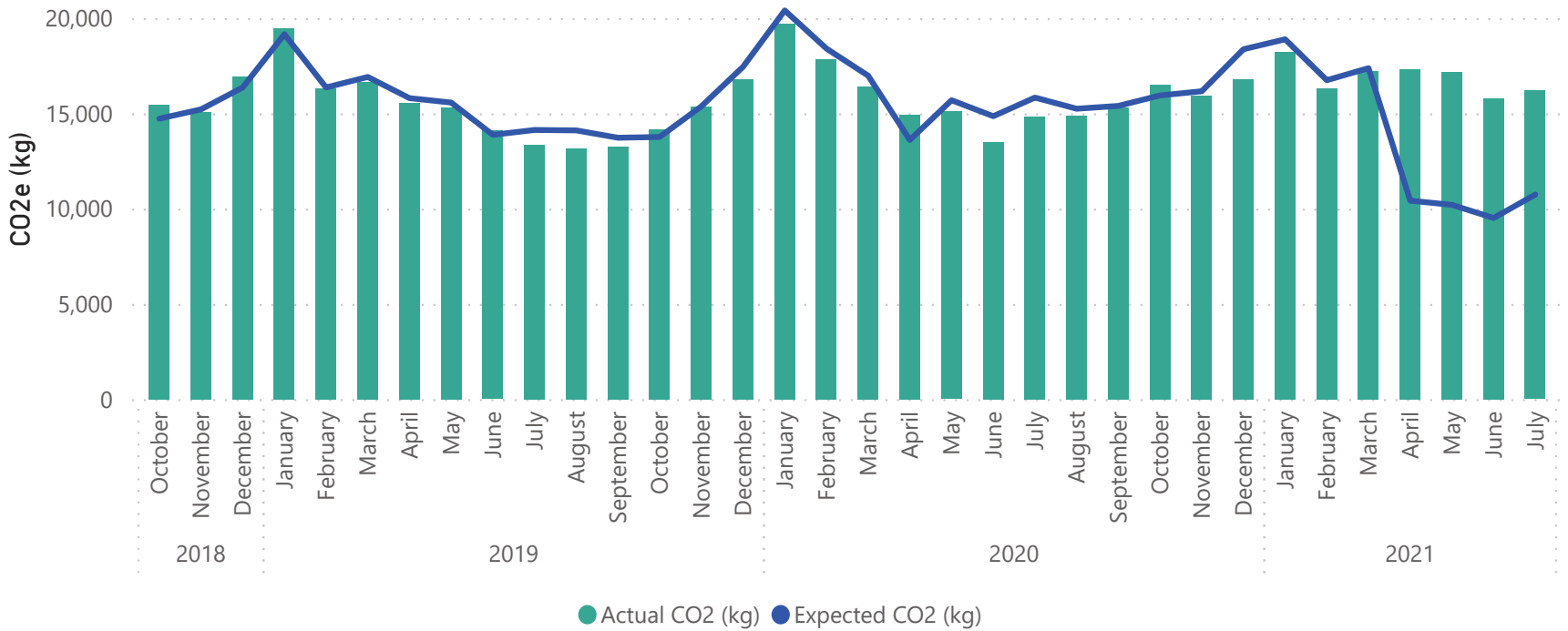


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

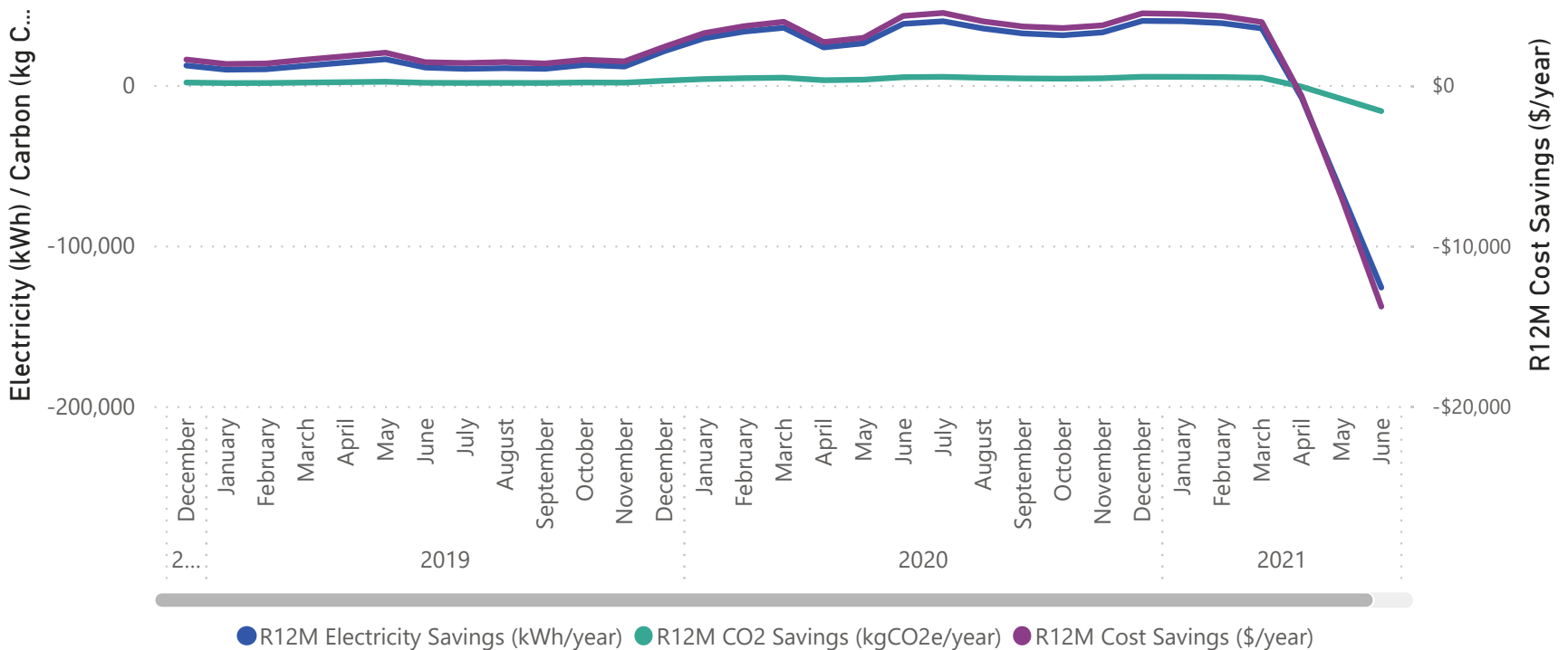
Whakatane District Council

Water Treatment Plant

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



Water Treatment Plant Cumulative Rolling 12 Month Savings

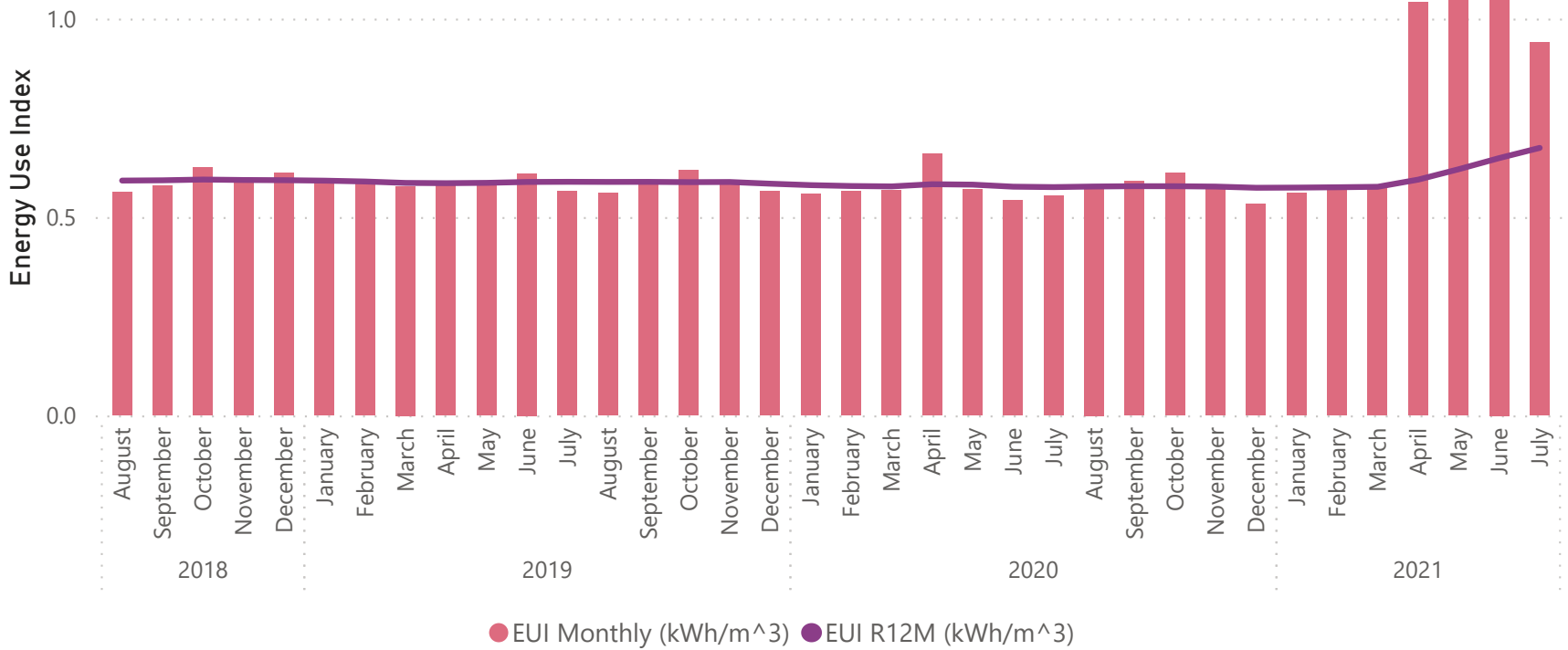


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Water Treatment Plant

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



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

Whakatane District Council

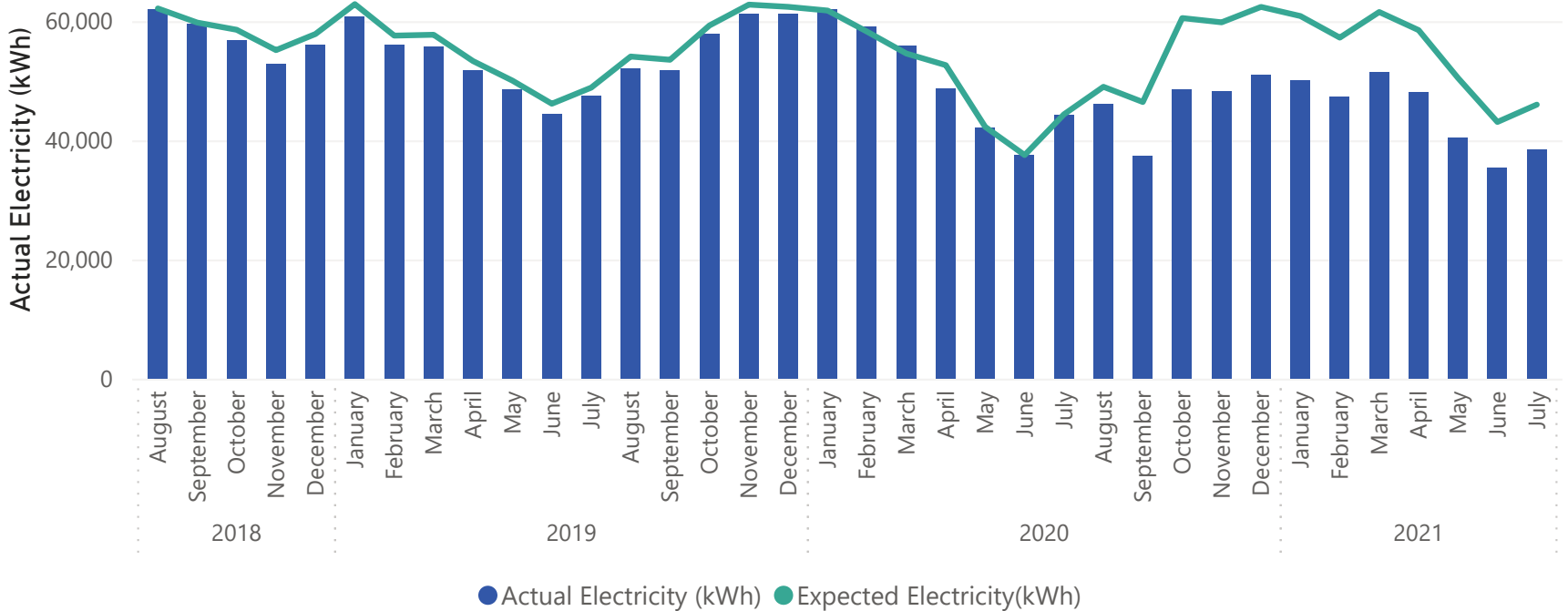
Braemar Road Pump Station

<p>\$951 Monthly Energy Cost Savings</p>	<p>7,613 Elec. Savings (kWh/mo)</p>	<p>17% Elec. Savings (%)</p>	<p>113,531 R12M Electricity Savings (kWh/yr)</p>	<p>1,088 CO2e Savings (kg/mo)</p>
<p>\$12,147 R12M Energy Cost Savings</p>				<p>15,253 R12M CO2e Savings (kg/yr)</p>

Comments:

Rolling 12 month savings have set a new record, with savings of \$12,100 per year, 113,500 kWh per year, and 15,300 kgCO2e per year, thanks to the new high efficiency pumps and motors.

