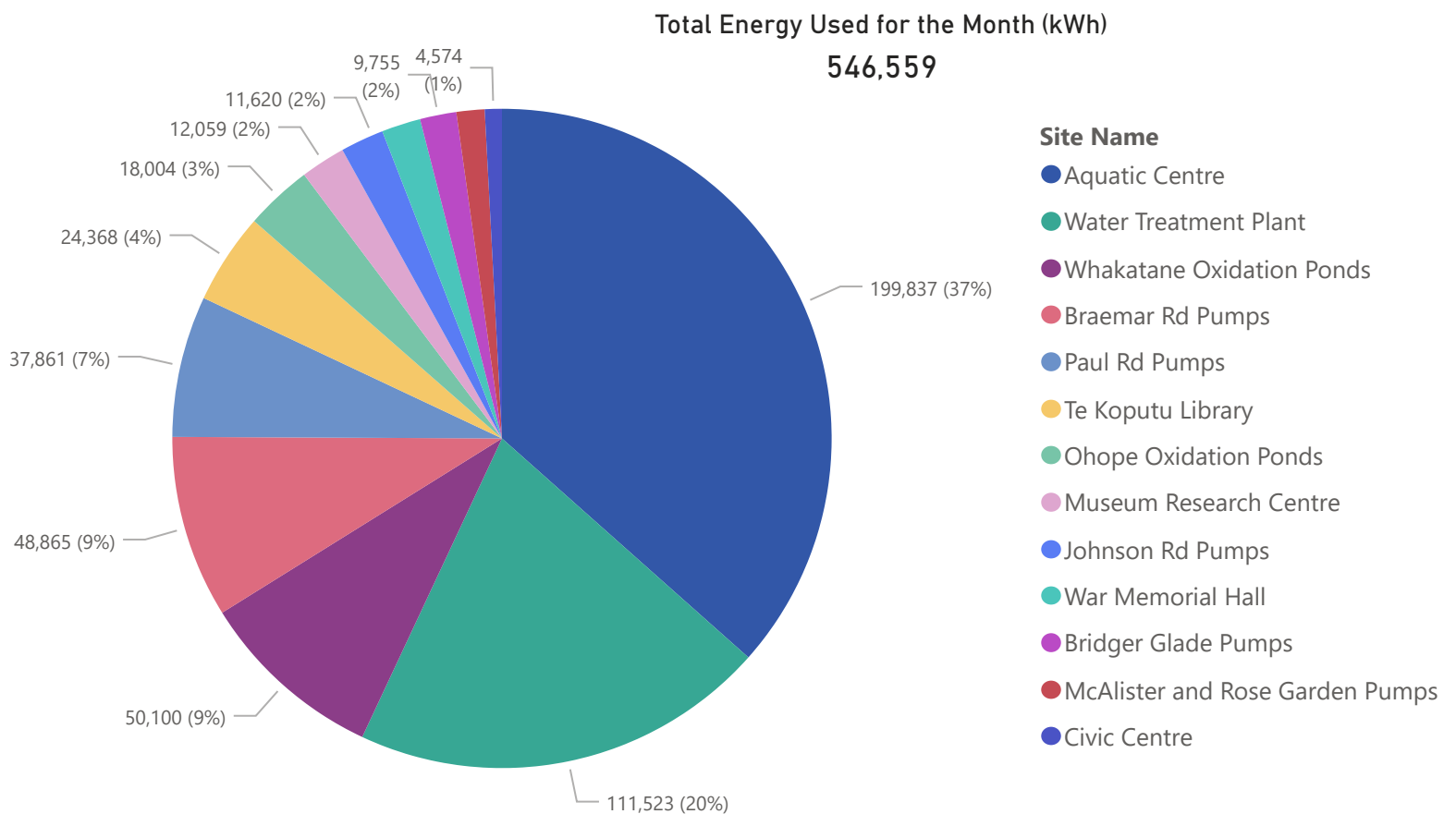


# Whakatane District Council

## Summary

<p><b>\$7,031</b></p> <p>Monthly Energy Cost Savings</p>	<p><b>28,380</b></p> <p>Elec. Savings (kWh/mo)</p>	<p><b>6%</b></p> <p>Elec. Savings (%)</p>	<p><b>349,451</b></p> <p>R12M Electricity Savings (kWh/yr)</p>	<p><b>5,228</b></p> <p>CO2e Savings (kg/mo)</p>
<p><b>\$124,217</b></p> <p>R12M Energy Cost Savings</p>	<p><b>7,296</b></p> <p>Gas. Savings (kWh/mo)</p>	<p><b>9%</b></p> <p>Gas. Savings (%)</p>	<p><b>872,996</b></p> <p>R12M Gas Savings (kWh/yr)</p>	<p><b>234,903</b></p> <p>R12M CO2e Savings (kg/yr)</p>

### Total Energy (kWh/Month)

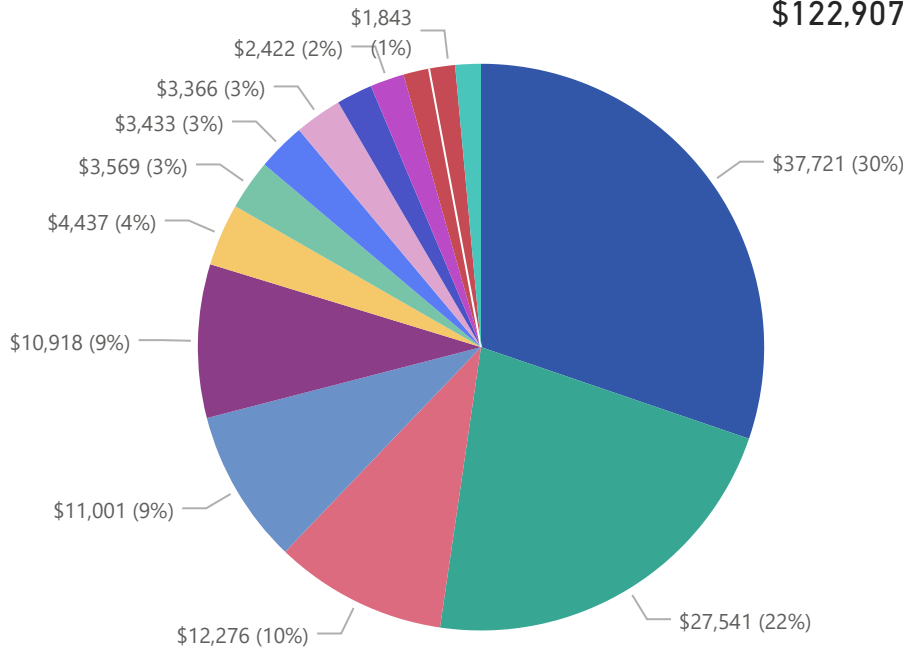


# Whakatane District Council Summary

## Energy Cost (\$/Month)

### Energy Cost for the Month (\$)

**\$122,907**



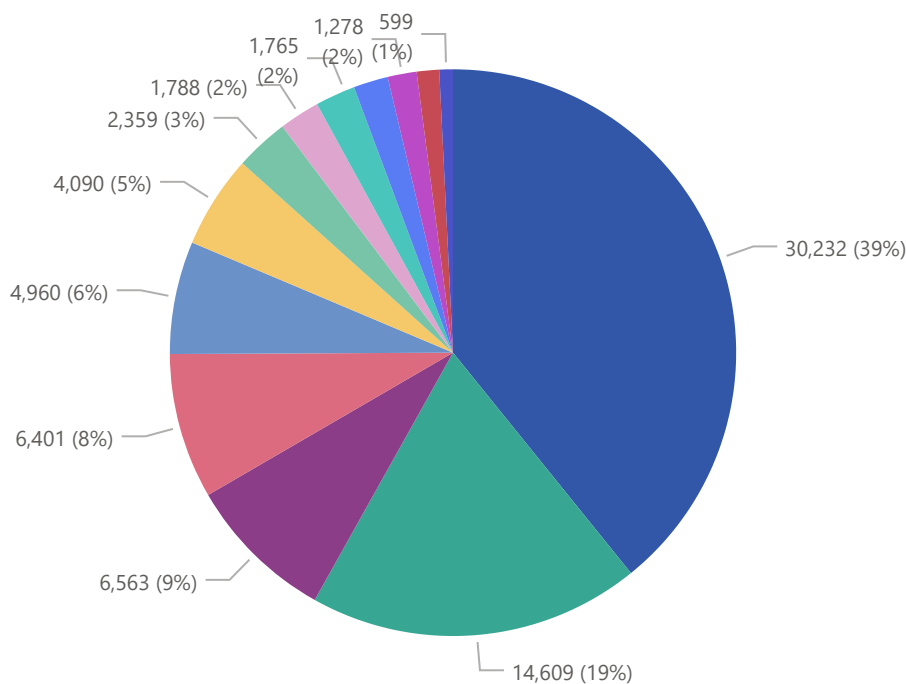
#### Site Name

- Aquatic Centre
- Water Treatment Plant
- Braemar Rd Pumps
- Paul Rd Pumps
- Whakatane Oxidation Ponds
- Te Koputu Library
- Ohope Oxidation Ponds
- Johnson Rd Pumps
- Museum Research Centre
- Civic Centre
- Bridger Glade Pumps
- McAlister and Rose Garden Pumps
- War Memorial Hall

## Carbon Emissions (kgCO2e/Month)

### Carbon Emissions for the Month (kgCO2e)

**77,155**

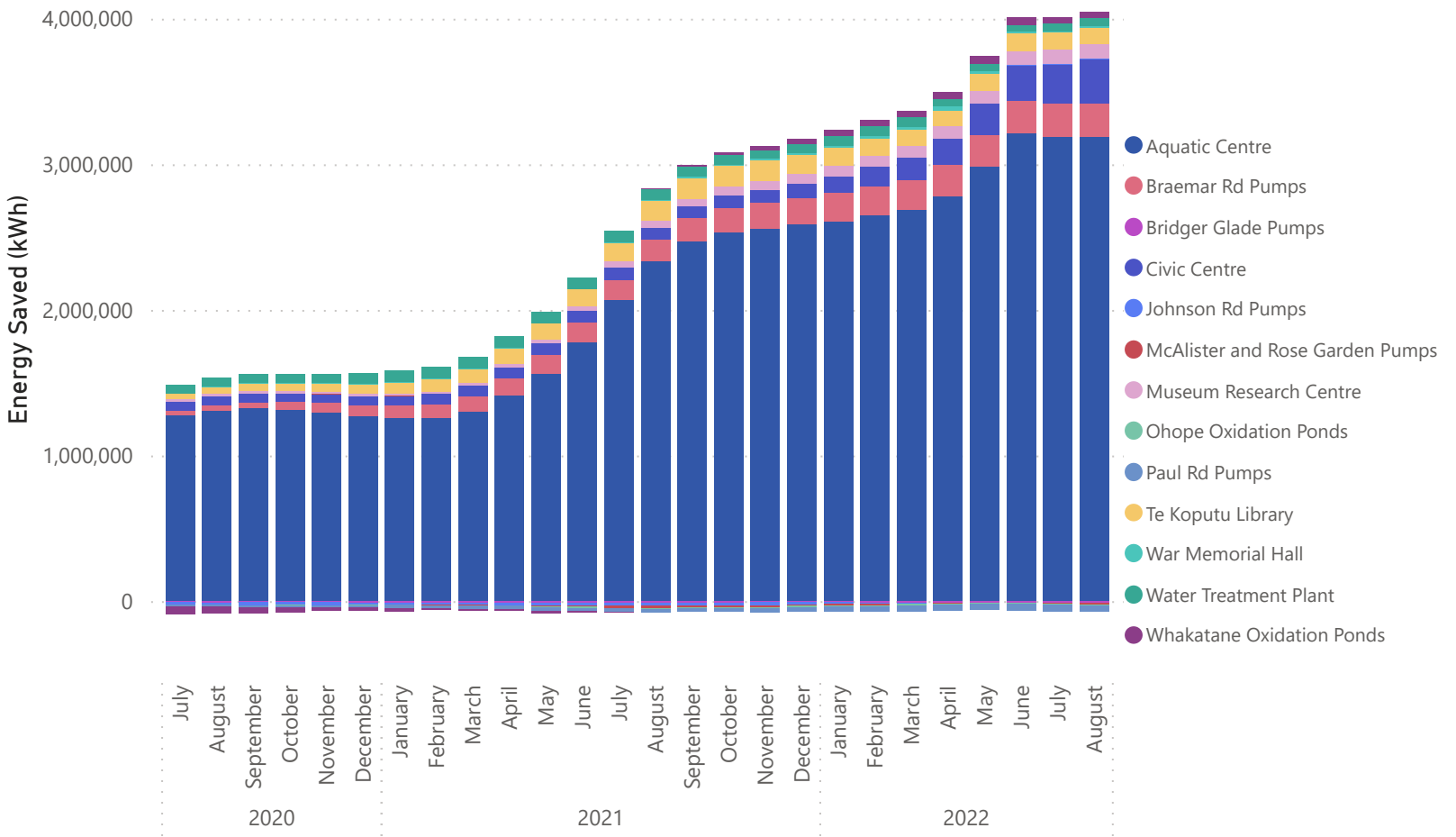


#### Site Name

- Aquatic Centre
- Water Treatment Plant
- Whakatane Oxidation Ponds
- Braemar Rd Pumps
- Paul Rd Pumps
- Te Koputu Library
- Ohope Oxidation Ponds
- Museum Research Centre
- War Memorial Hall
- Johnson Rd Pumps
- Bridger Glade Pumps
- McAlister and Rose Garden Pumps
- Civic Centre