Braemar Rd Pumps Electricity Use Compared to Baseline (kWh)

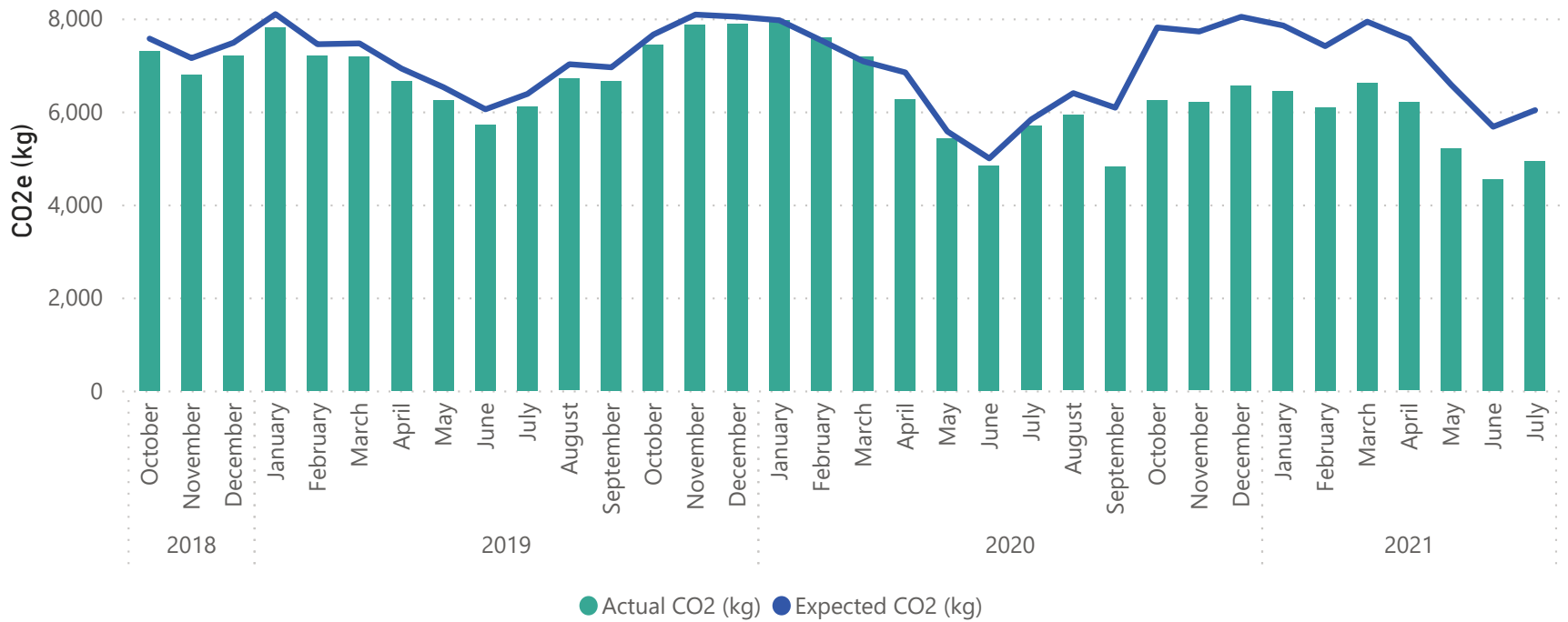


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

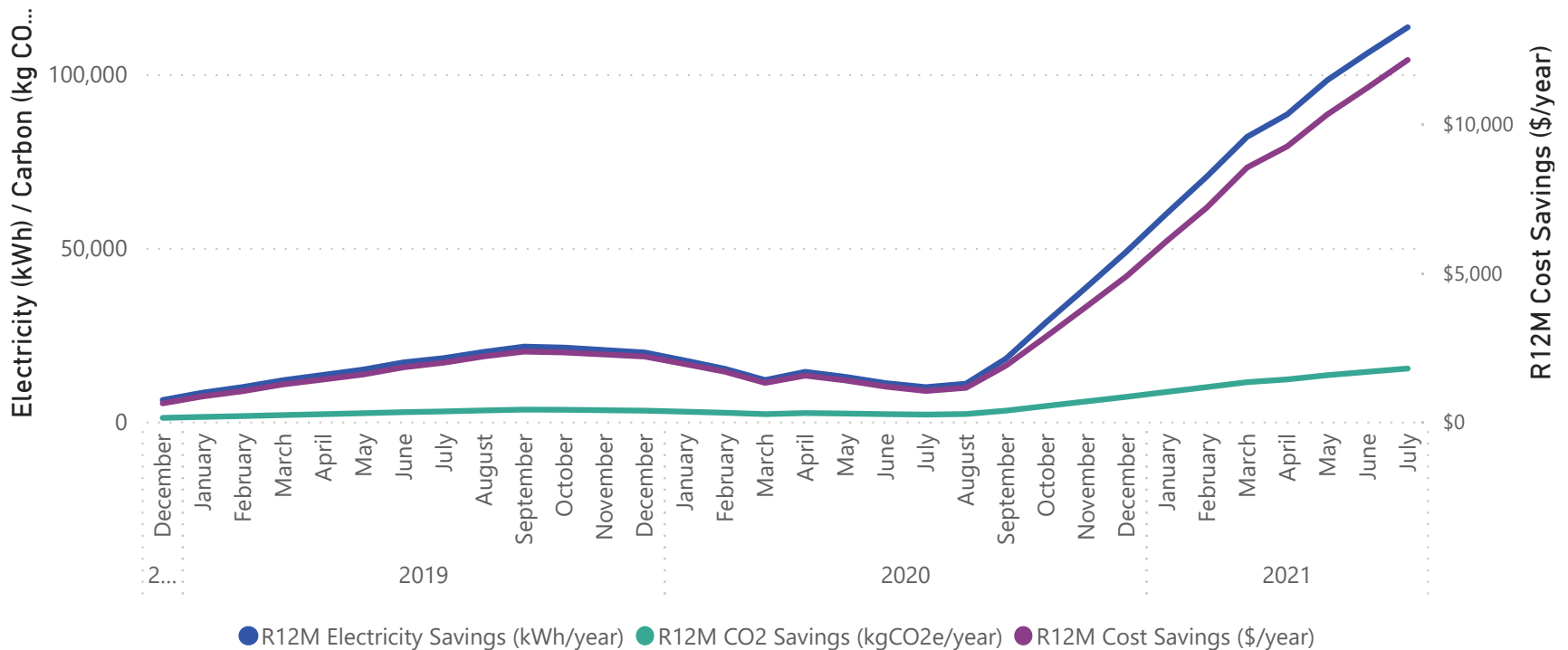
Whakatane District Council

Braemar Road Pump Station

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



Braemar Rd Pumps Cumulative Rolling 12 Month Savings

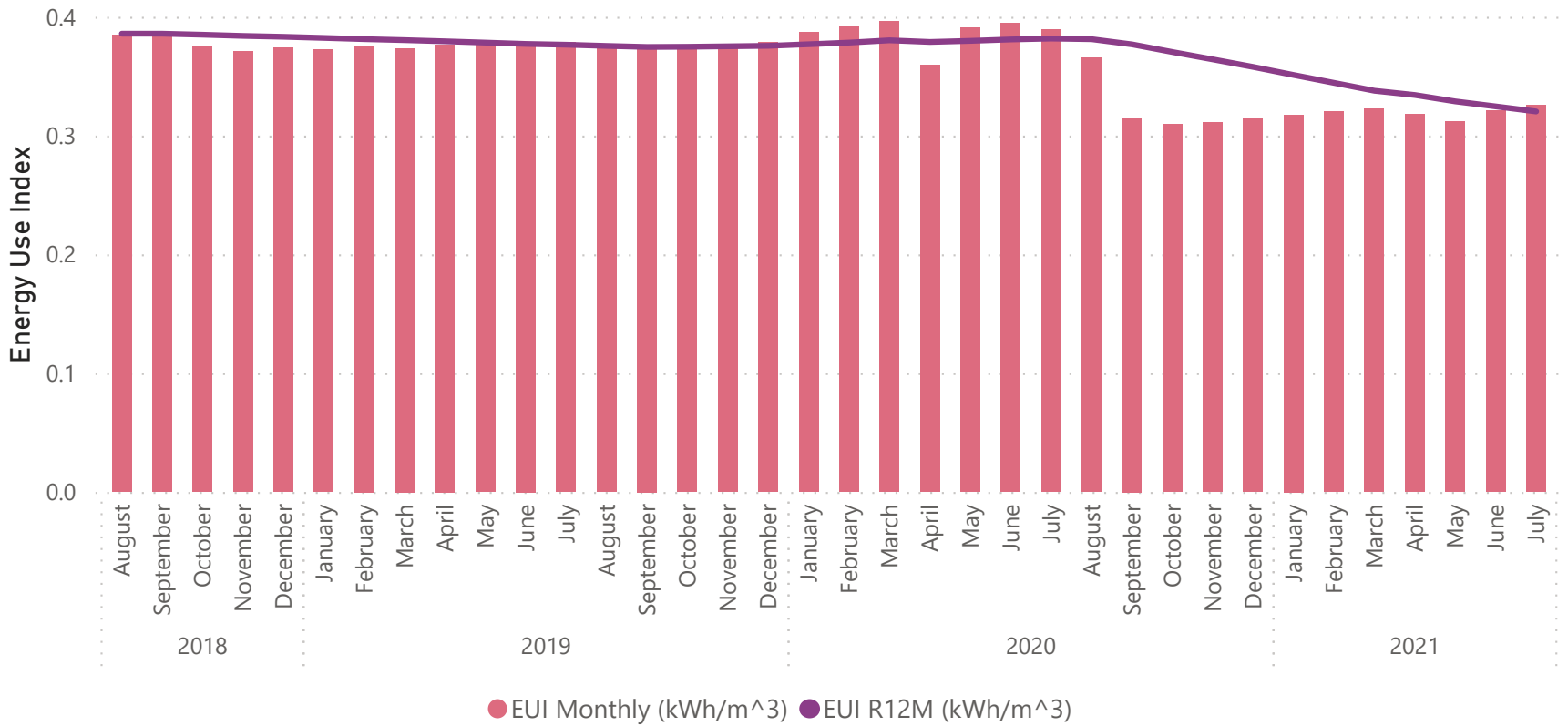


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Braemar Road Pump Station

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



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

Whakatane District Council

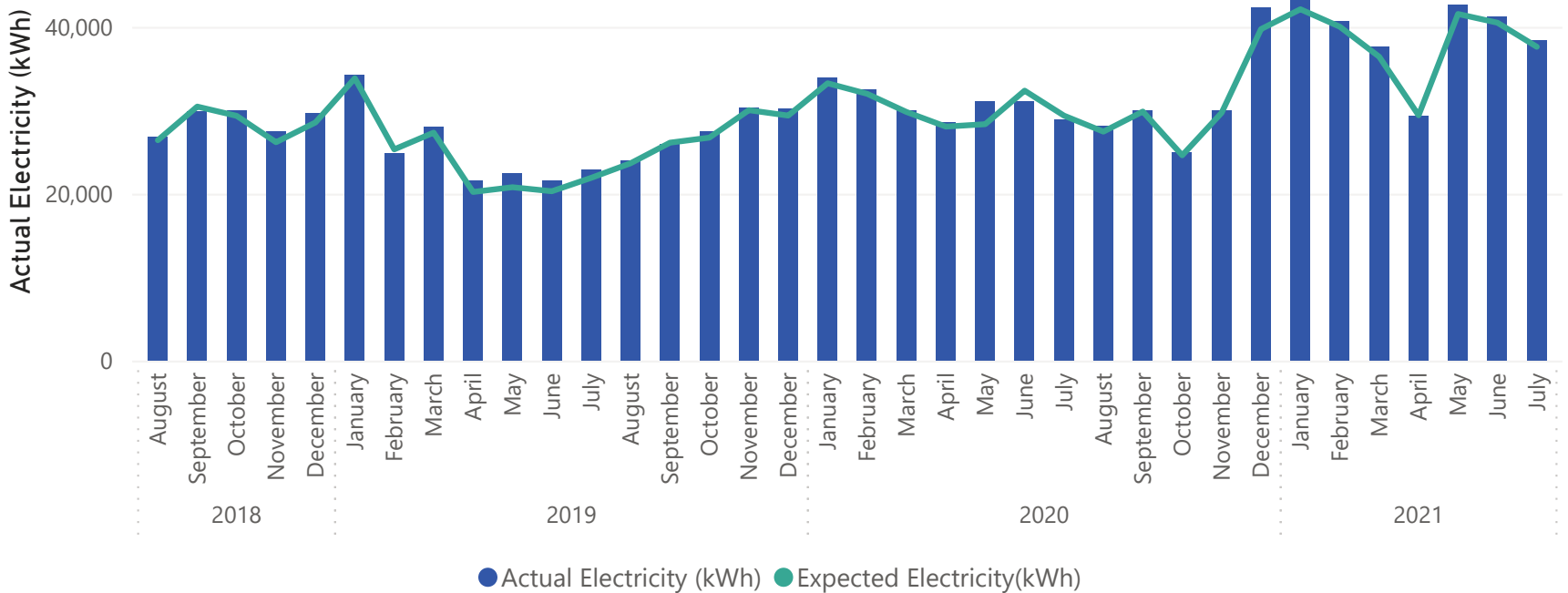
Paul Road Pump Station

<p>-\$99 Monthly Energy Cost Savings</p>	<p>-793 Elec. Savings (kWh/mo)</p>	<p>-2% Elec. Savings (%)</p>	<p>-10,218 R12M Electricity Savings (kWh/yr)</p>	<p>-101 CO2e Savings (kg/mo)</p>
<p>-\$1,088 R12M Energy Cost Savings</p>				<p>-1,306 R12M CO2e Savings (kg/yr)</p>

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 0.65 kWh per cubic meter.

Paul Rd Pumps Electricity Use Compared to Baseline (kWh)

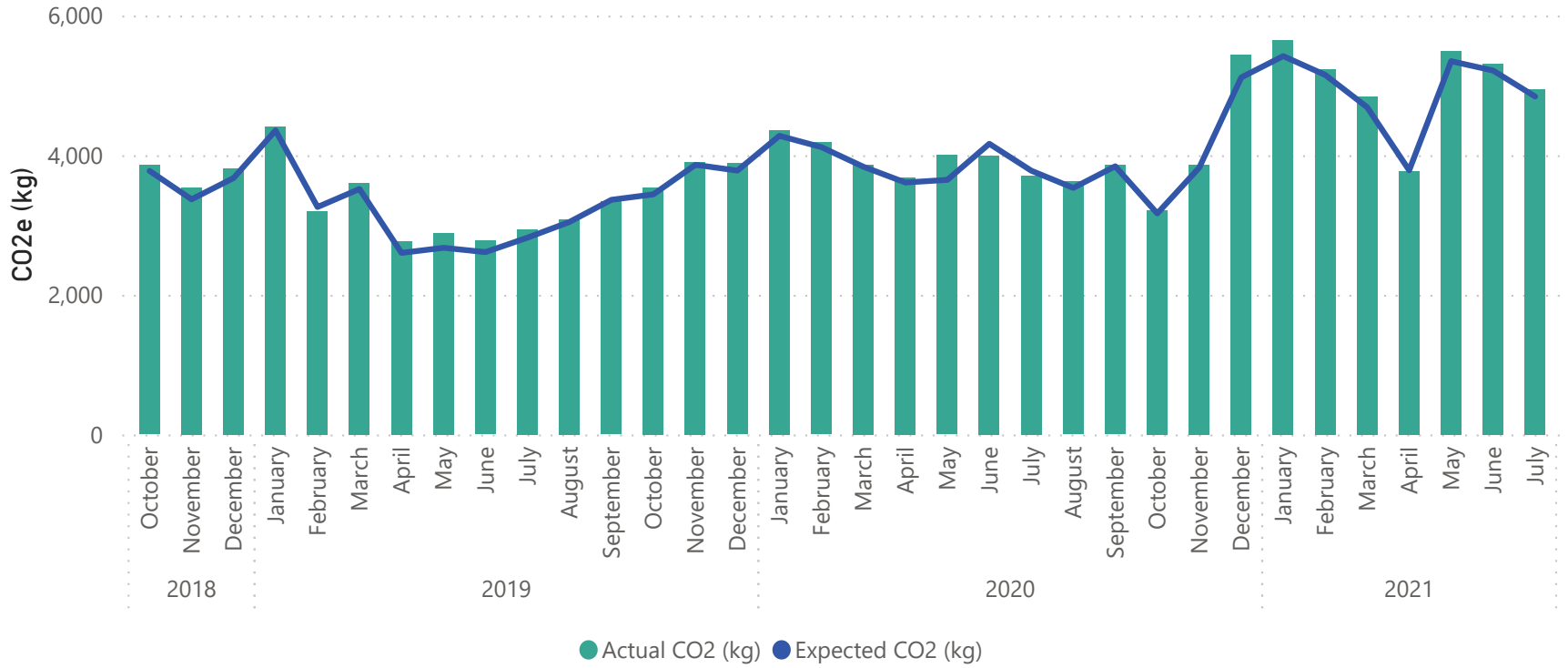


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

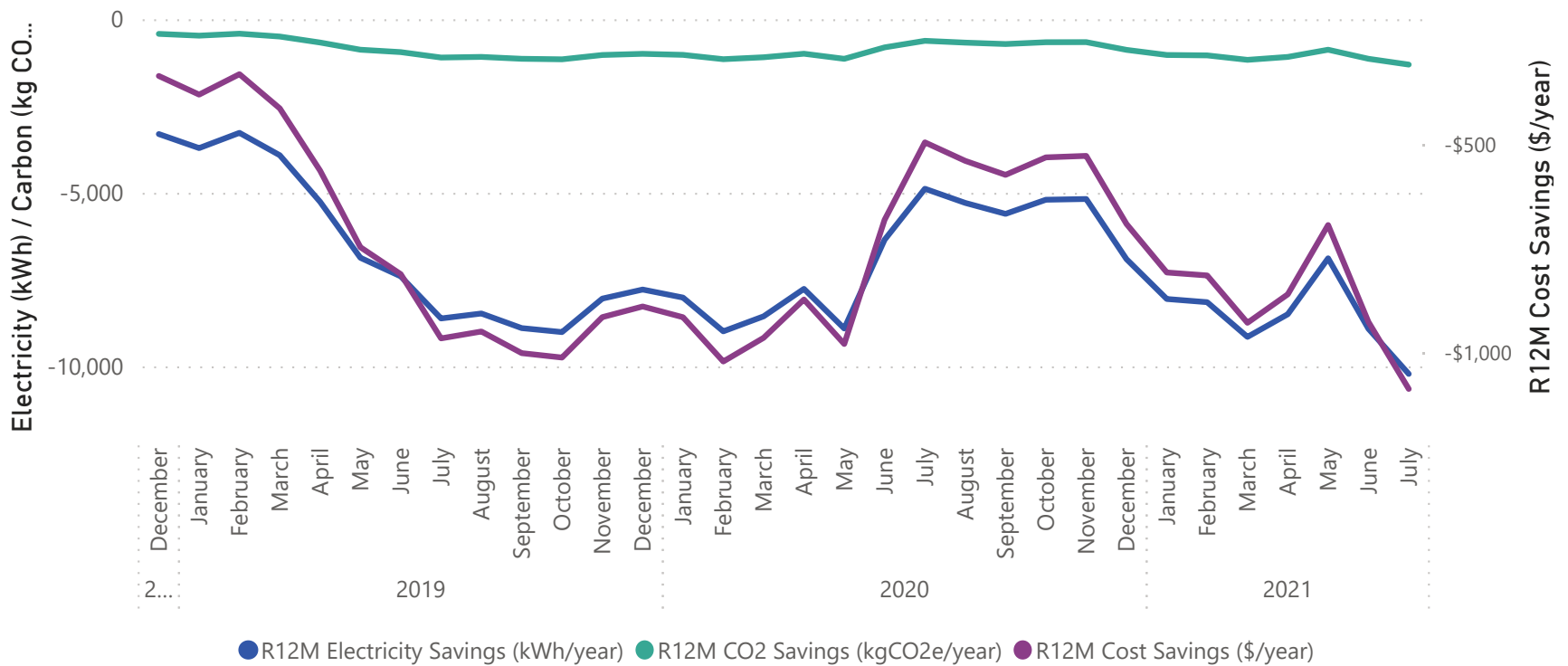
Whakatane District Council

Paul Road Pump Station

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



Paul Rd Pumps Cumulative Rolling 12 Month Savings

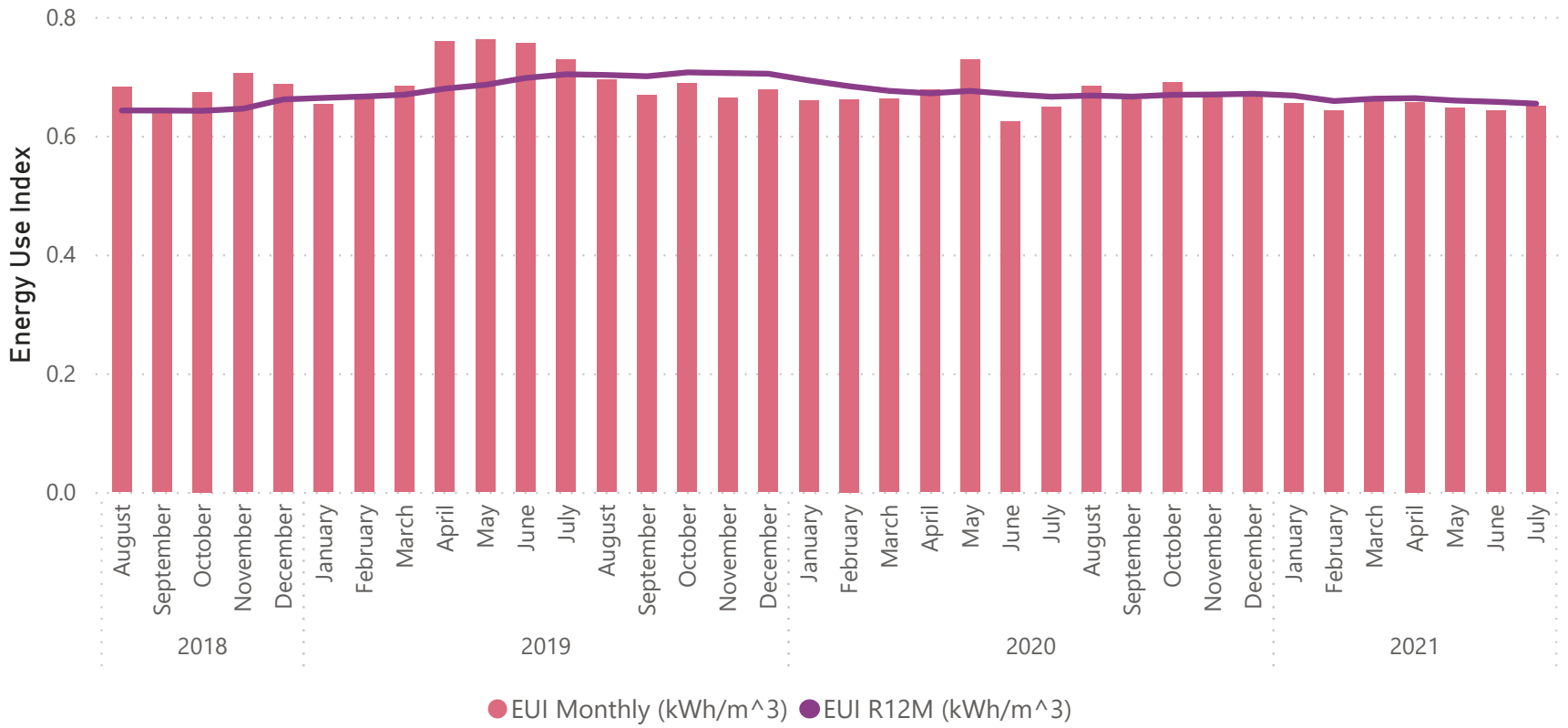


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Paul Road Pump Station

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



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

Whakatane District Council

Johnson Road Pump Station

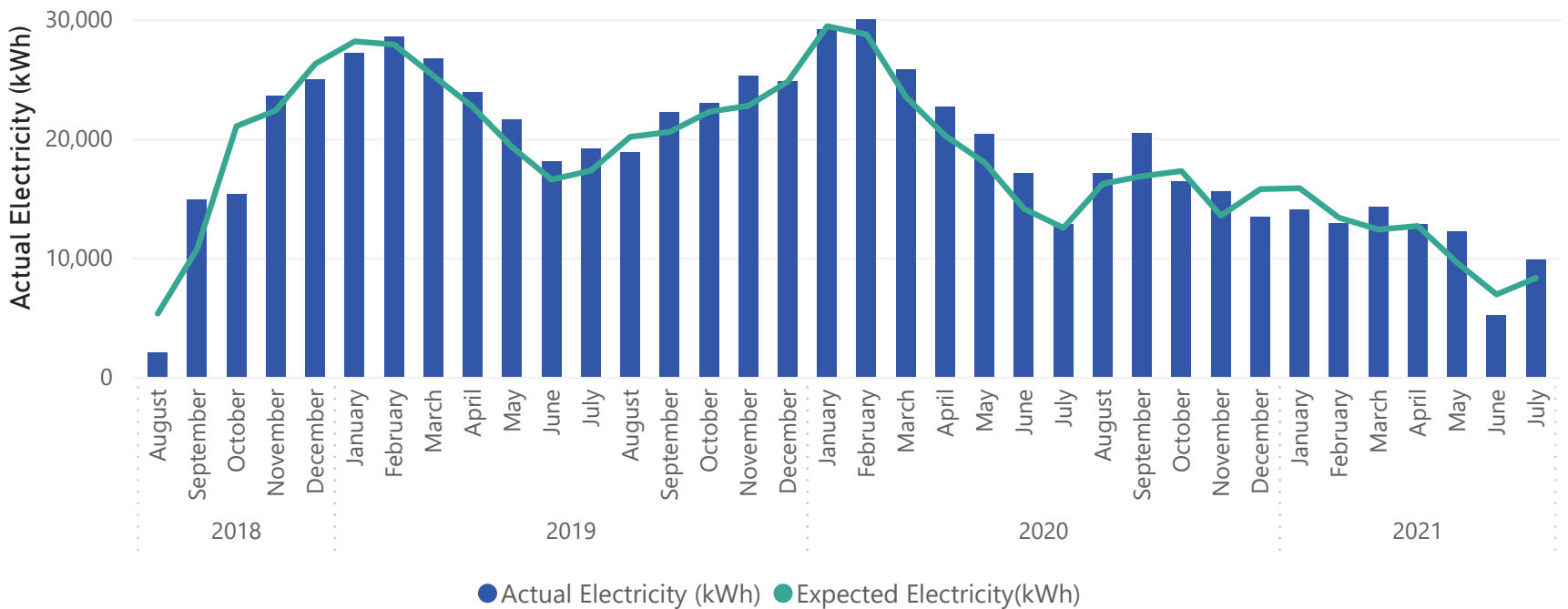
<p>-\$345 Monthly Energy Cost Savings</p>	<p>-1,566 Elec. Savings (kWh/mo)</p>	<p>-19% Elec. Savings (%)</p>	<p>-5,485 R12M Electricity Savings (kWh/yr)</p>	<p>-201 CO2e Savings (kg/mo)</p>
<p>-\$1,201 R12M Energy Cost Savings</p>				<p>-699 R12M CO2e Savings (kg/yr)</p>

Comments:

Generally, 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.