# Whakatane District Council Summary

Cumulative Energy Savings (kWh)



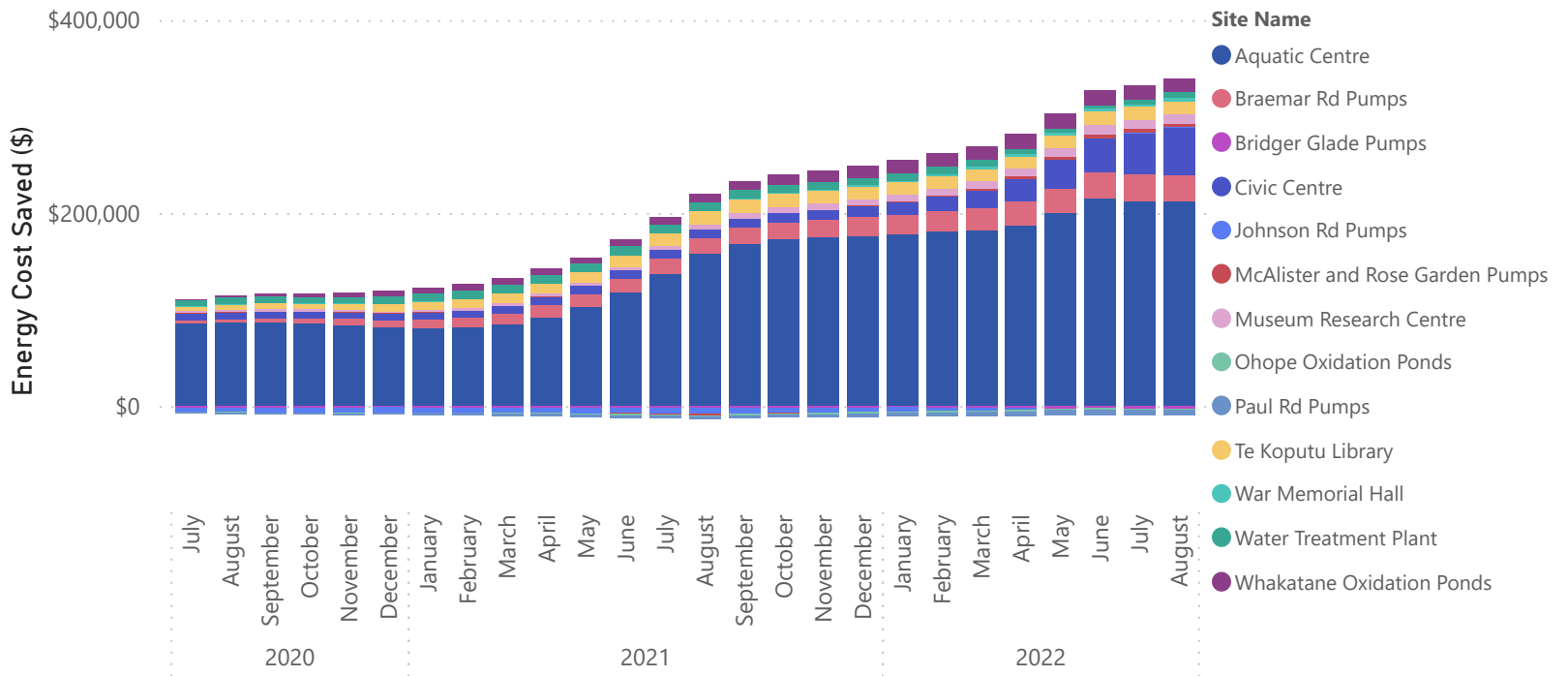
Note, cumulative savings are calculated starting July 2018

**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.**

# Whakatane District Council

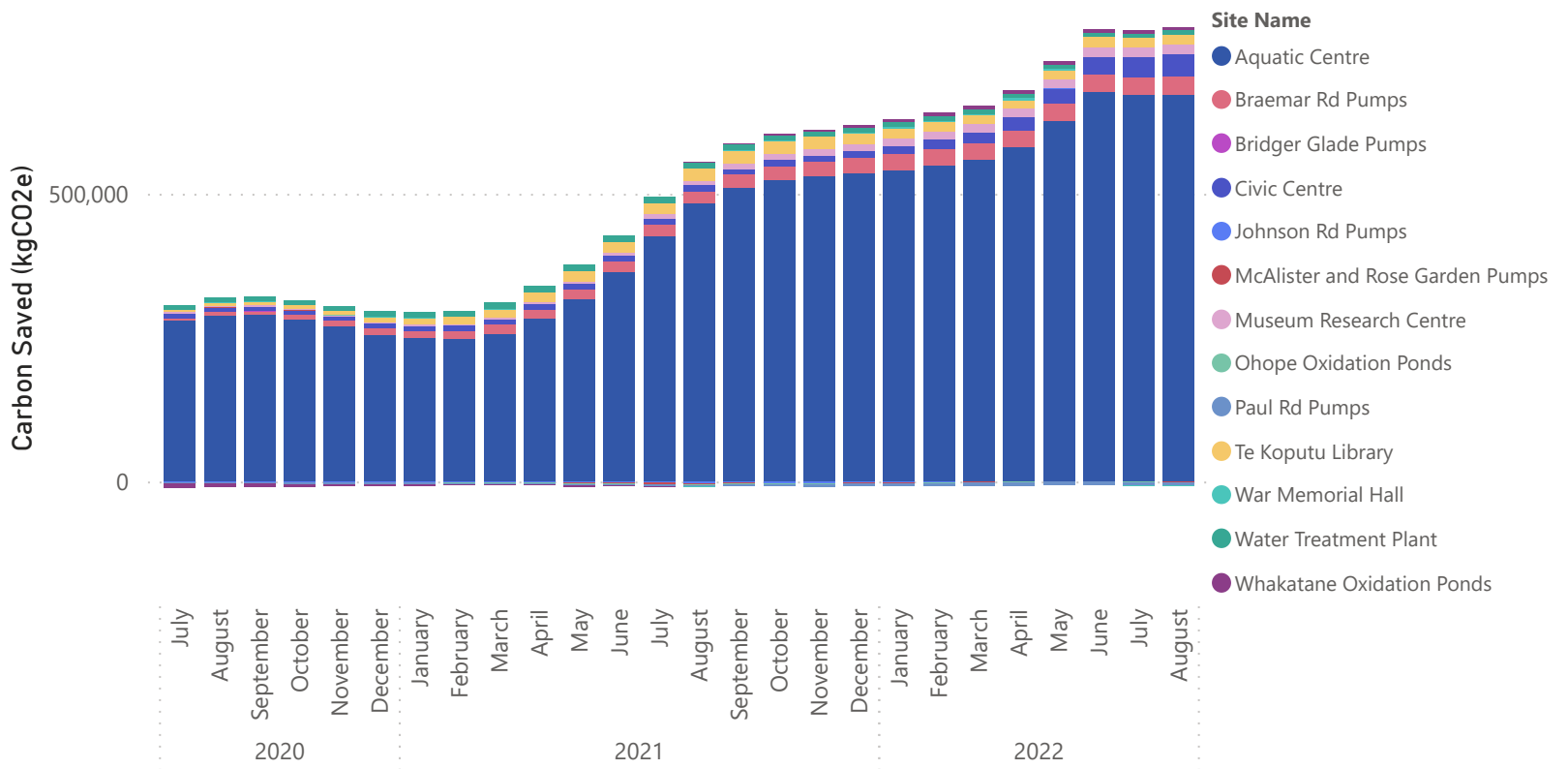
## Summary

### Cumulative Energy Cost Savings (\$)



Note, cumulative savings are calculated starting July 2018

### Cumulative Carbon Savings (kgCO2e)



**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.**

# Whakatane District Council

## Civic Centre

<p><b>\$6,786</b> Monthly Energy Cost Savings</p>	<p><b>32,138</b> Elec. Savings (kWh/mo)</p>	<p><b>88%</b> Elec. Savings (%)</p>	<p><b>220,960</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>4,210</b> CO2e Savings (kg/mo)</p>
<p><b>\$40,421</b> R12M Energy Cost Savings</p>				<p><b>28,272</b> R12M CO2e Savings (kg/yr)</p>

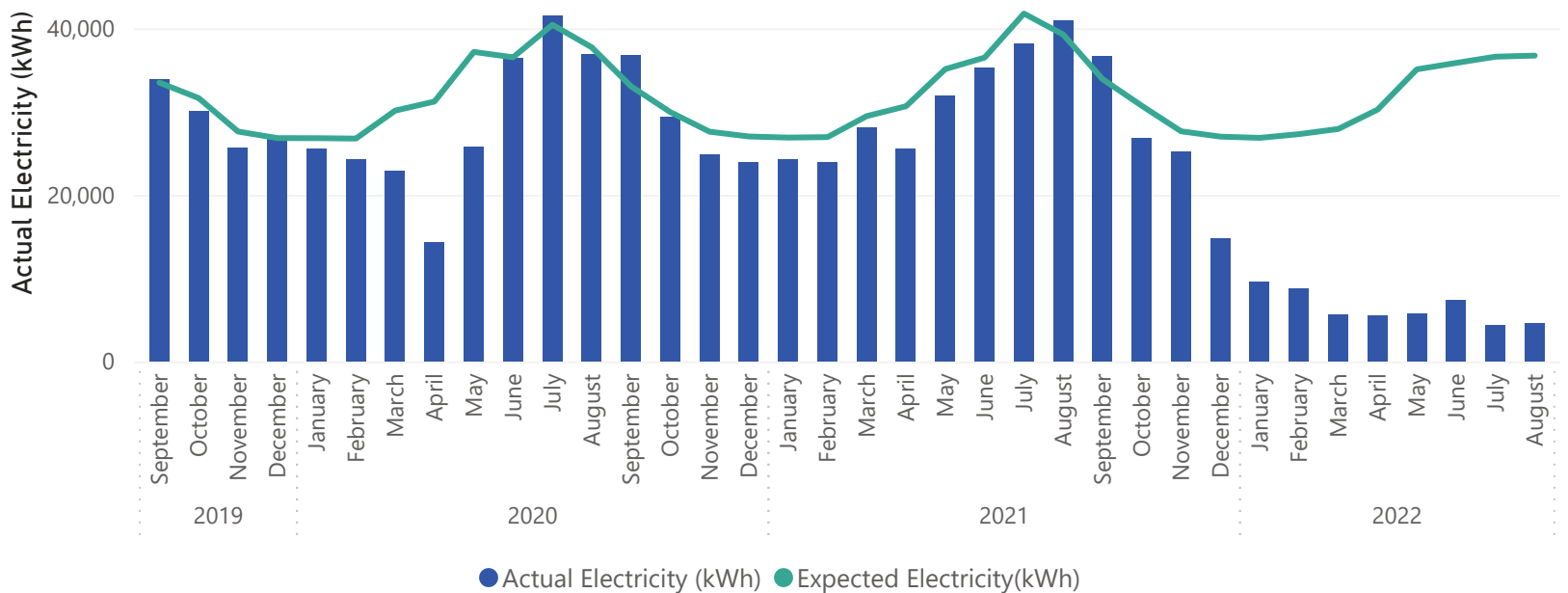
### Comments:

The baseline for the Civic Centre has been updated, the baseline period was selected as Dec-2020 to Nov-2021, in order to exclude months where refurbishment was taking place.

Electricity use continues to be less than baseline for 2022, the Civic Centre renovation has displaced many office workers, which has decreased electricity demand. Billing and usage has been updated for the Civic Centre, which was previously not billed for several months.

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

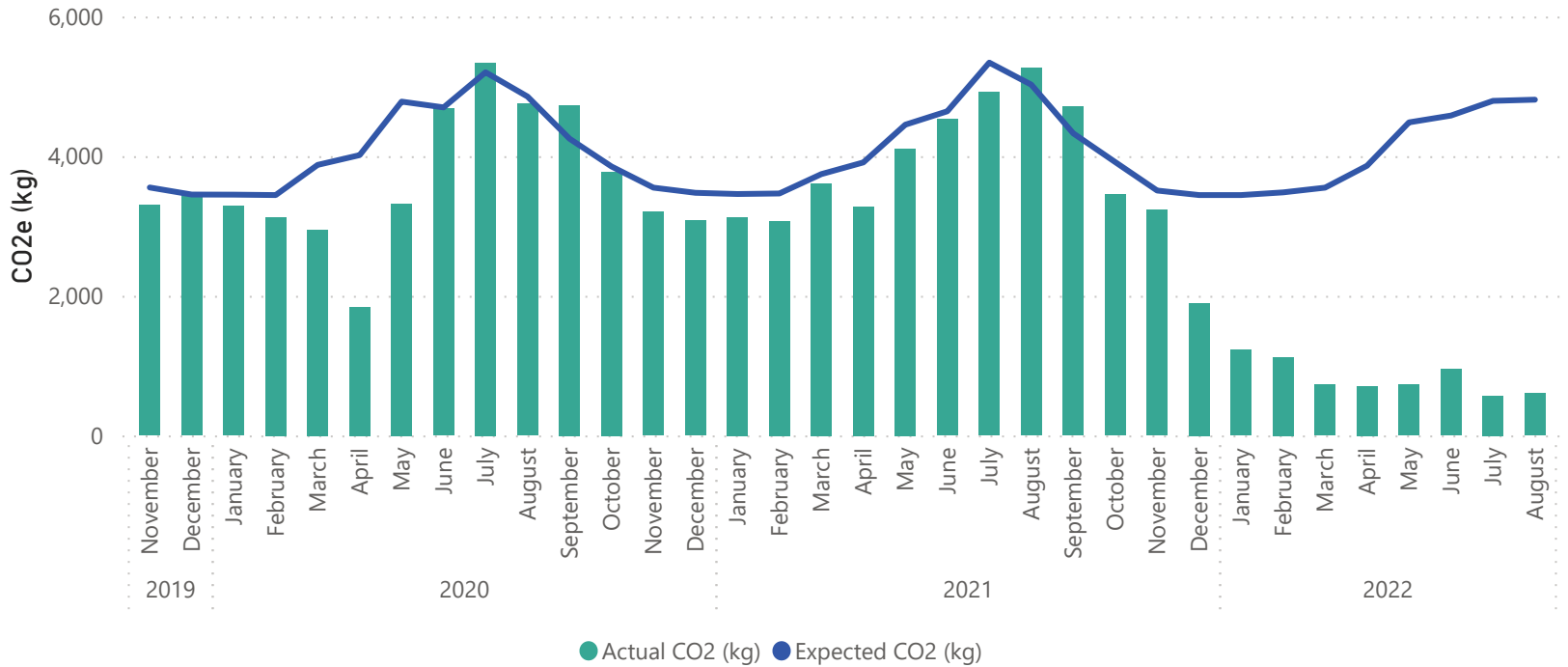
Civic Centre Electricity Use Compared to Baseline (kWh)



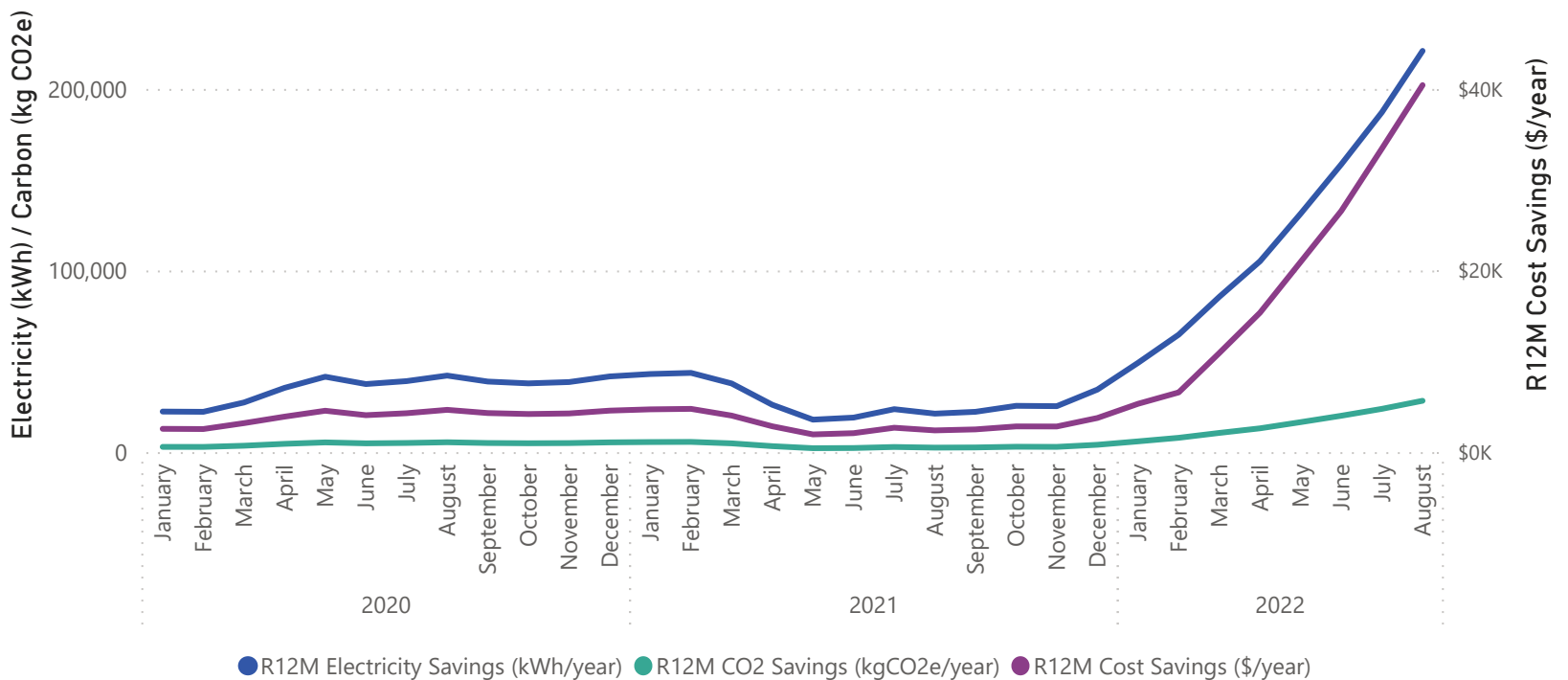
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council Civic Centre

### Civic Centre Carbon Emissions Compared to Baseline (kg CO2e)



### Civic Centre Rolling 12 Month Savings

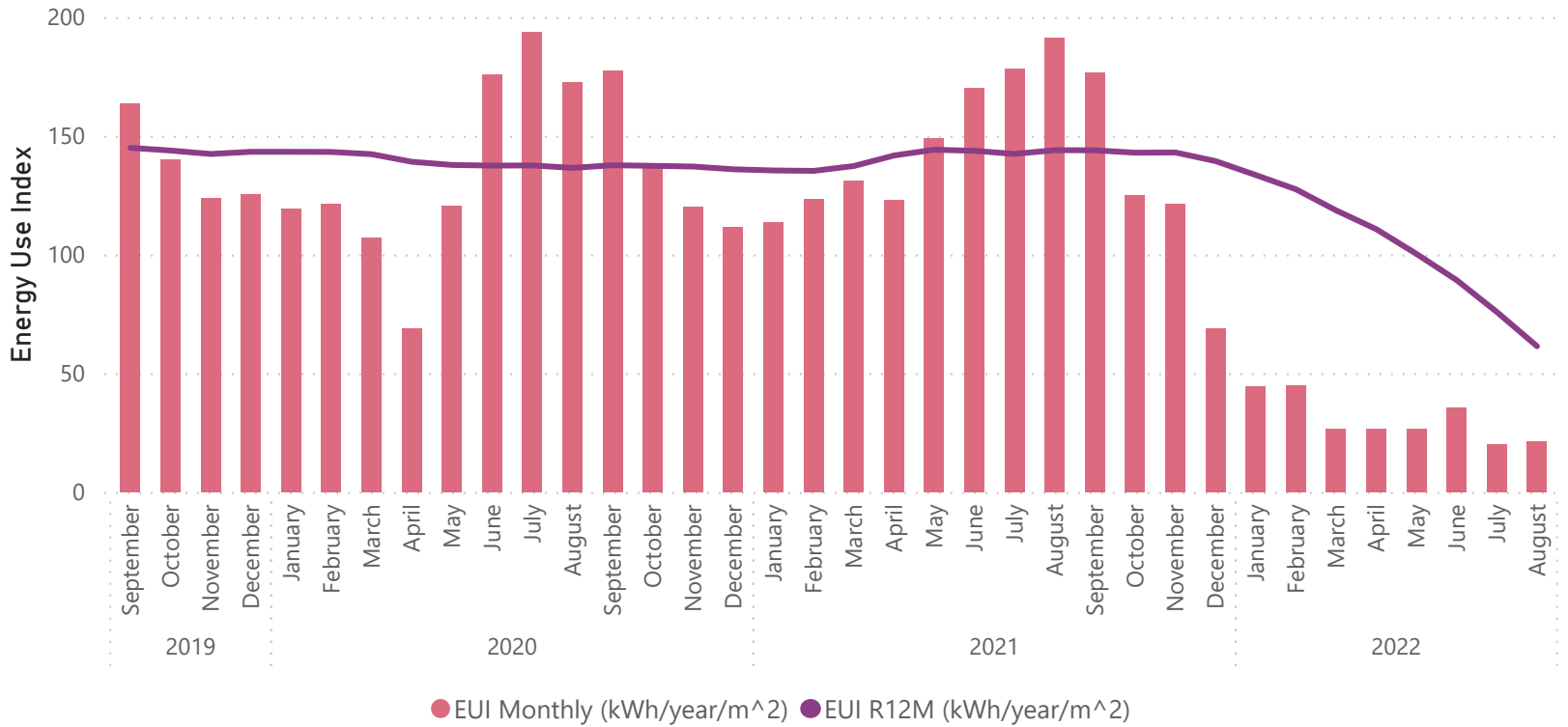


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Aquatic Centre

<p><b>-\$893</b></p> <p>Monthly Energy Cost Savings</p>	<p><b>-7,871</b>      <b>-6%</b>      <b>-43,899</b></p> <p>Elec. Savings (kWh/mo)    Elec. Savings (%)    R12M Electricity Savings (kWh/yr)</p>			<p><b>1,221</b></p> <p>CO2e Savings (kg/mo)</p>
<p><b>\$54,075</b></p> <p>R12M Energy Cost Savings</p>	<p><b>10,881</b>      <b>17%</b>      <b>898,068</b></p> <p>Gas. Savings (kWh/mo)    Gas. Savings (%)    R12M Gas Savings (kWh/yr)</p>			<p><b>189,498</b></p> <p>R12M CO2e Savings (kg/yr)</p>