For May, June, and July 2021, Johnson Road Pump Station's EUI has increased by approximately 60% compared to previous 12 months. The rolling 12-month EUI in April 2021 was 0.67. The average EUI for the May, June and July 2021 was 1.13 kWh/m³, approximately 68% higher.

Johnson Rd Pumps Electricity Use Compared to Baseline (kWh)

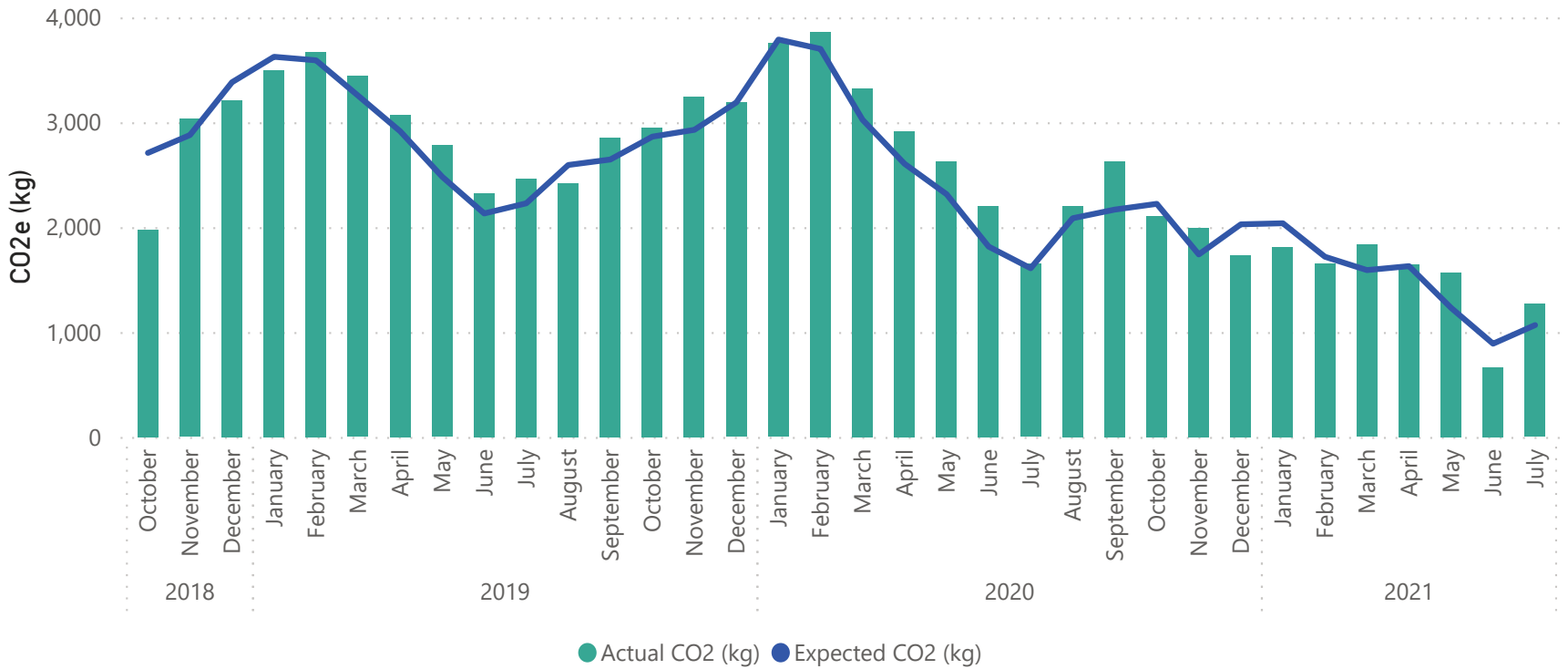


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

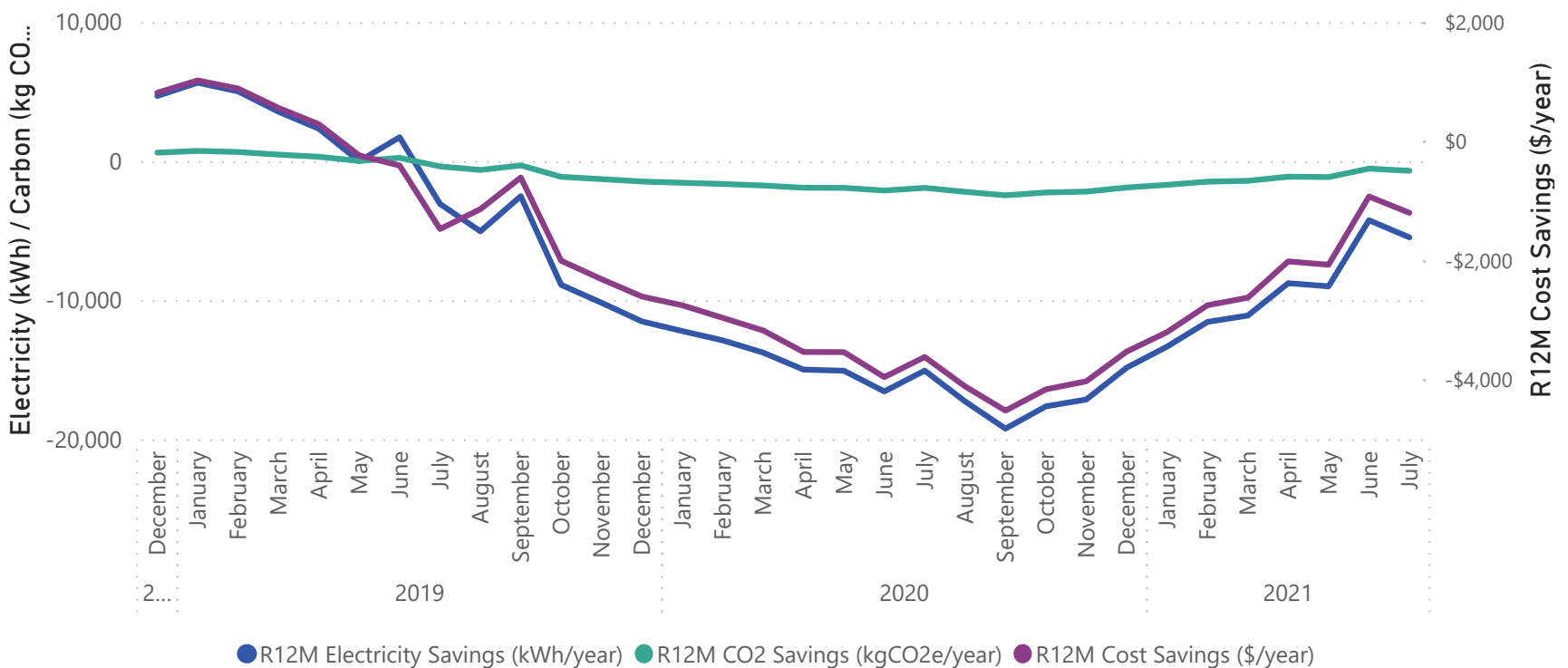
Whakatane District Council

Johnson Road Pump Station

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



Johnson Rd Pumps Cumulative Rolling 12 Month Savings

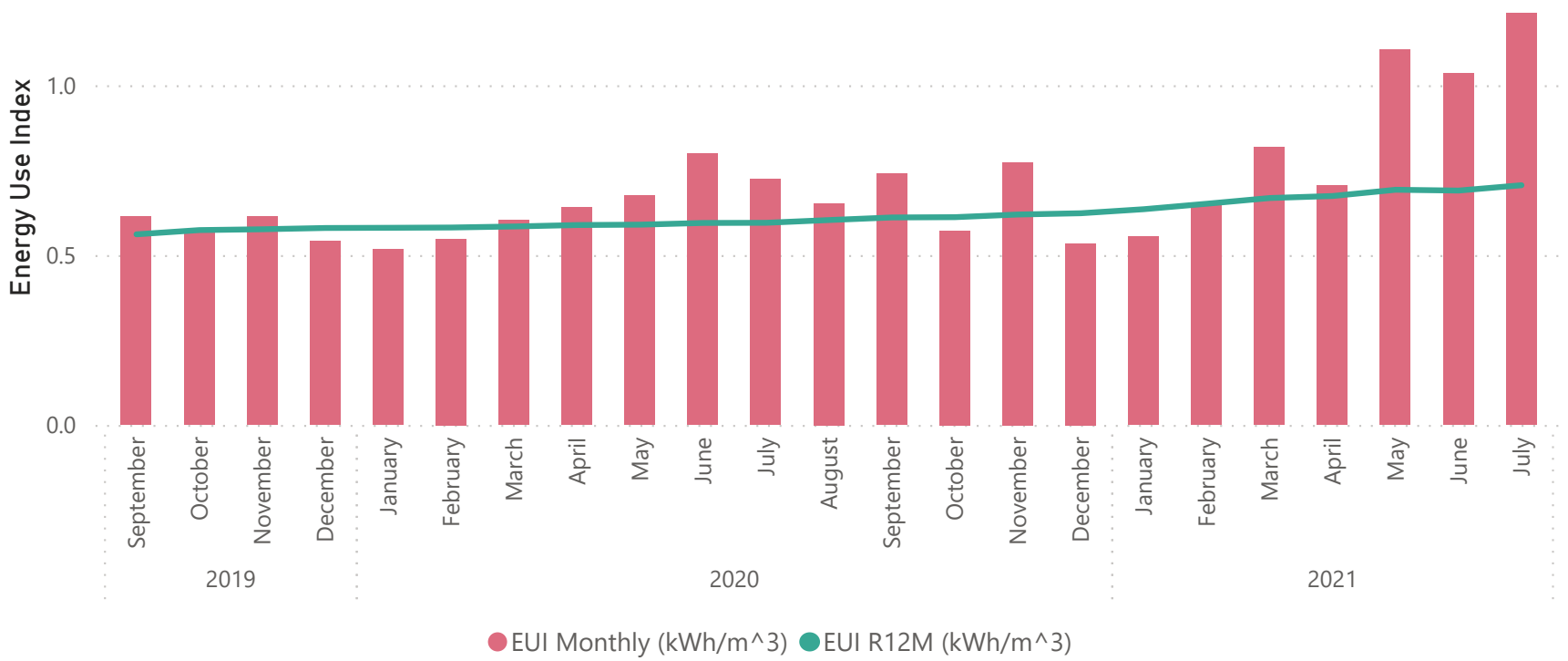


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Johnson Road Pump Station

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



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

Whakatane District Council

Johnson and Braemar Rd Pump Stations

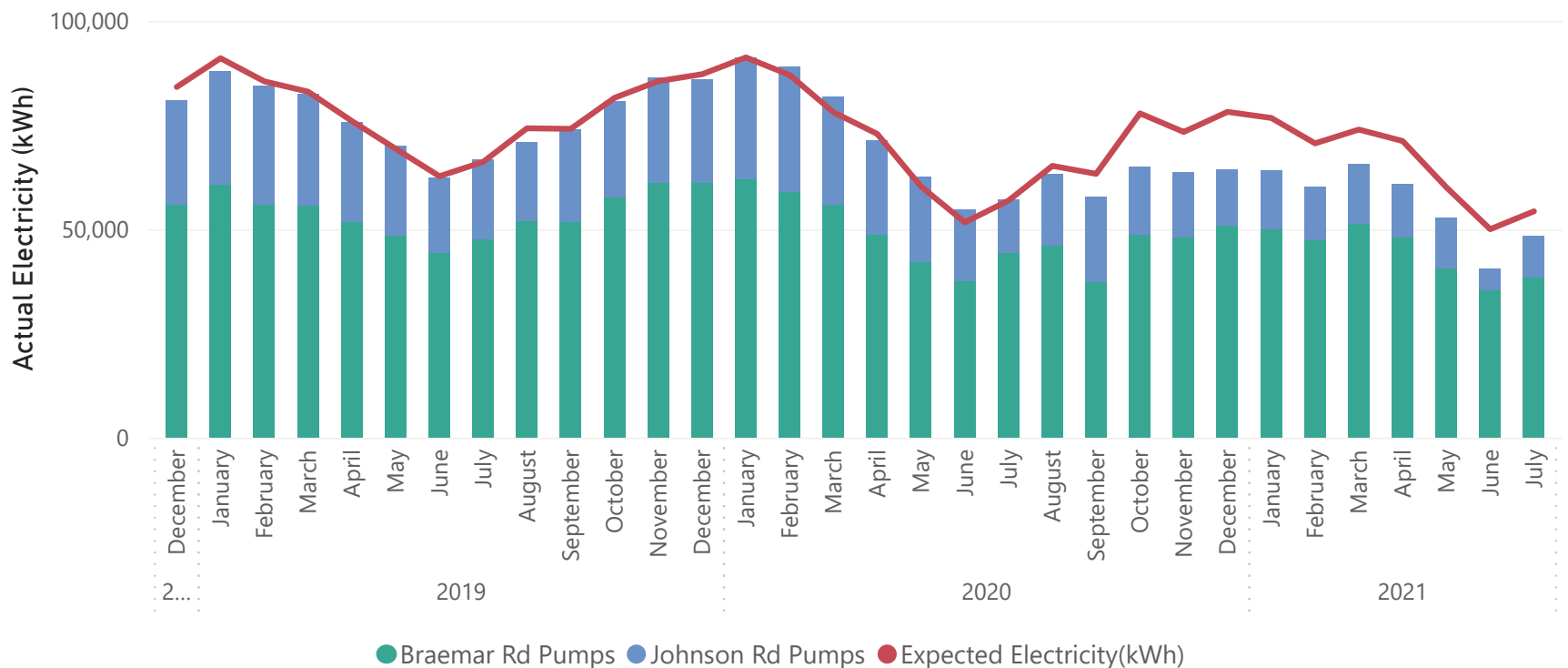
<p>\$605 Monthly Energy Cost Savings</p>	<p>6,047 Elec. Savings (kWh/mo)</p>	<p>11% Elec. Savings (%)</p>	<p>108,046 R12M Electricity Savings (kWh/yr)</p>	<p>886 CO2e Savings (kg/mo)</p>
<p>\$10,946 R12M Energy Cost Savings</p>				<p>14,554 R12M CO2e Savings (kg/yr)</p>

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.