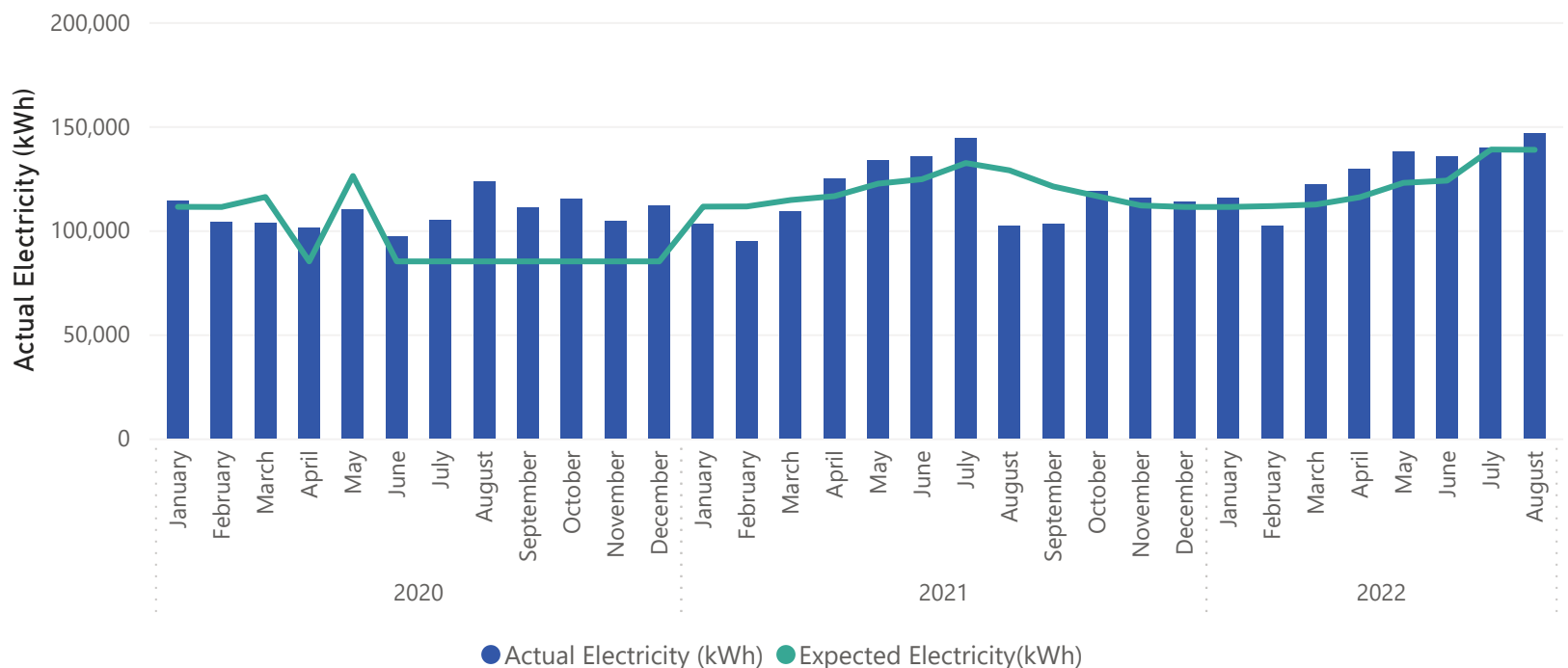
### Comments:

Electricity and natural gas baselines have been updated for the Aquatic Centre, the baseline period is May 2021 to June 2022 and excludes Aug. and Sept. 2021 due to changes in Covid-19 alert levels and partial closure. The outdoor pool is open year-round and the baseline reflects this change.

More electricity was used than expected when compared to the new baseline, however, 17% less natural gas was used in August 2022. The monthly EUI in August 2022 is approximately 4% less than it was in August 2021.

Rolling 12 month savings are decreasing, and will continue to decrease as a result from savings being measured against the new baseline. Savings can be increased by implementing new energy saving initiatives.

Aquatic Centre Electricity Use Compared to Baseline (kWh)



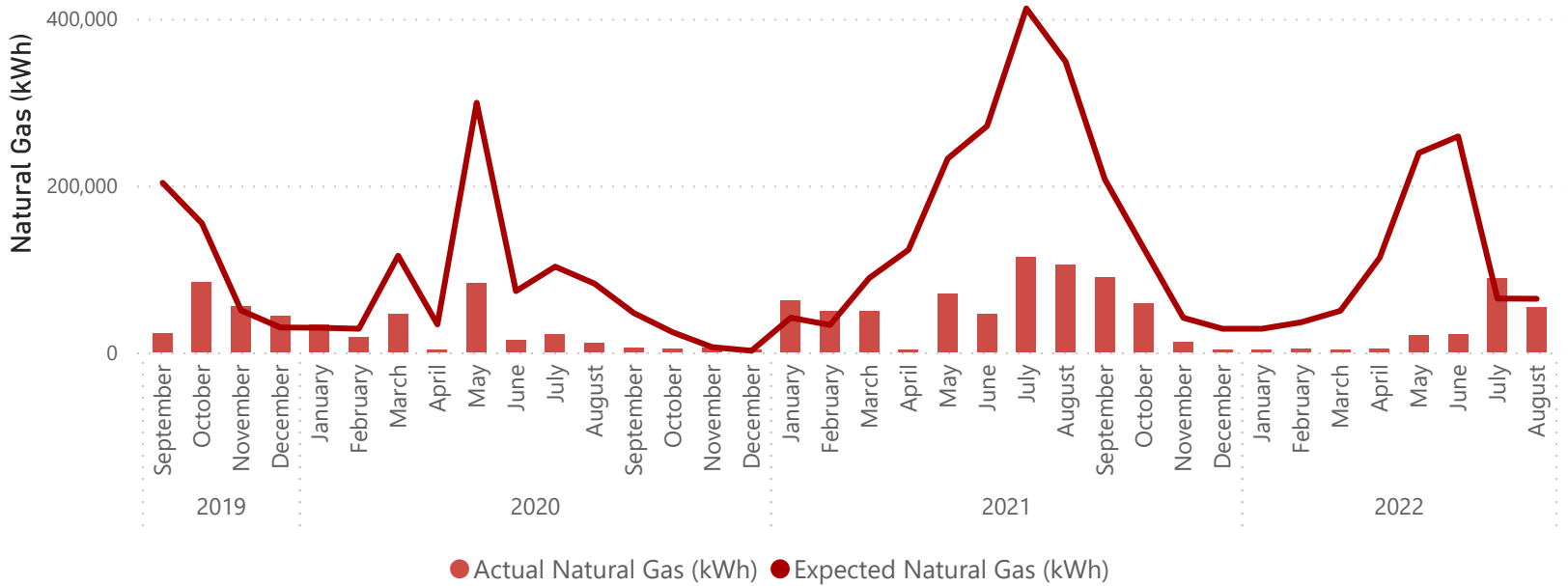
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**



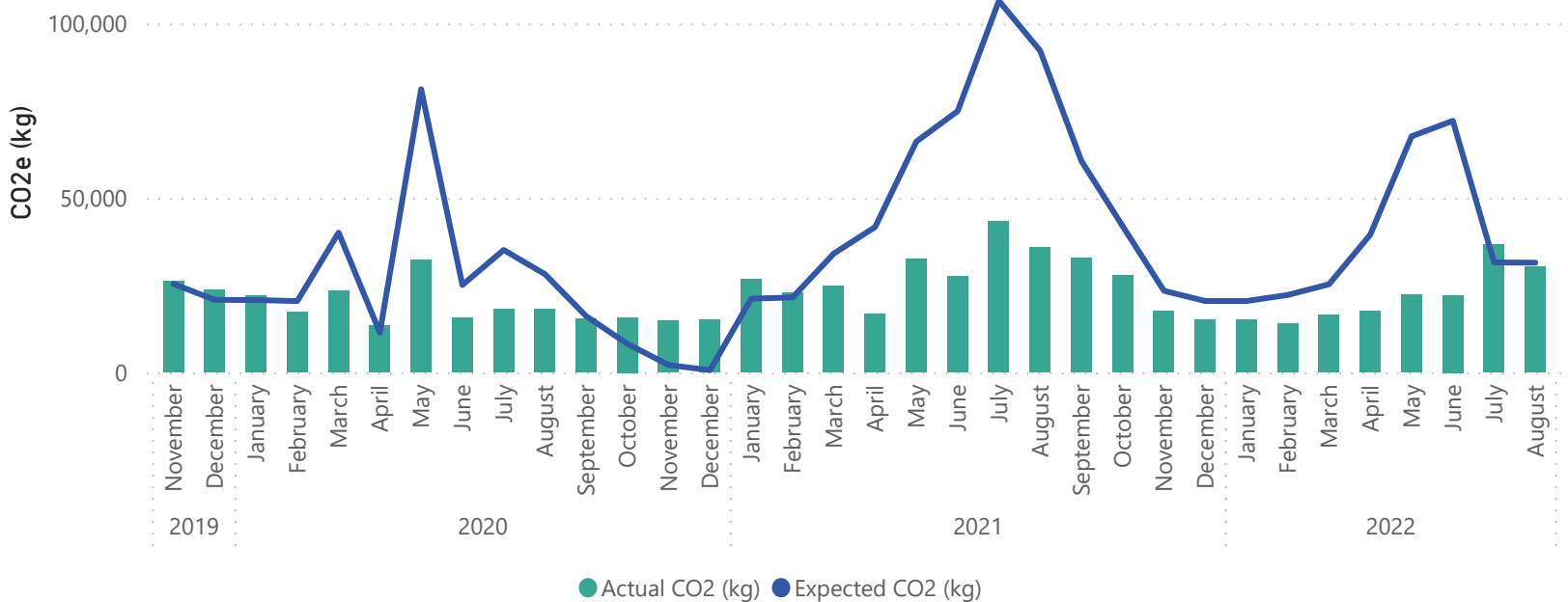
# Whakatane District Council

## Aquatic Centre

Aquatic Centre Natural Gas Compared to Baseline (kWh)



Aquatic Centre Carbon Emissions Compared to Baseline (kg CO2e)