In the past three months, Johnson Rd pump station has been operating less efficiently, with an average EUI of 1.13 kWh/m³, which is 2.5 times less efficient compared to Braemar Road.

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

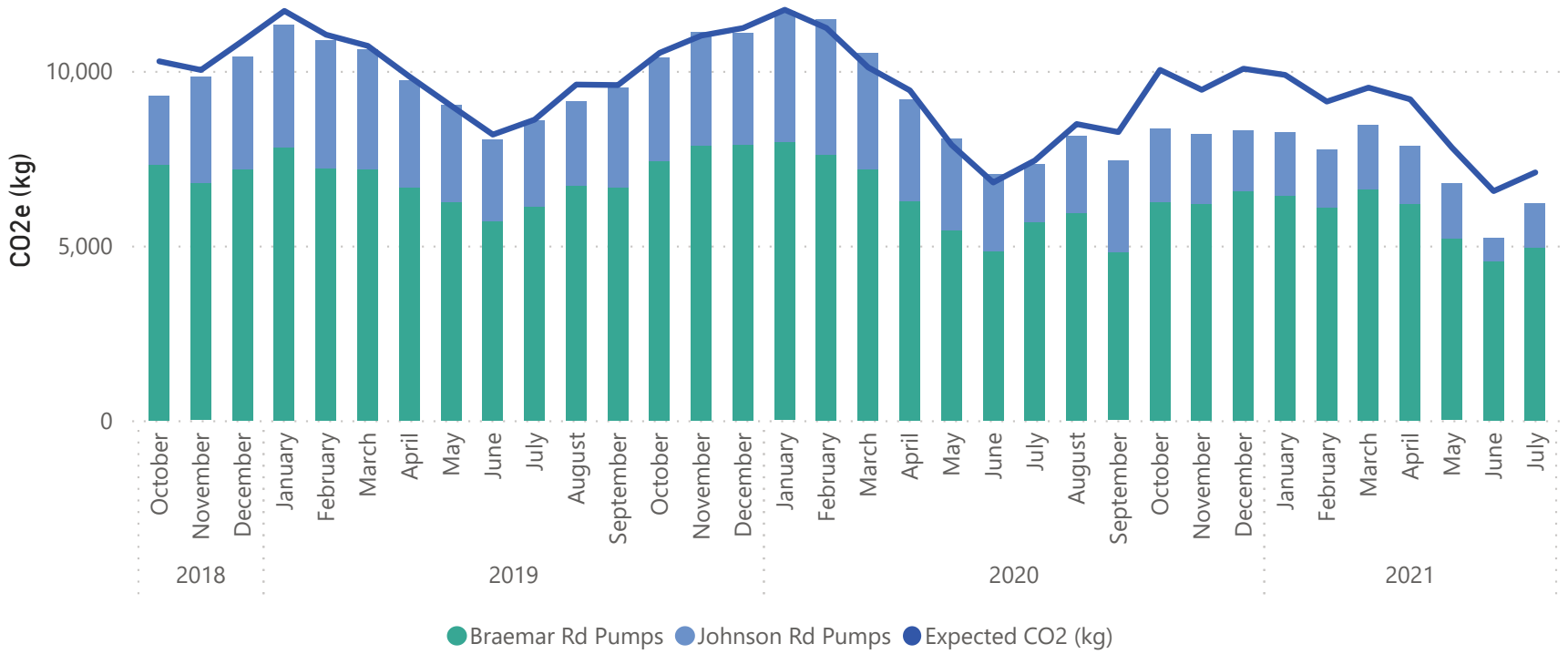


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

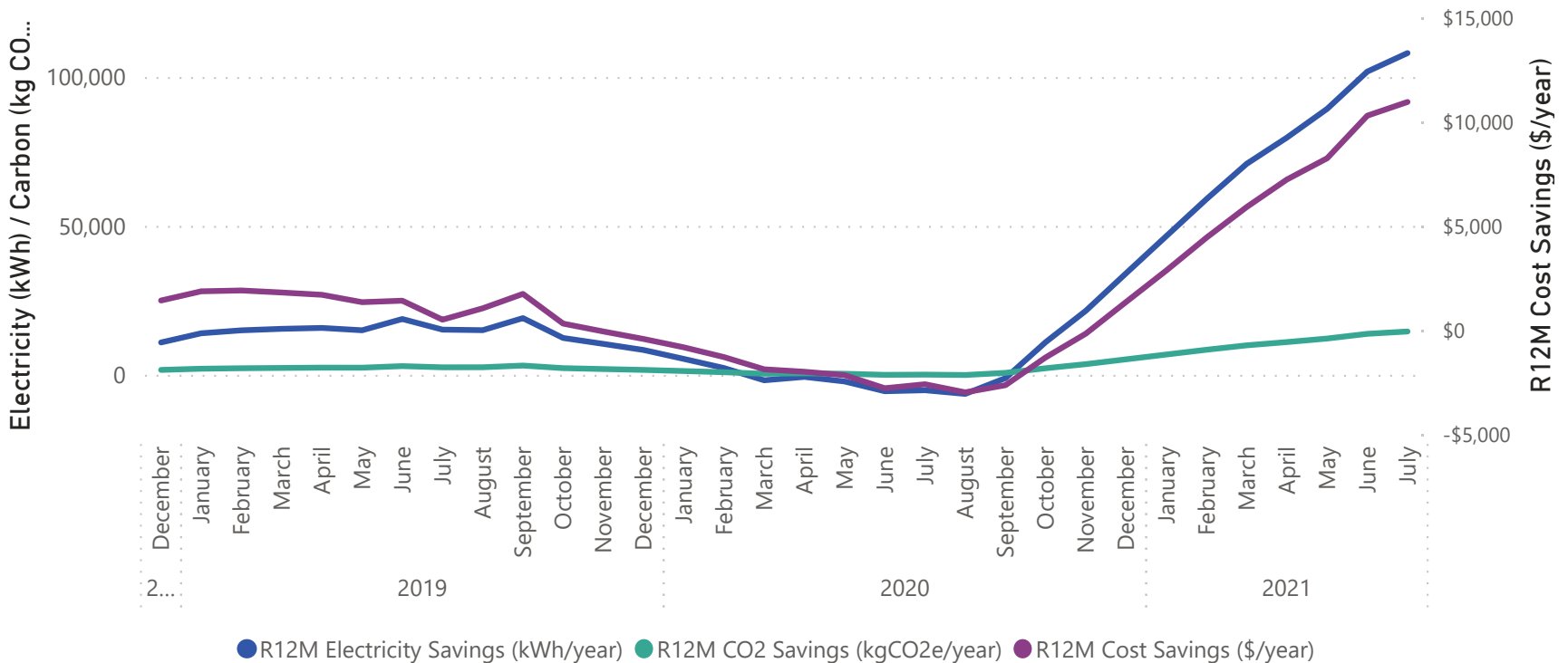
Whakatane District Council

Johnson and Braemar Rd Pump Stations

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



Johnson and Braemar Rd Pump Stations Cumulative Rolling 12 Month Savings

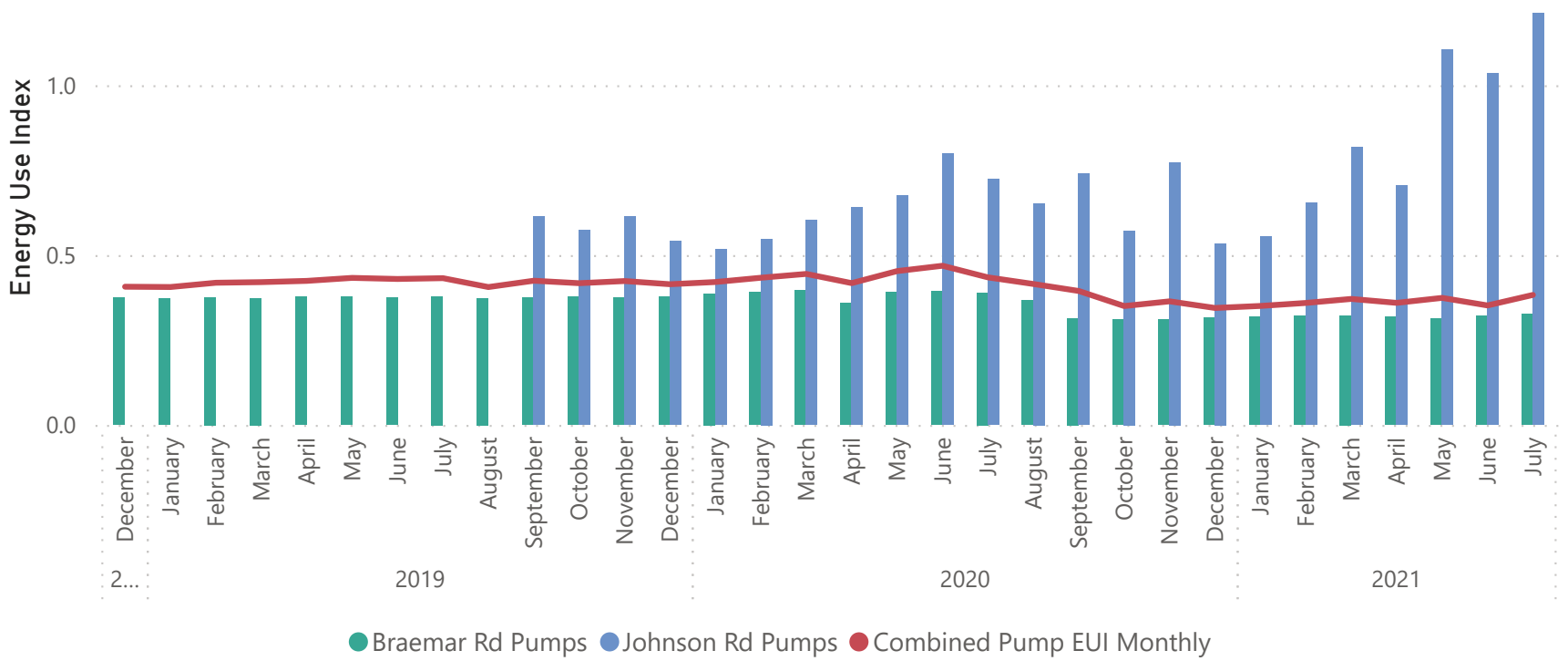


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

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Johnson and Braemar Rd Pump Stations

Johnson and Braemar Rd Pump Stations Energy Use Index by Month



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

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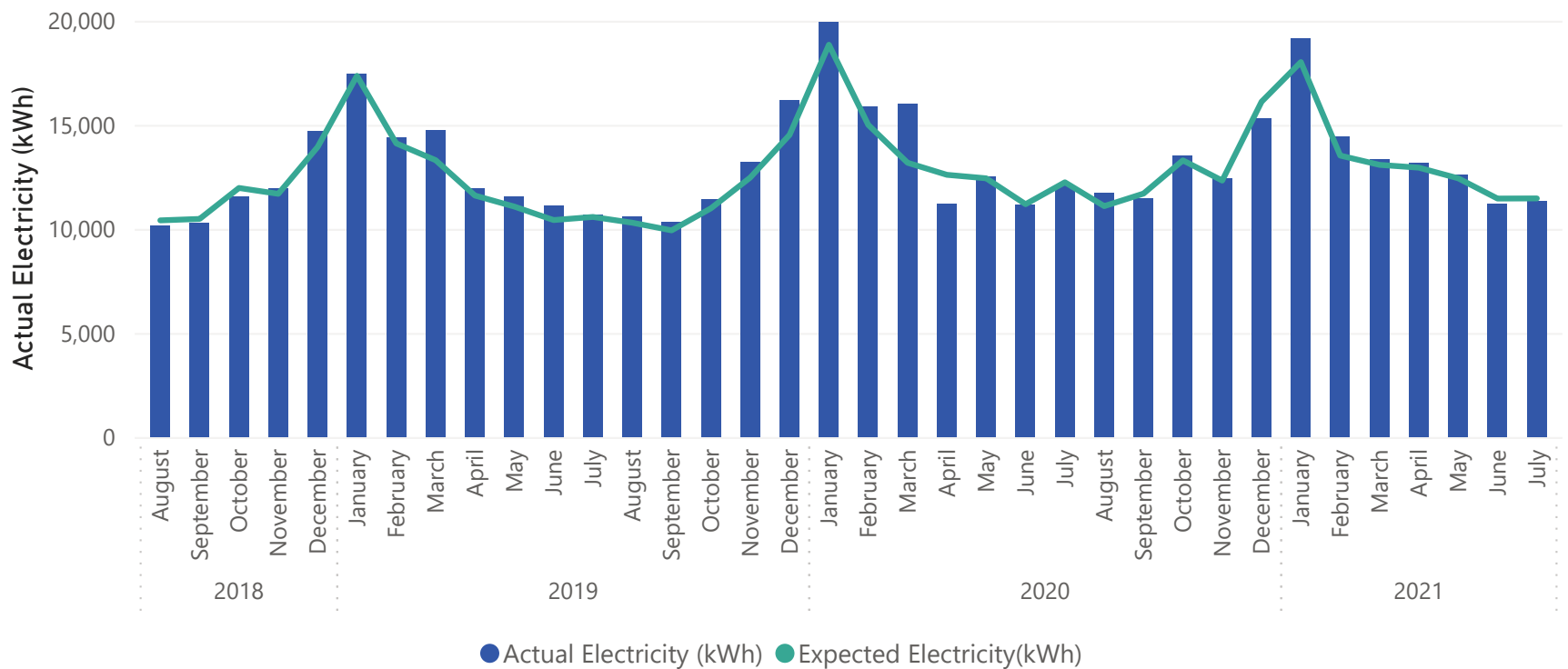
Bridger Glade Pump Station

<p>\$23 Monthly Energy Cost Savings</p>	<p>127 Elec. Savings (kWh/mo)</p>	<p>1% Elec. Savings (%)</p>	<p>-2,228 R12M Electricity Savings (kWh/yr)</p>	<p>16 CO2e Savings (kg/mo)</p>
<p>-\$399 R12M Energy Cost Savings</p>				<p>-287 R12M CO2e Savings (kg/yr)</p>

Comments:

Electricity use was 1% less than baseline for the month of July 2021 at Bridger Glade pump station. In July 2021 the volume of water pumped was 6% less and electricity was 6% less compared to to July 2020.