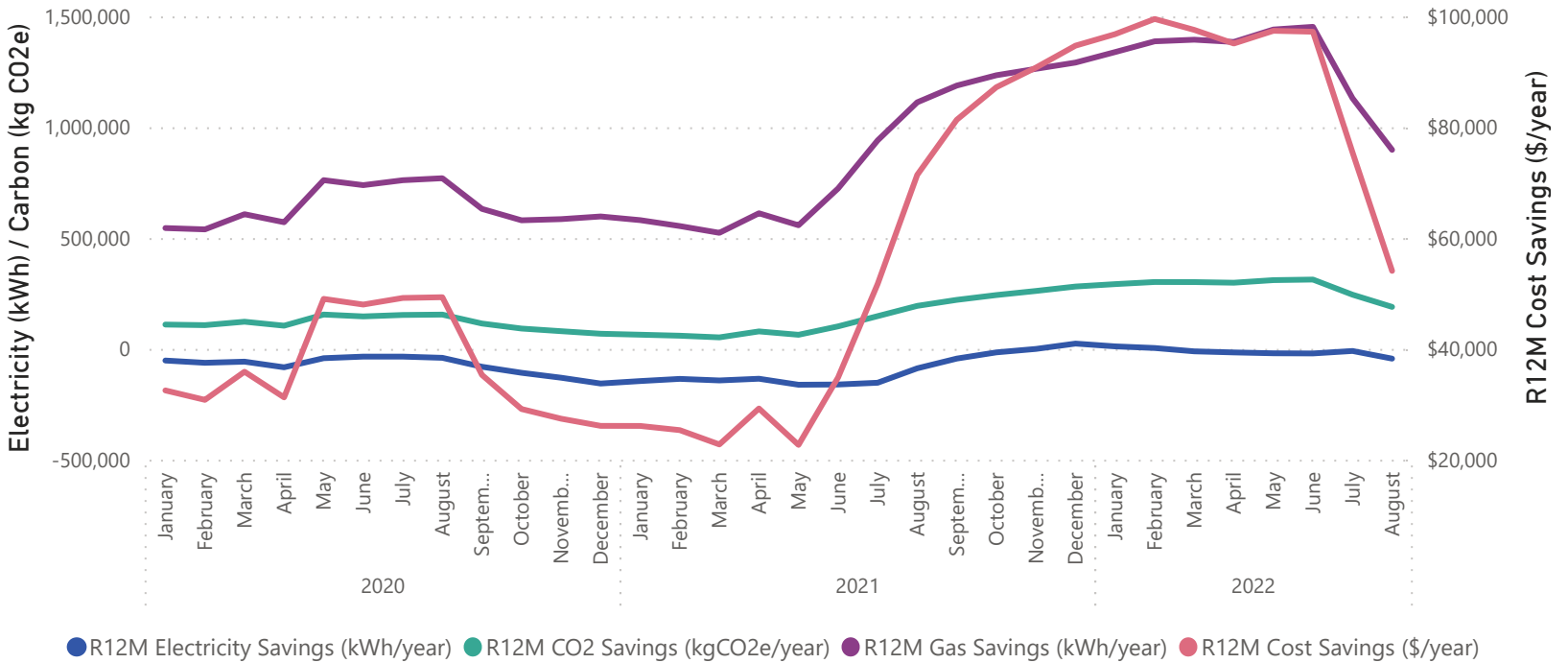


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

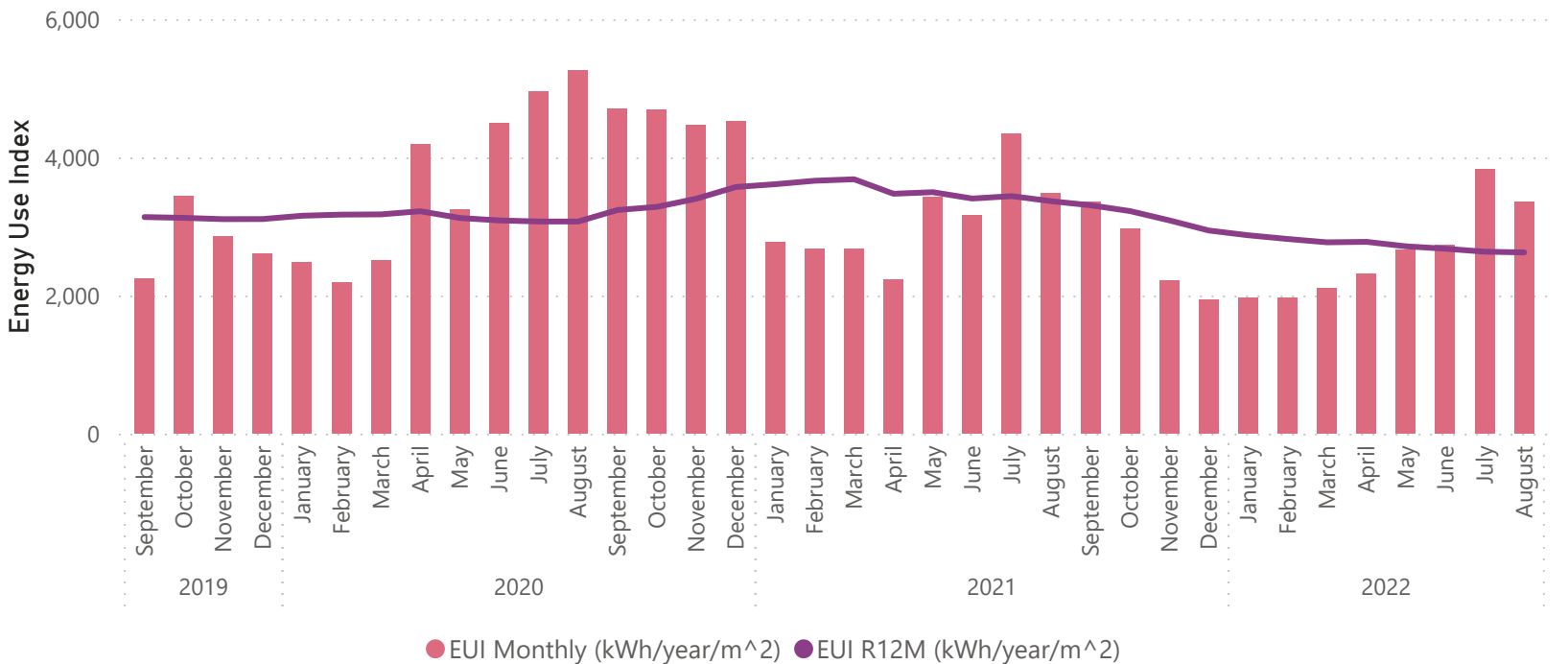
# Whakatane District Council

## Aquatic Centre

Aquatic Centre 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 **Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Te Koputu Library

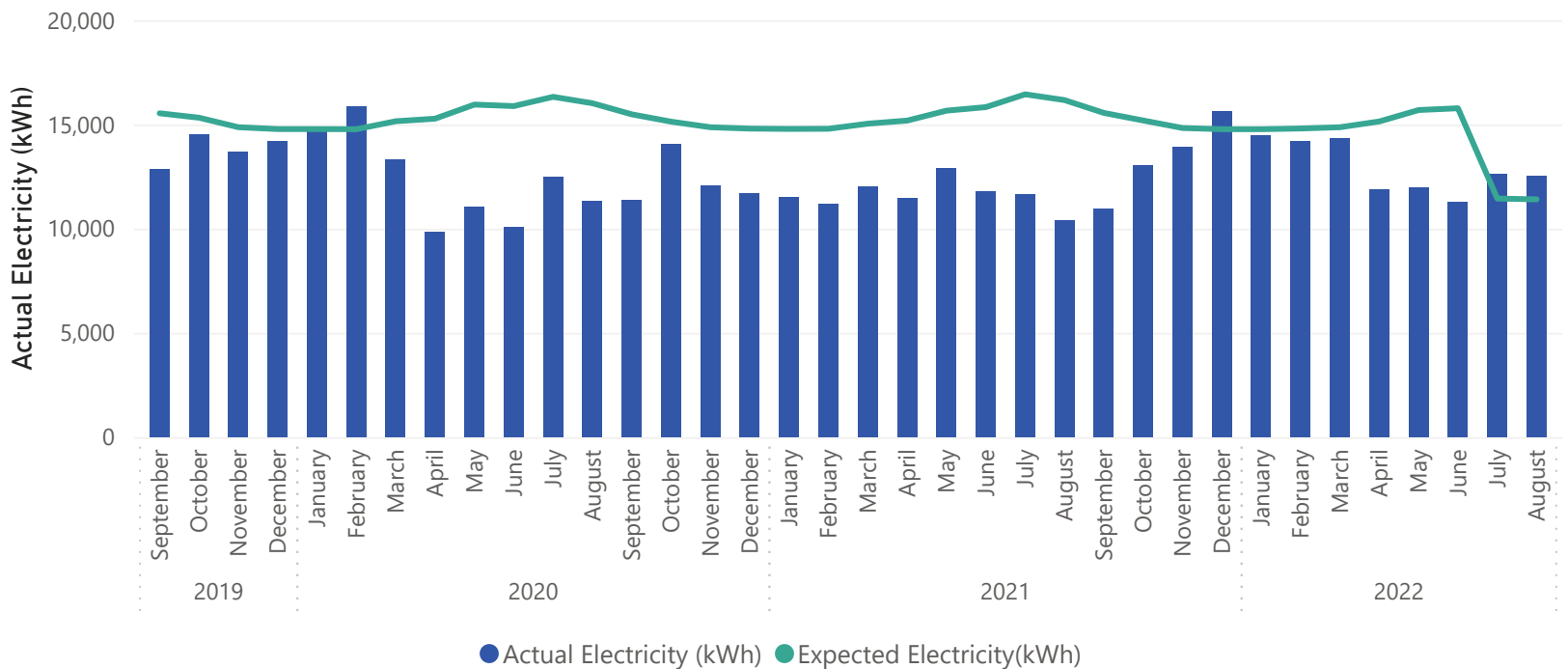
<p><b>-\$390</b> Monthly Energy Cost Savings</p>	<p><b>-1,144</b> Elec. Savings (kWh/mo)</p>	<p><b>-10%</b> Elec. Savings (%)</p>	<p><b>17,410</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-541</b> CO2e Savings (kg/mo)</p>
<p><b>-\$52</b> R12M Energy Cost Savings</p>	<p><b>-1,888</b> Gas. Savings (kWh/mo)</p>	<p><b>-19%</b> Gas. Savings (%)</p>	<p><b>-41,797</b> R12M Gas Savings (kWh/yr)</p>	<p><b>-6,710</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

New baselines were established for electricity and natural gas at the Library, the baseline period is July 2021 to June 2022 and use cooling degree days as the independent variable.

Natural gas use has increased by 34% compared to August 2021, electricity use has increased by 21%, however, August 2022 was a warmer month on average. Dehumidification loads are significant, electricity is required for cooling and gas is required for re-heat. Control of relative humidity has improved, however further investigation is needed to understand if this is optimised or if the cooling and heating coils are fighting each other excessively.

Te Koputu Library Electricity Use Compared to Baseline (kWh)

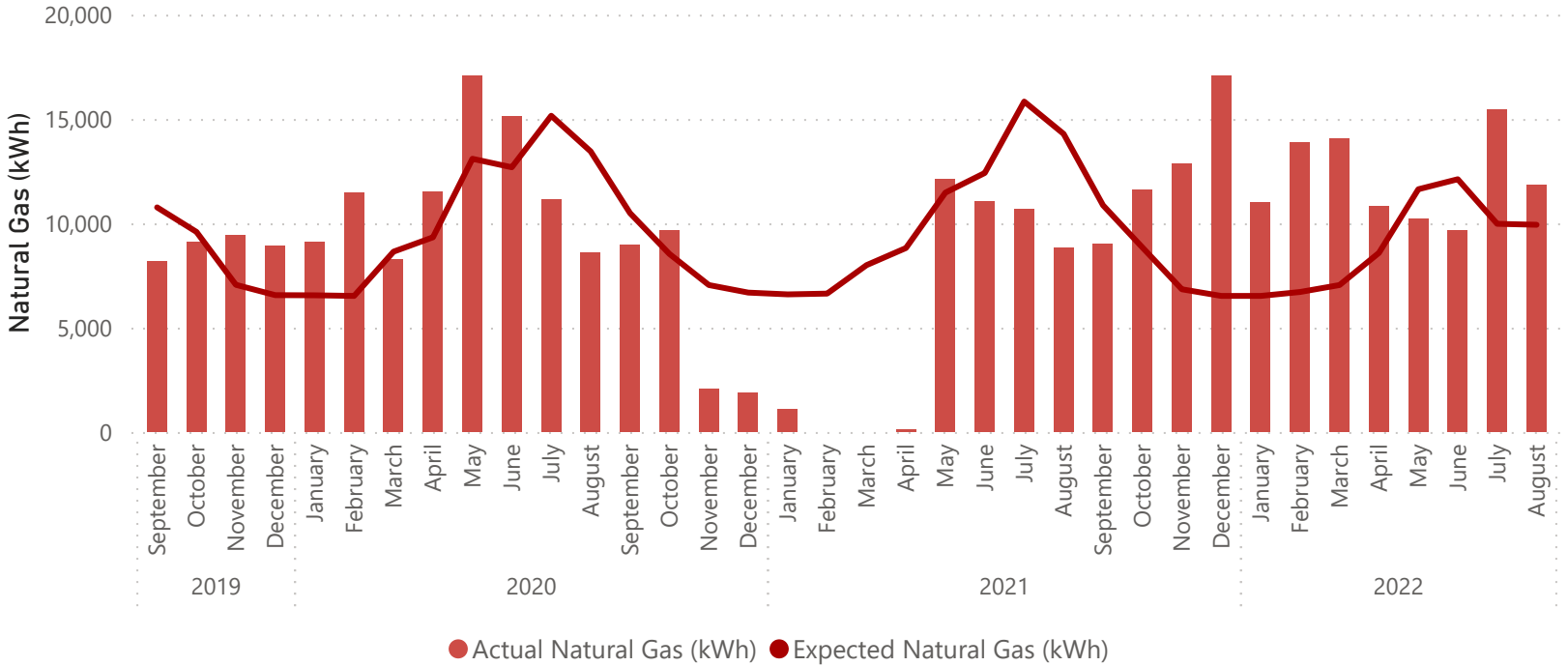


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

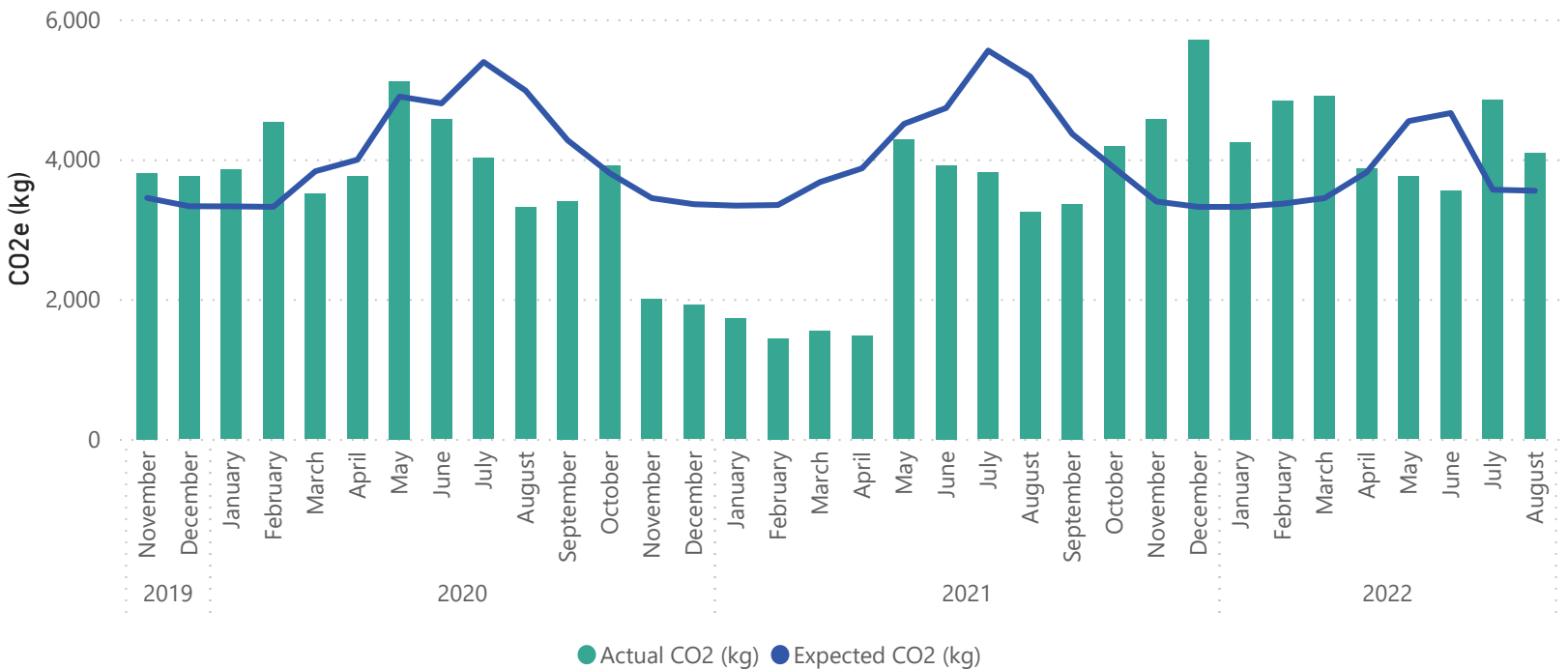
# Whakatane District Council

## Te Koputu Library

Te Koputu Library Natural Gas Compared to Baseline (kWh)



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

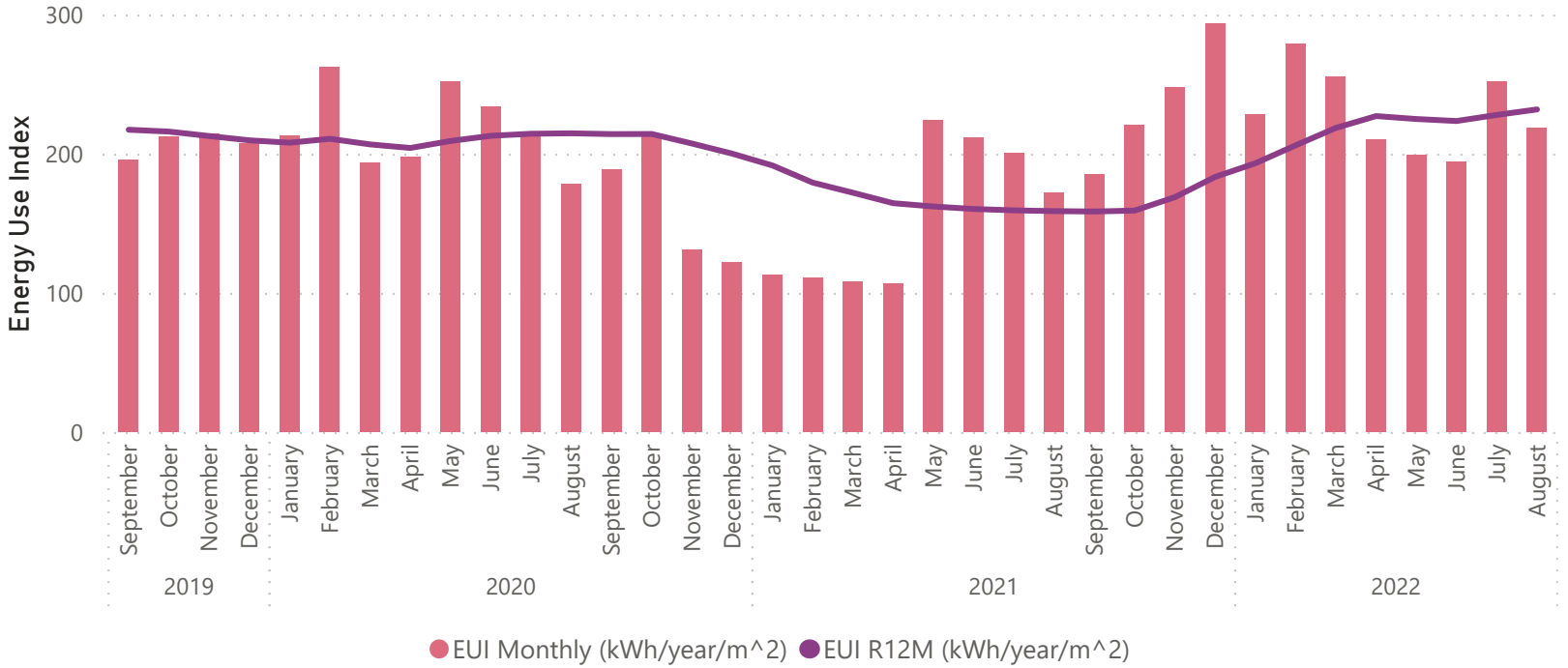


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

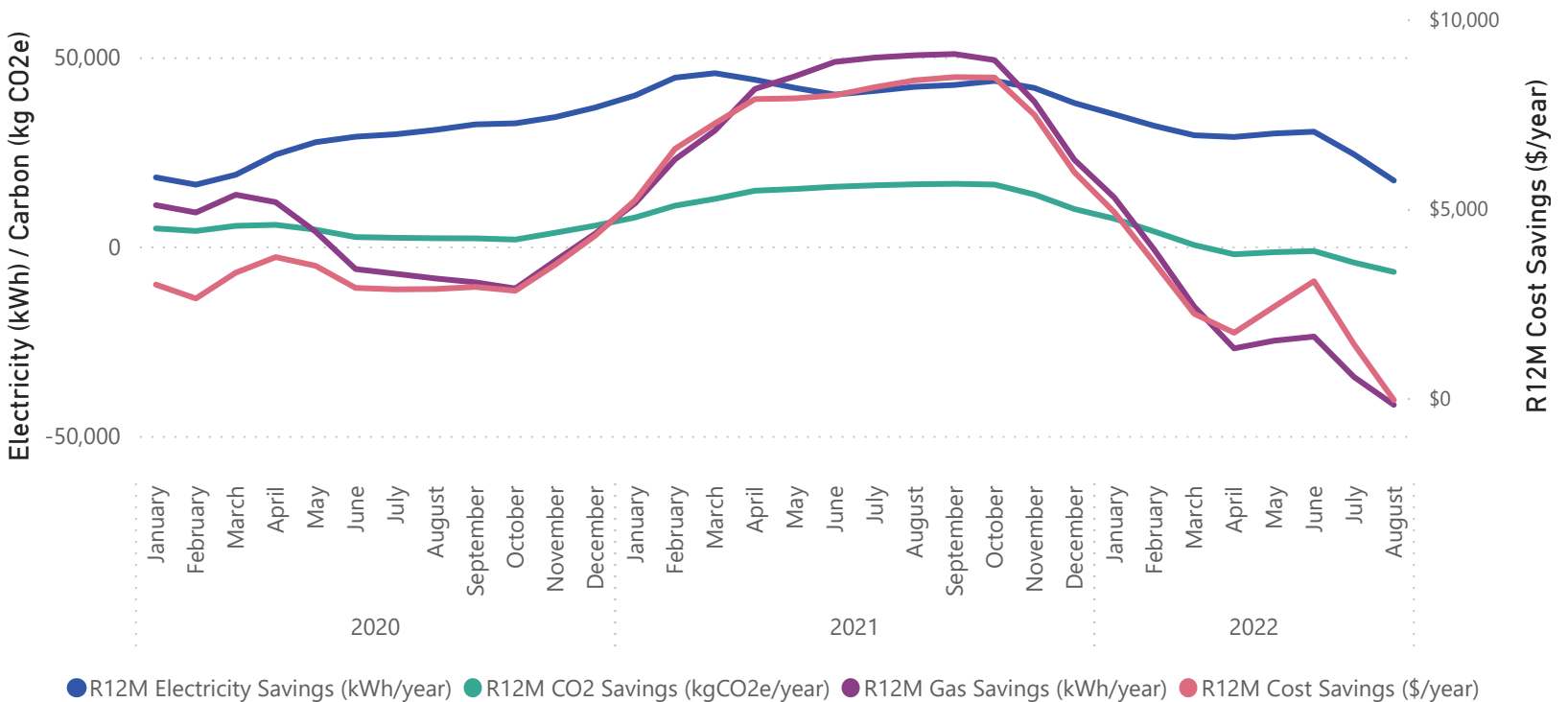
# Whakatane District Council

## Te Koputu Library

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



Te Koputu Library 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 **Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Museum and Research Centre

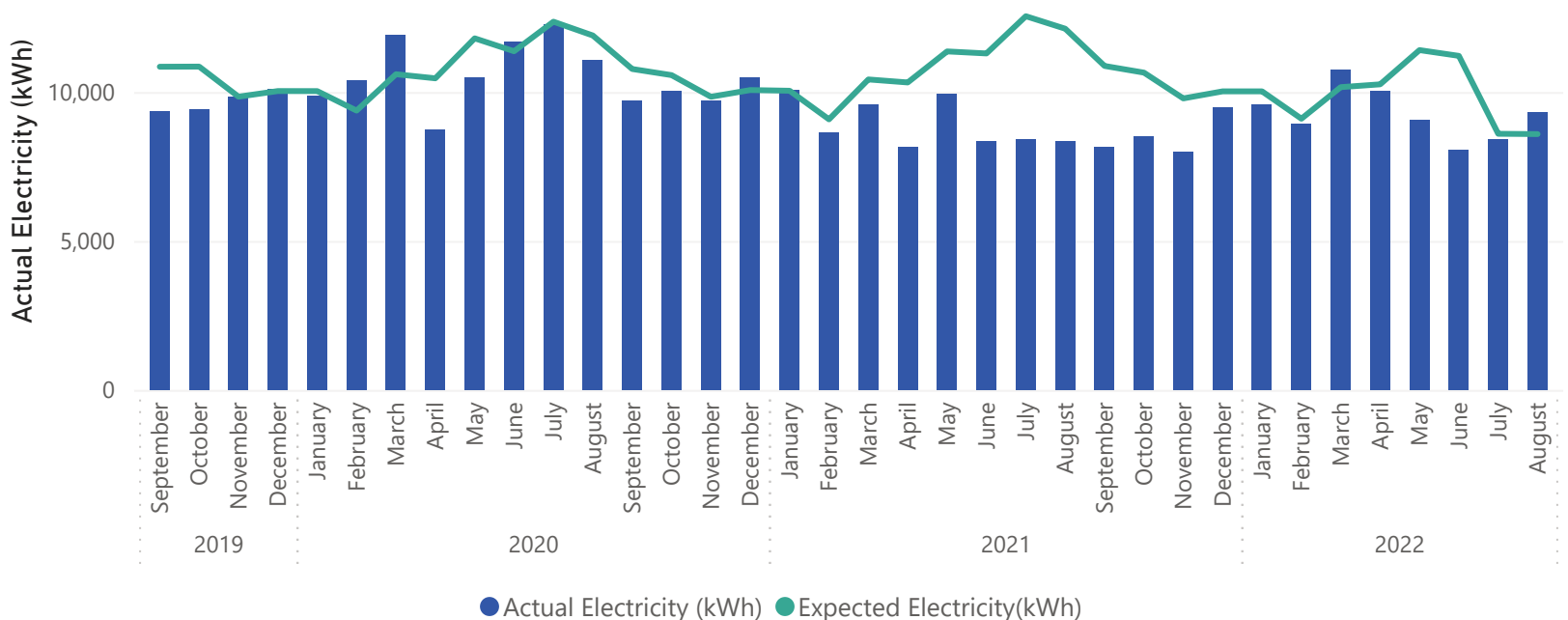
<p><b>-\$137</b> Monthly Energy Cost Savings</p>	<p><b>-727</b> Elec. Savings (kWh/mo)</p>	<p><b>-8%</b> Elec. Savings (%)</p>	<p><b>12,390</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-32</b> CO2e Savings (kg/mo)</p>
<p><b>\$4,442</b> R12M Energy Cost Savings</p>	<p><b>304</b> Gas. Savings (kWh/mo)</p>	<p><b>10%</b> Gas. Savings (%)</p>	<p><b>34,765</b> R12M Gas Savings (kWh/yr)</p>	<p><b>9,127</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

New baselines were established for electricity and natural gas at the Museum and Research Centre, the baseline period is July 2021 to June 2022. The electricity baseline uses cooling degree days as the independent variable and the natural gas baseline uses heating degree days as the independent variable.