Bridger Glade Pumps Electricity Use Compared to Baseline (kWh)

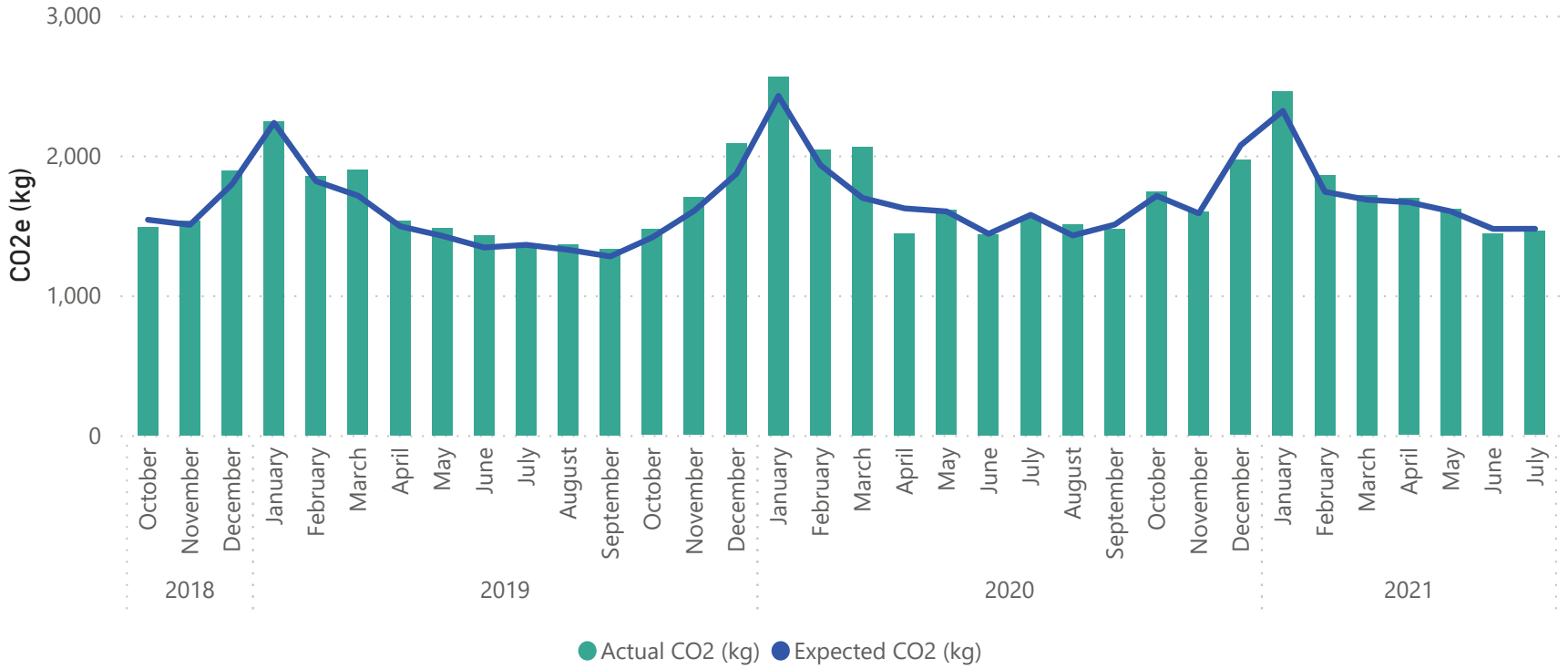


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

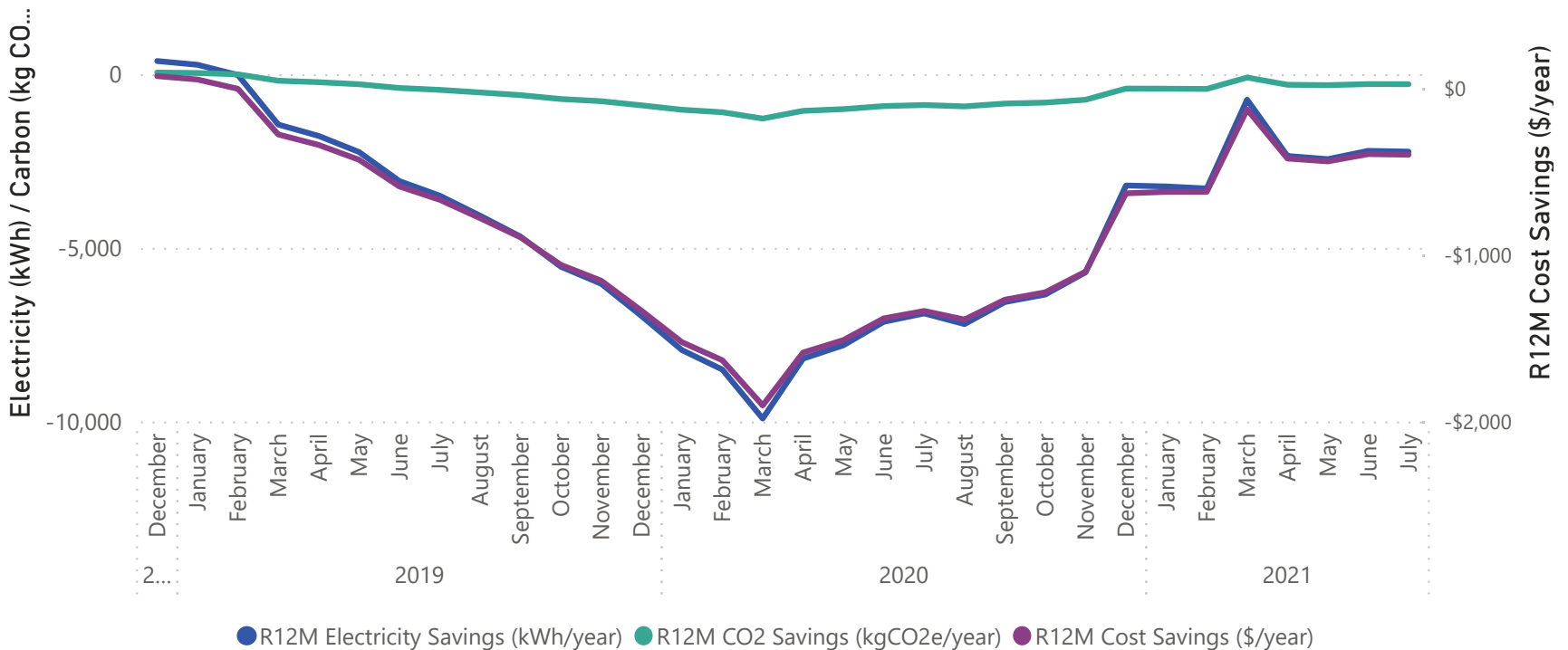
Whakatane District Council

Bridger Glade Pump Station

Bridger Glade Pumps Carbon Emissions Compared to Baseline (kg CO2e)



Bridger Glade Pumps Cumulative Rolling 12 Month Savings

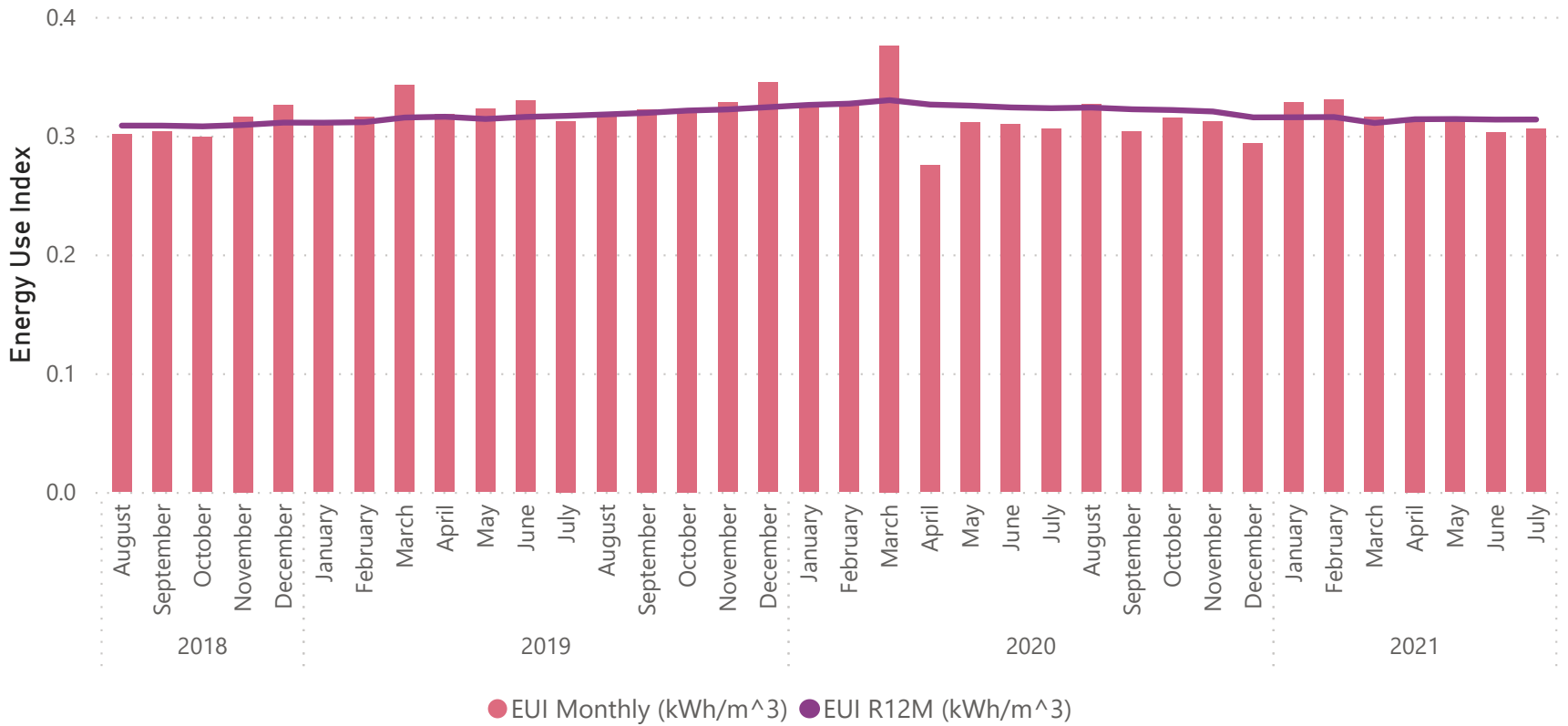


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Bridger Glade Pump Station

Bridger Glade Pumps Energy Use Index by Month Compared to Rolling 12-Month Values