Electricity use was more than expected and natural gas was less than expected. Afterhours electricity use was elevated from the 10-14 and 29-31 of August.

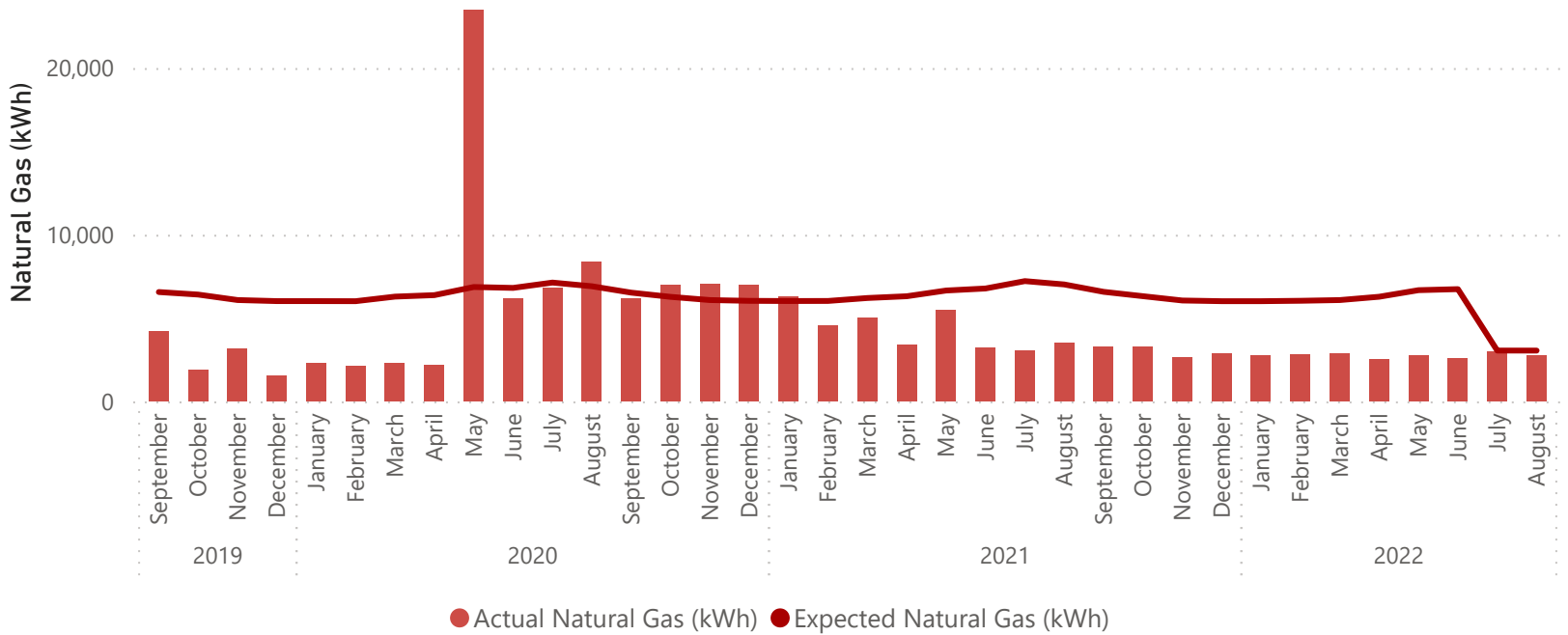
Museum Research Centre Electricity Use Compared to Baseline (kWh)



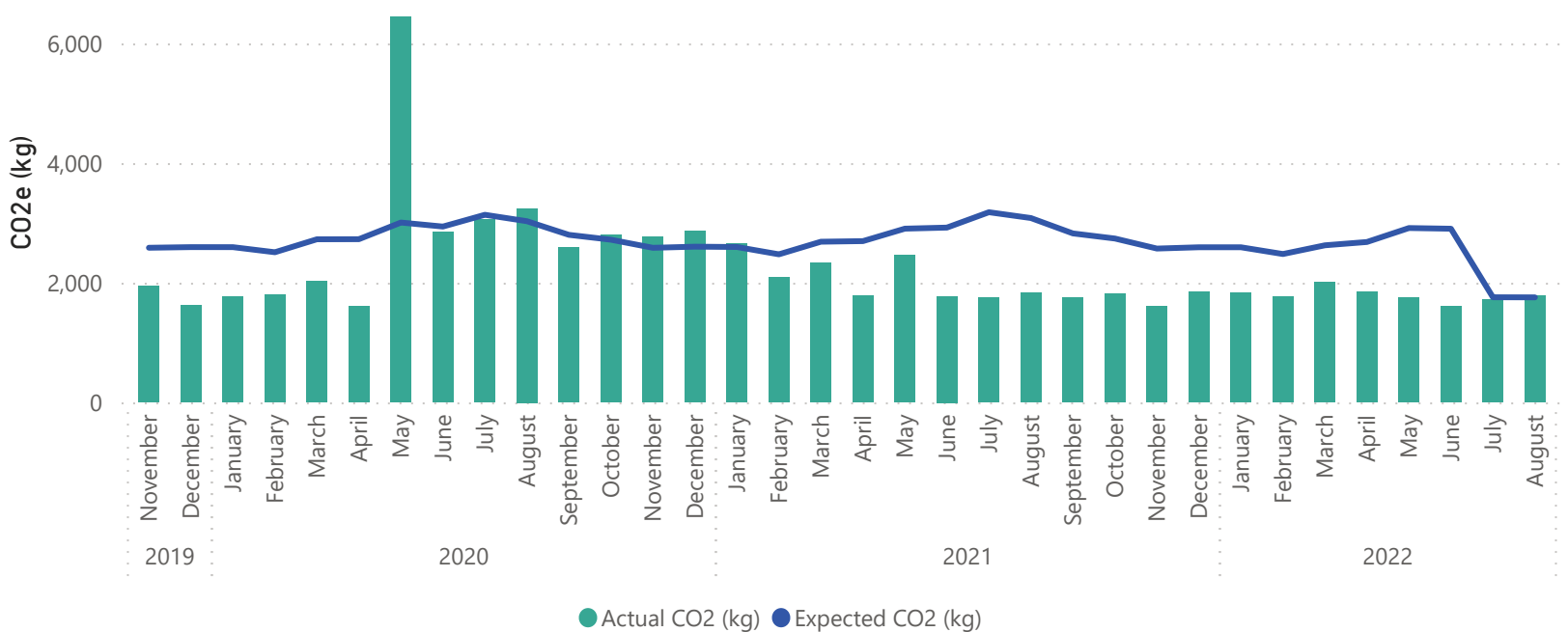
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council Museum and Research Centre

Museum Research Centre Natural Gas Compared to Baseline (kWh)



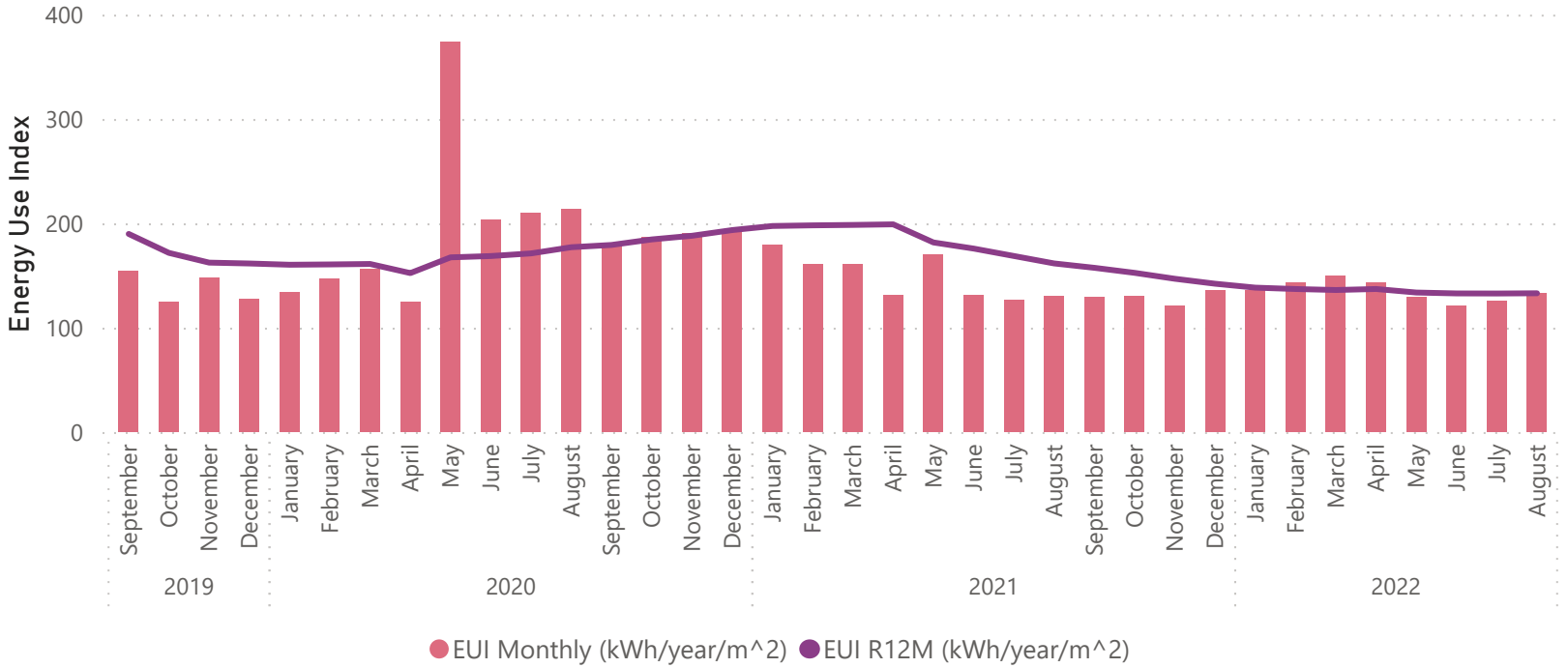
Museum Research Centre Carbon Emissions Compared to Baseline (kg CO2e)



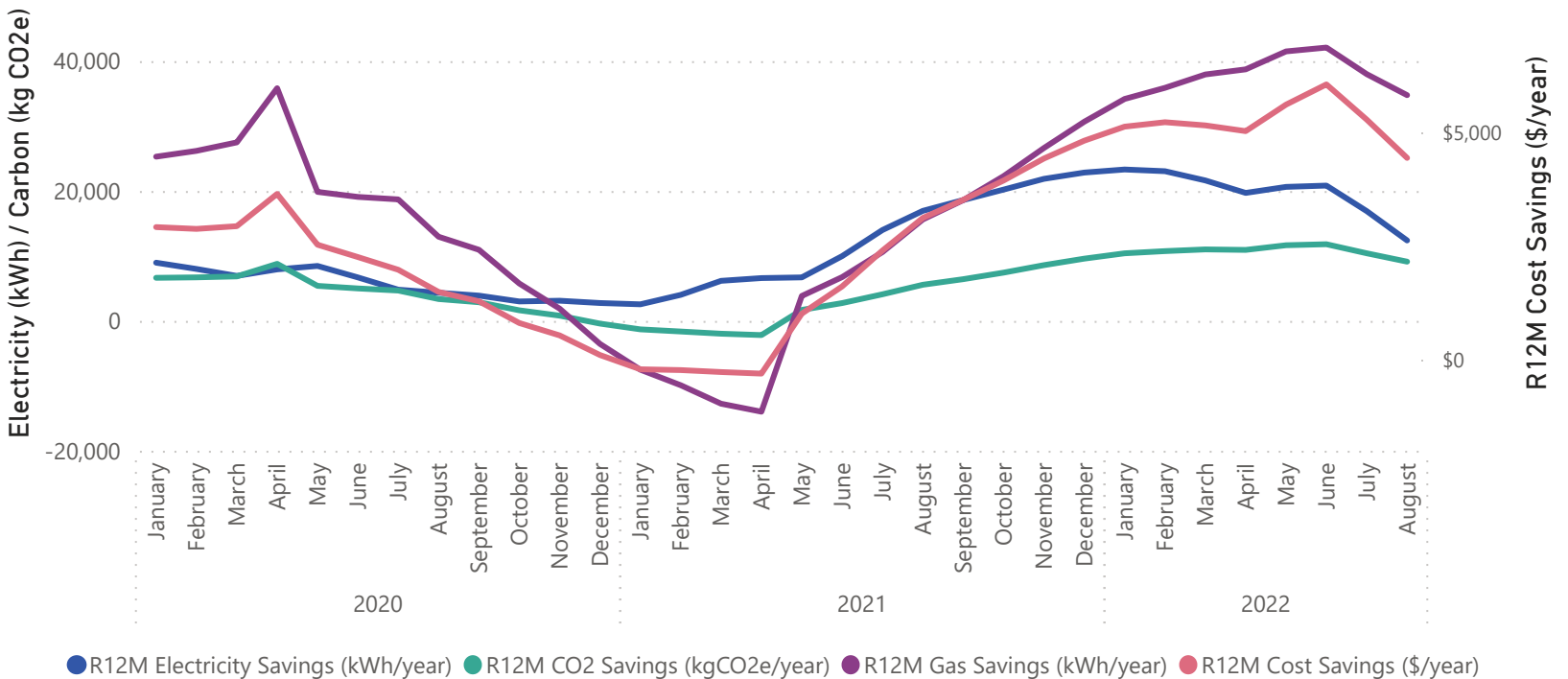
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# Whakatane District Council Museum and Research Centre