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

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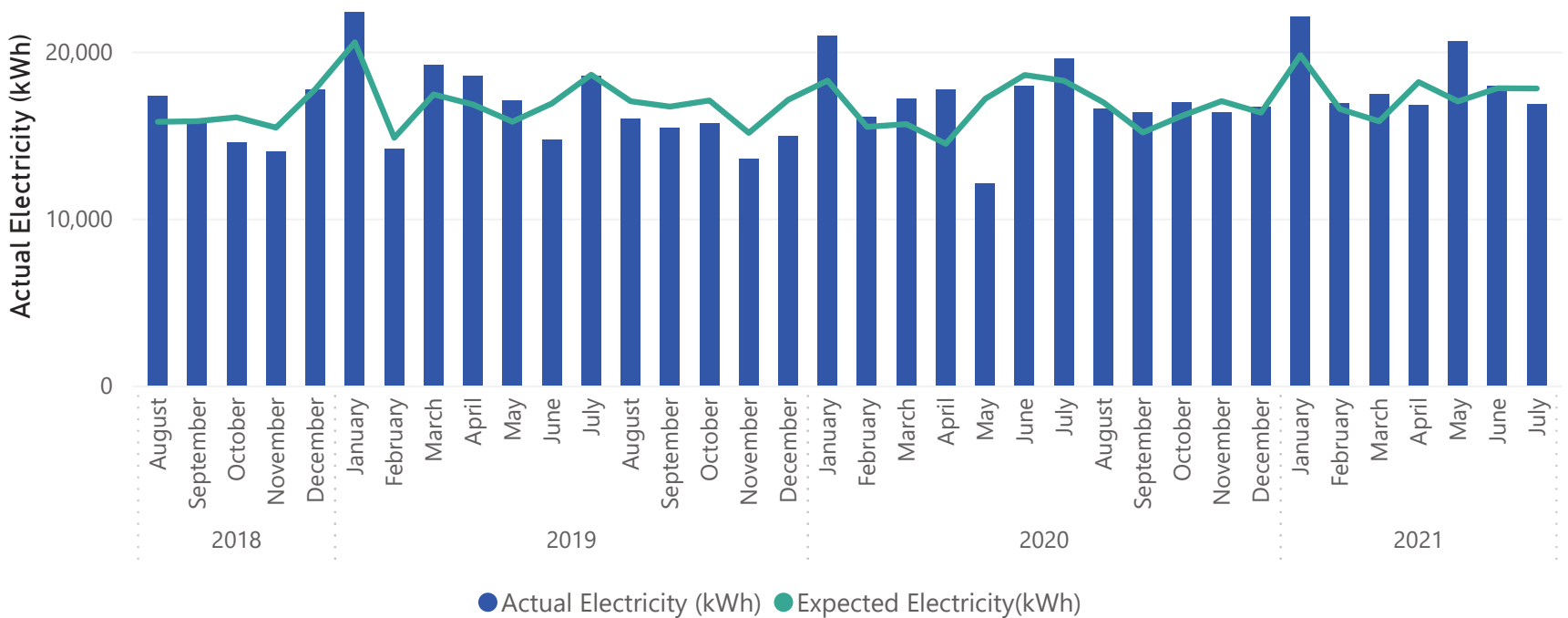
Ohope Oxidation Ponds

<p>\$170 Monthly Energy Cost Savings</p>	<p>947 Elec. Savings (kWh/mo)</p>	<p>5% Elec. Savings (%)</p>	<p>-6,949 R12M Electricity Savings (kWh/yr)</p>	<p>122 CO2e Savings (kg/mo)</p>
<p>-\$1,225 R12M Energy Cost Savings</p>				<p>-894 R12M CO2e Savings (kg/yr)</p>

Comments:

Comparing July 2021 to July 2020, demand has decreased by 6% and electricity use has decreased by 14%. This may be partly due to when the electricity meter was read as Ohope Oxidation Ponds are a non-half hourly account.

Ohope Oxidation Ponds Electricity Use Compared to Baseline (kWh)

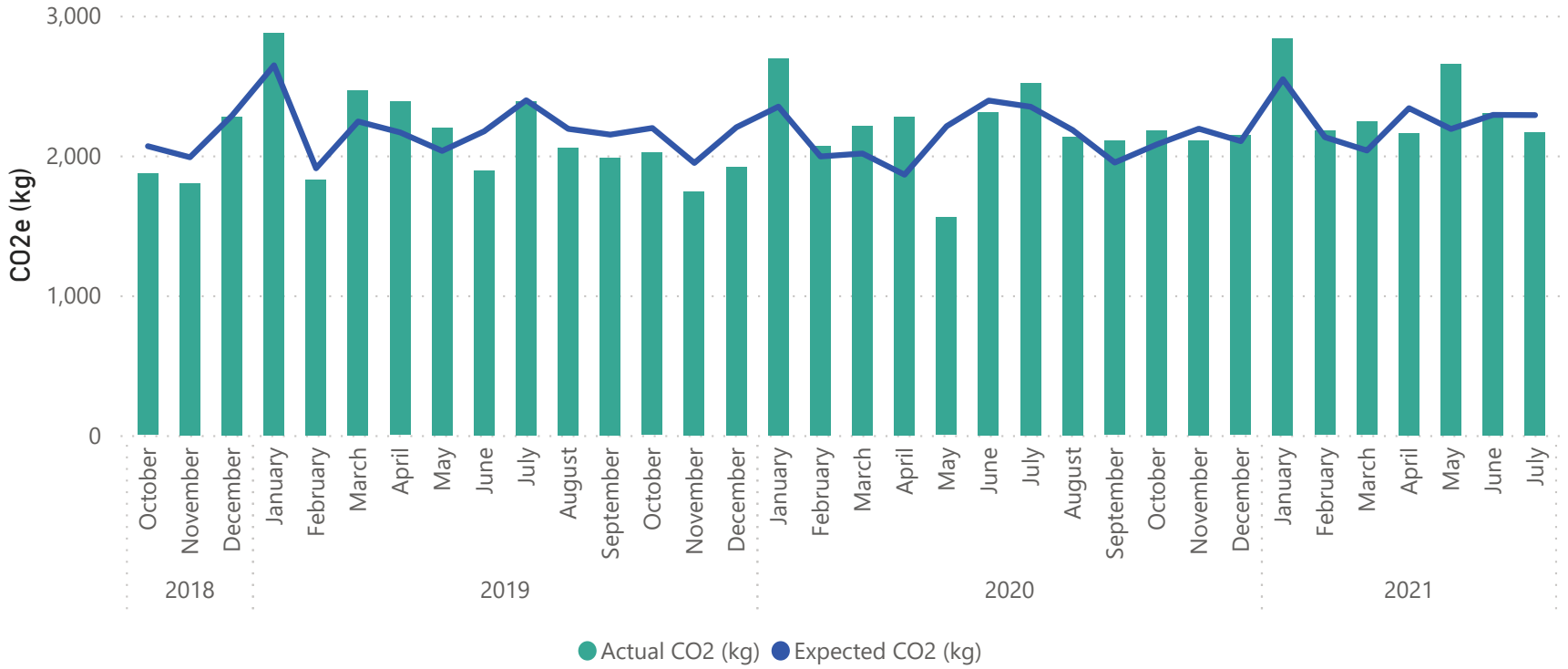


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

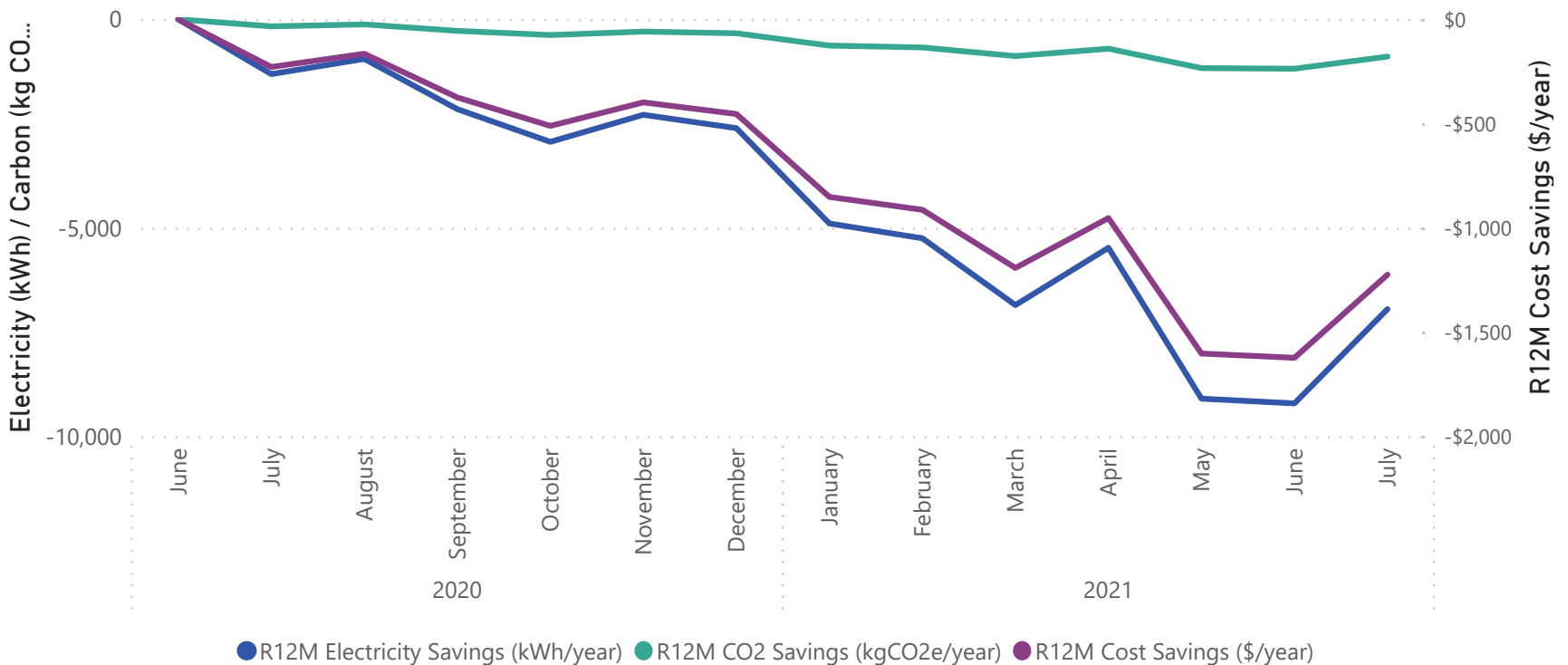
Whakatane District Council

Ohope Oxidation Ponds

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



Ohope Oxidation Ponds Cumulative Rolling 12 Month Savings

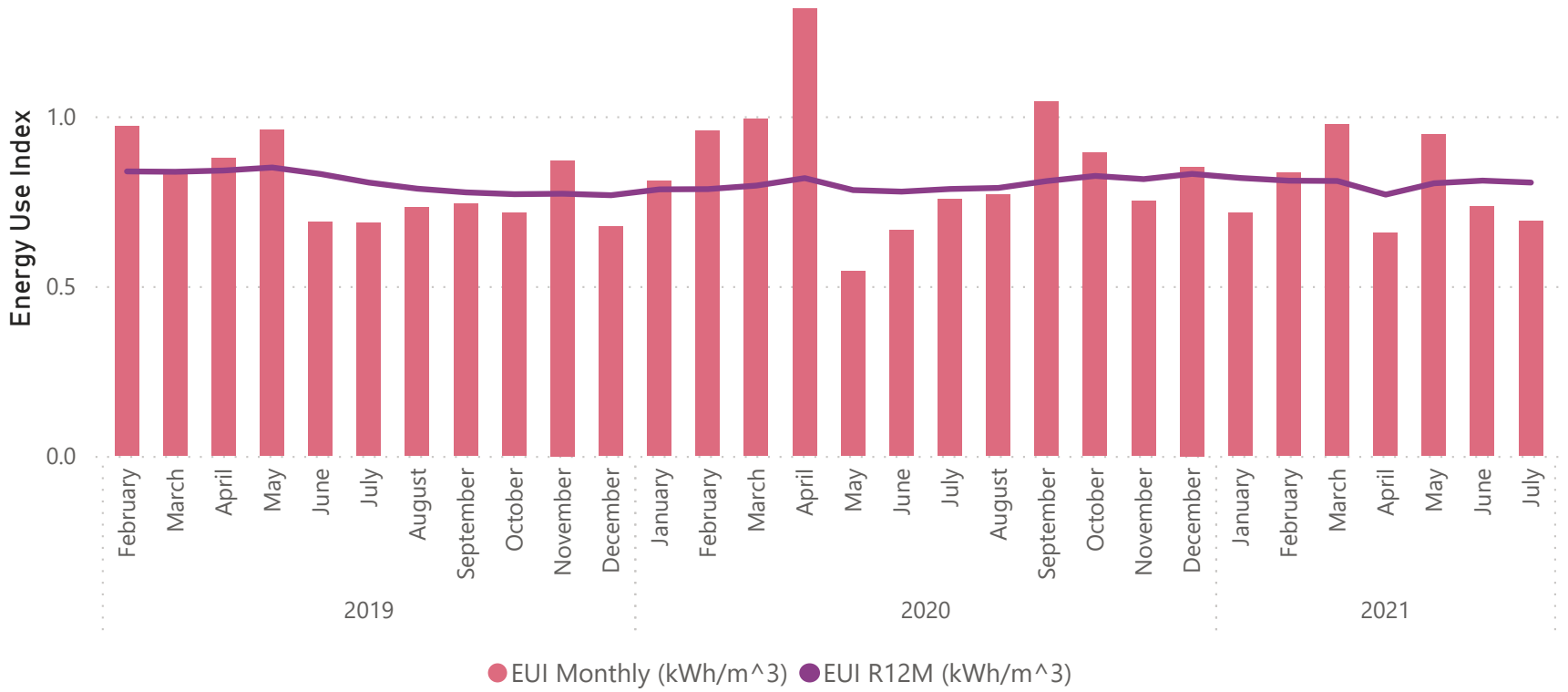


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Ohope Oxidation Ponds

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



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

Whakatane District Council

Whakatane Oxidation Ponds

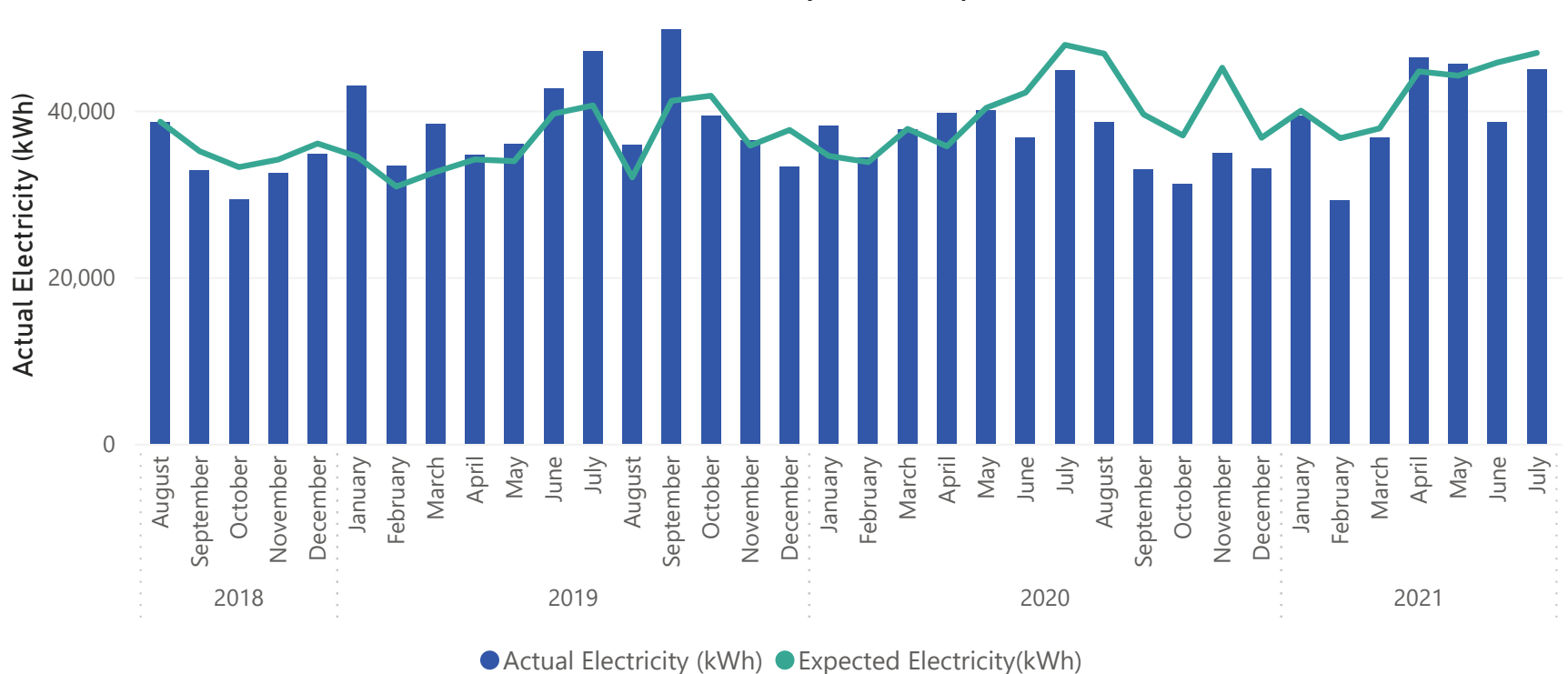
<p>\$305 Monthly Energy Cost Savings</p>	<p>1,986 Elec. Savings (kWh/mo)</p>	<p>4% Elec. Savings (%)</p>	<p>50,007 R12M Electricity Savings (kWh/yr)</p>	<p>256 CO2e Savings (kg/mo)</p>
<p>\$6,850 R12M Energy Cost Savings</p>				<p>6,436 R12M CO2e Savings (kg/yr)</p>

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 July 2021, the oxidation ponds used 4% less electricity compared to baseline. Rolling 12 month EUI has been steadily decreasing, which is good.

Whakatane Oxidation Ponds Electricity Use Compared to Baseline (kWh)

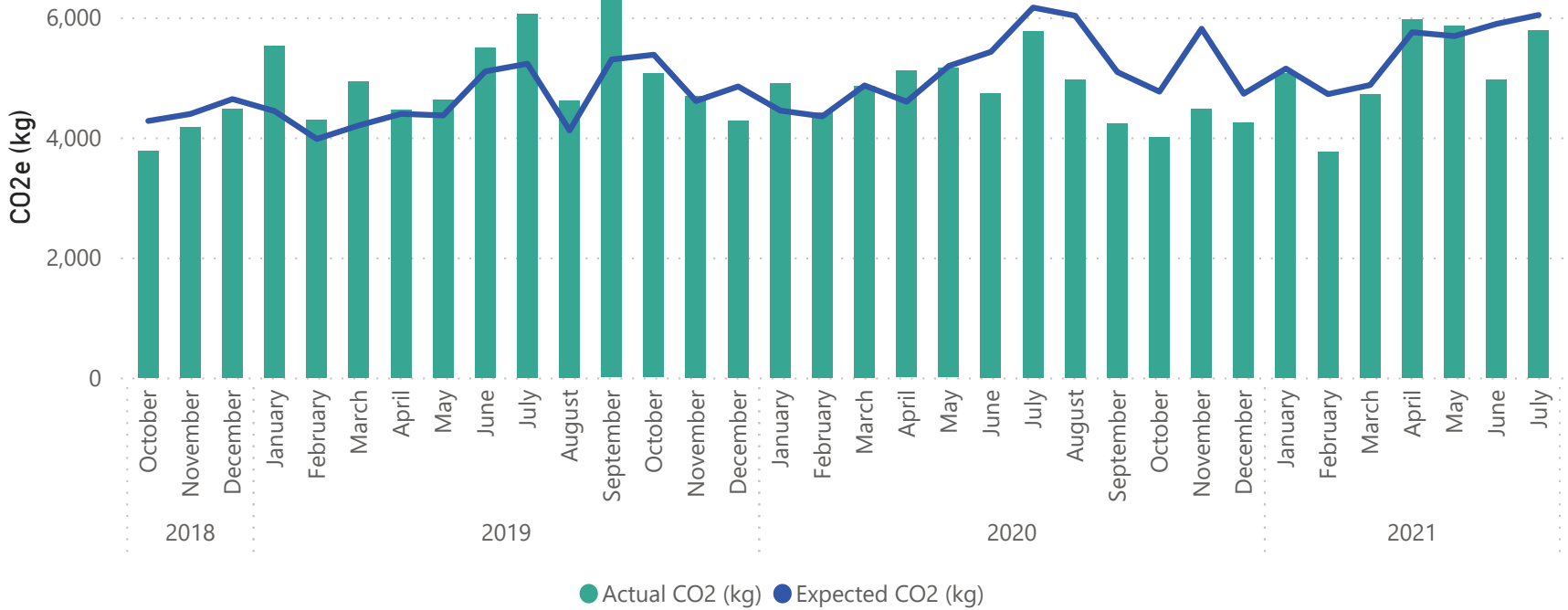


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

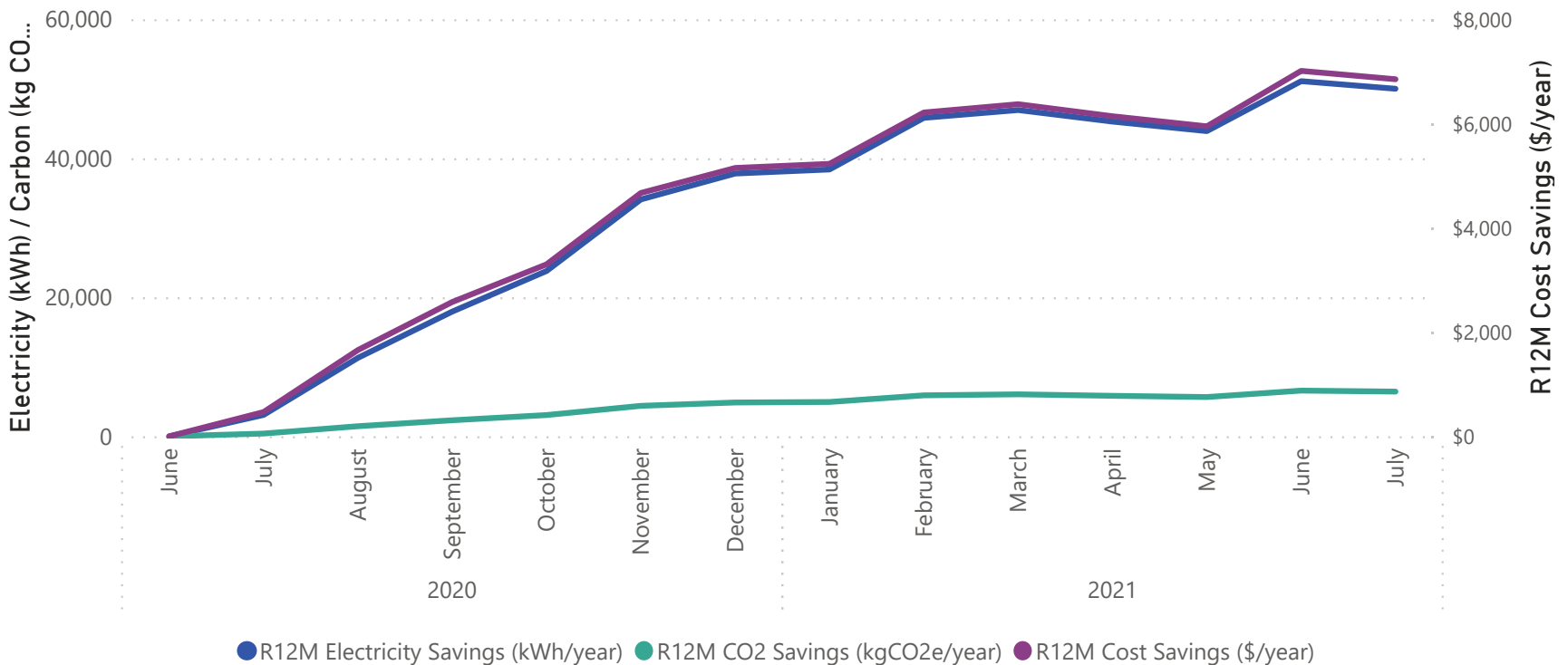
Whakatane District Council

Whakatane Oxidation Ponds

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



Whakatane Oxidation Ponds Cumulative Rolling 12 Month Savings

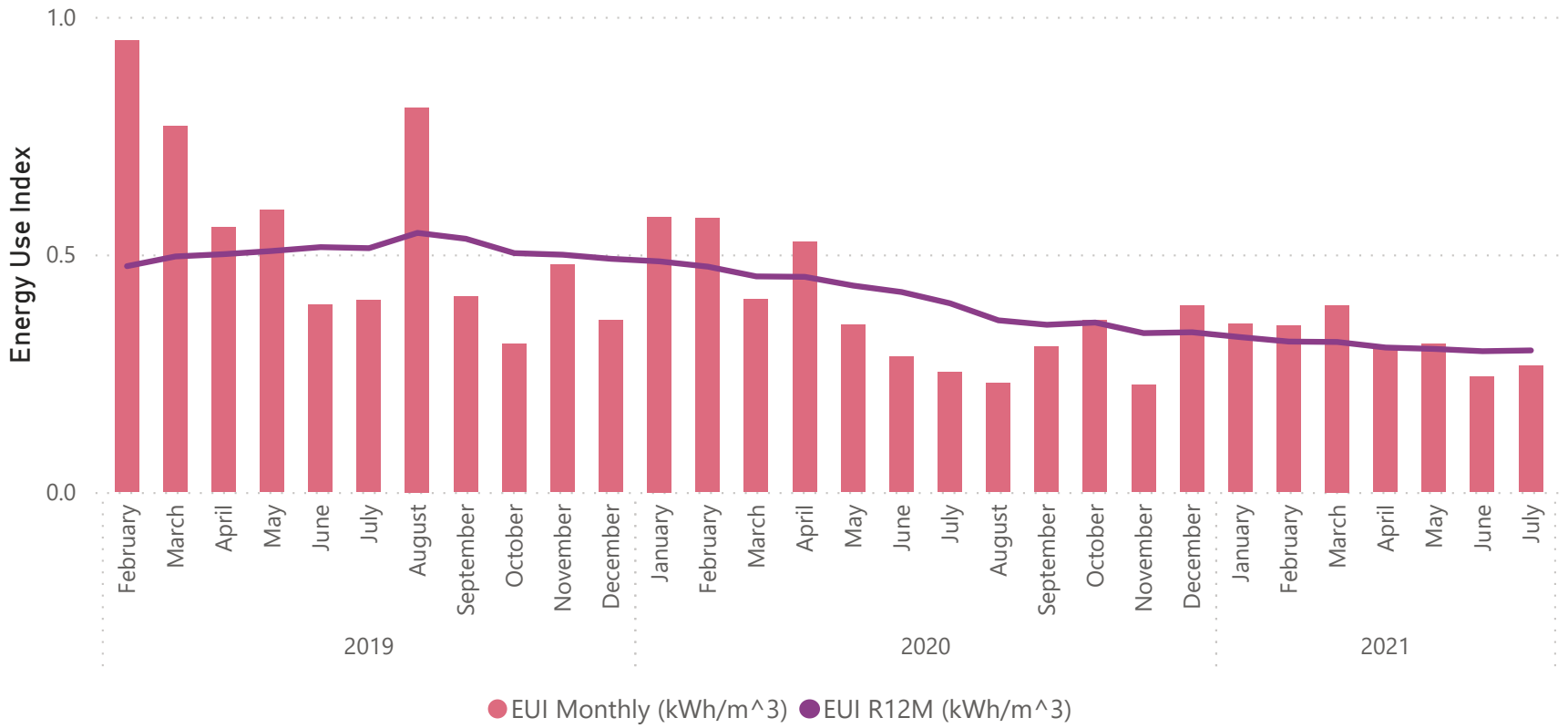


Note: New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time

Whakatane District Council

Whakatane Oxidation Ponds

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



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