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



Museum Research Centre 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 **Baselines were updated for all sites from July 2022.**



# Whakatane District Council

## War Memorial Hall

<p><b>\$585</b></p> <p>Monthly Energy Cost Savings</p>	<p><b>3,335</b></p> <p>Elec. Savings (kWh/mo)</p>	<p><b>39%</b></p> <p>Elec. Savings (%)</p>	<p><b>27,909</b></p> <p>R12M Electricity Savings (kWh/yr)</p>	<p><b>23</b></p> <p>CO2e Savings (kg/mo)</p>
<p><b>\$2,835</b></p> <p>R12M Energy Cost Savings</p>	<p><b>-2,001</b></p> <p>Gas. Savings (kWh/mo)</p>	<p><b>-63%</b></p> <p>Gas. Savings (%)</p>	<p><b>-18,040</b></p> <p>R12M Gas Savings (kWh/yr)</p>	<p><b>-218</b></p> <p>R12M CO2e Savings (kg/yr)</p>

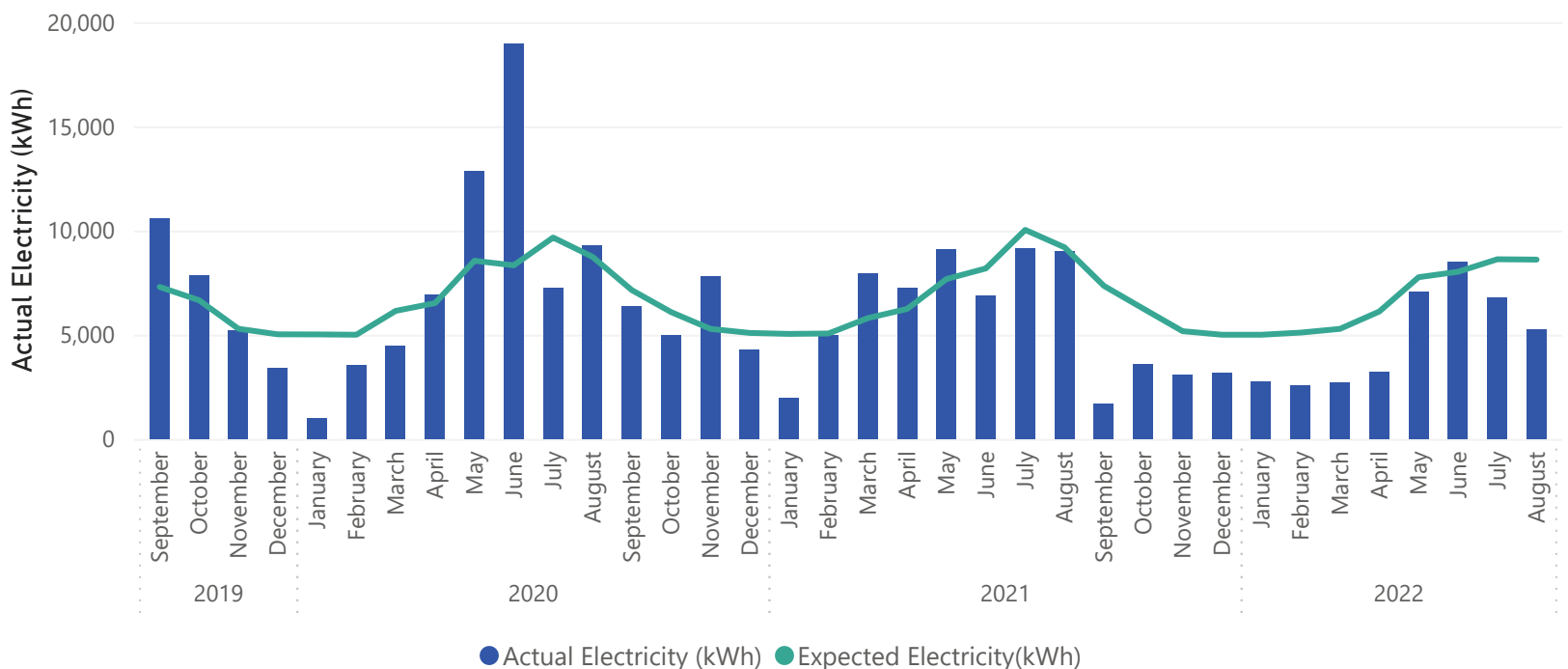
### Comments:

The baseline was updated for War Memorial Hall, the baseline adjusts for ambient temperature. The baseline period is July 2021 to June 2022. The War Memorial Hall uses more electricity and gas in winter months.

Natural gas use has been significantly more than expected for May to August 2022. It would be good to understand if any changes have been made to HVAC controls, or if the number of events and bookings has increased from May 2022. Overall, total energy use by the facility is less than baseline and a small carbon savings has been achieved for the month.

The War Memorial Hall is on a NHH account, some months' usage may be estimated by the retailer and captured by a subsequent meter reading. It is recommended that manual meter readings are taken, which would improve accuracy of electricity and gas usage.

War Memorial Hall Electricity Use Compared to Baseline (kWh)

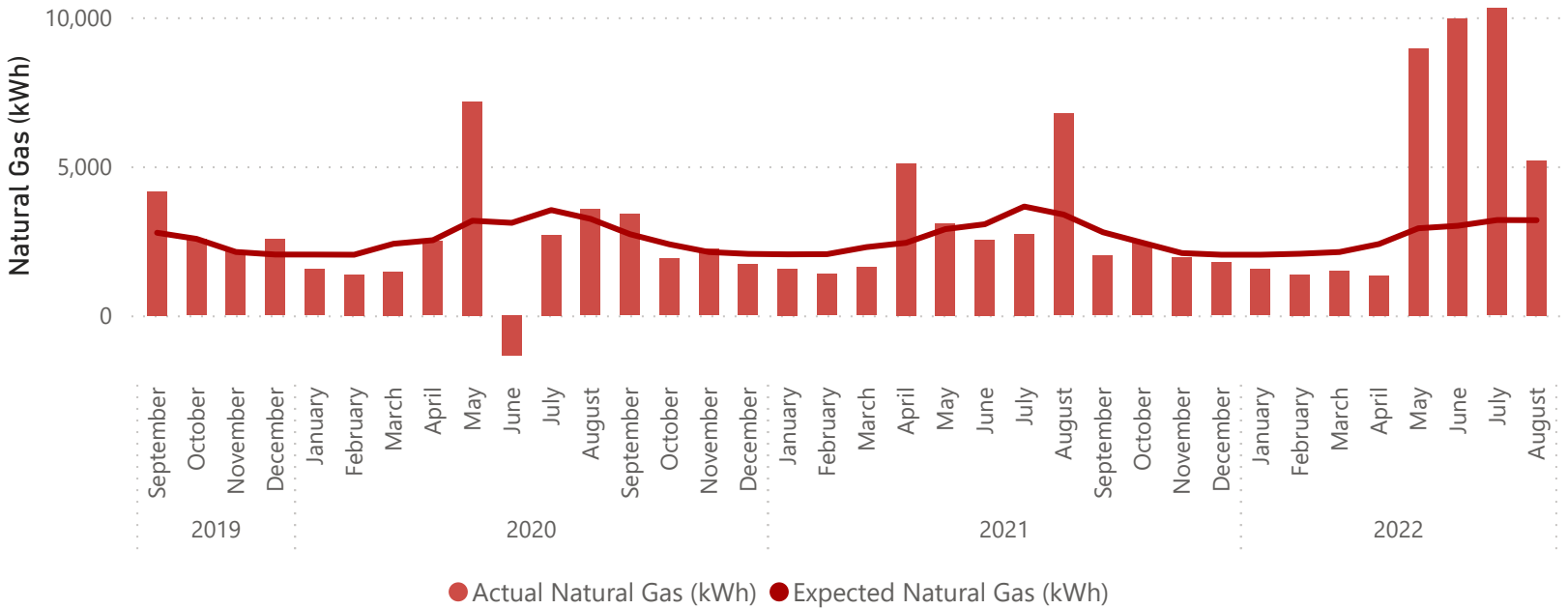


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

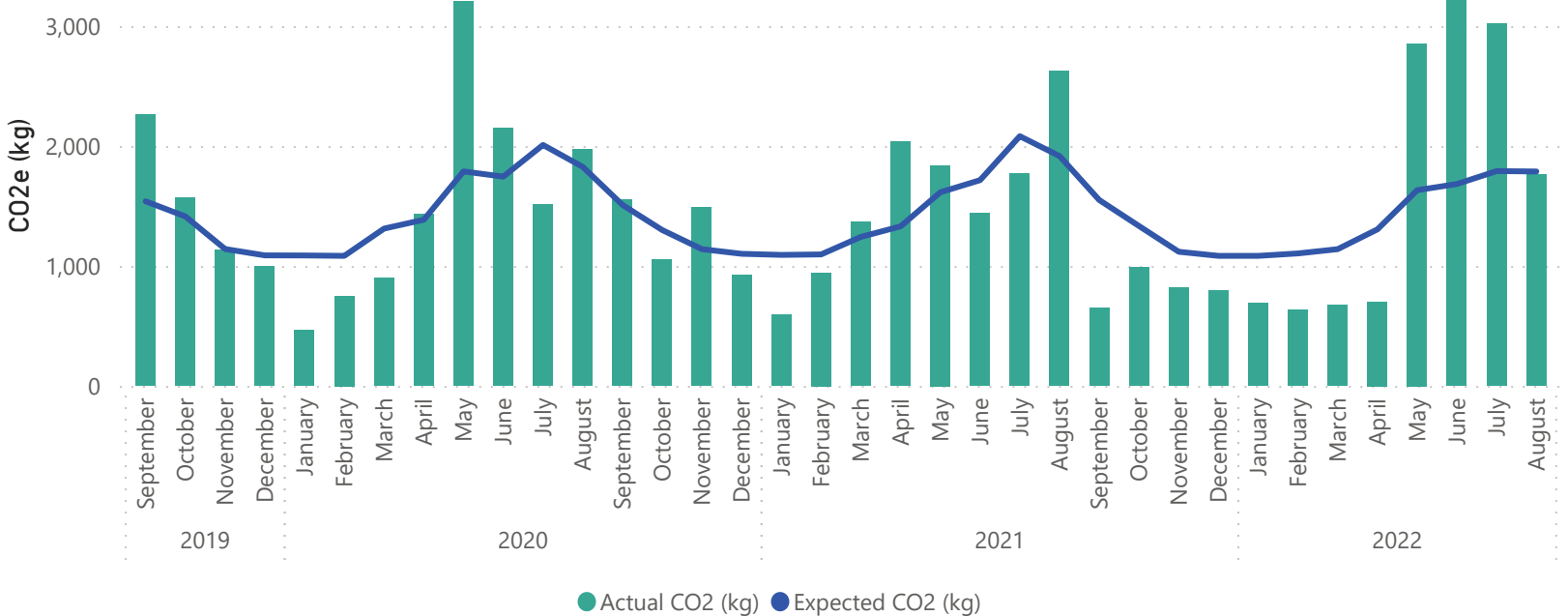
# Whakatane District Council

## War Memorial Hall

War Memorial Hall Natural Gas Compared to Baseline (kWh)



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

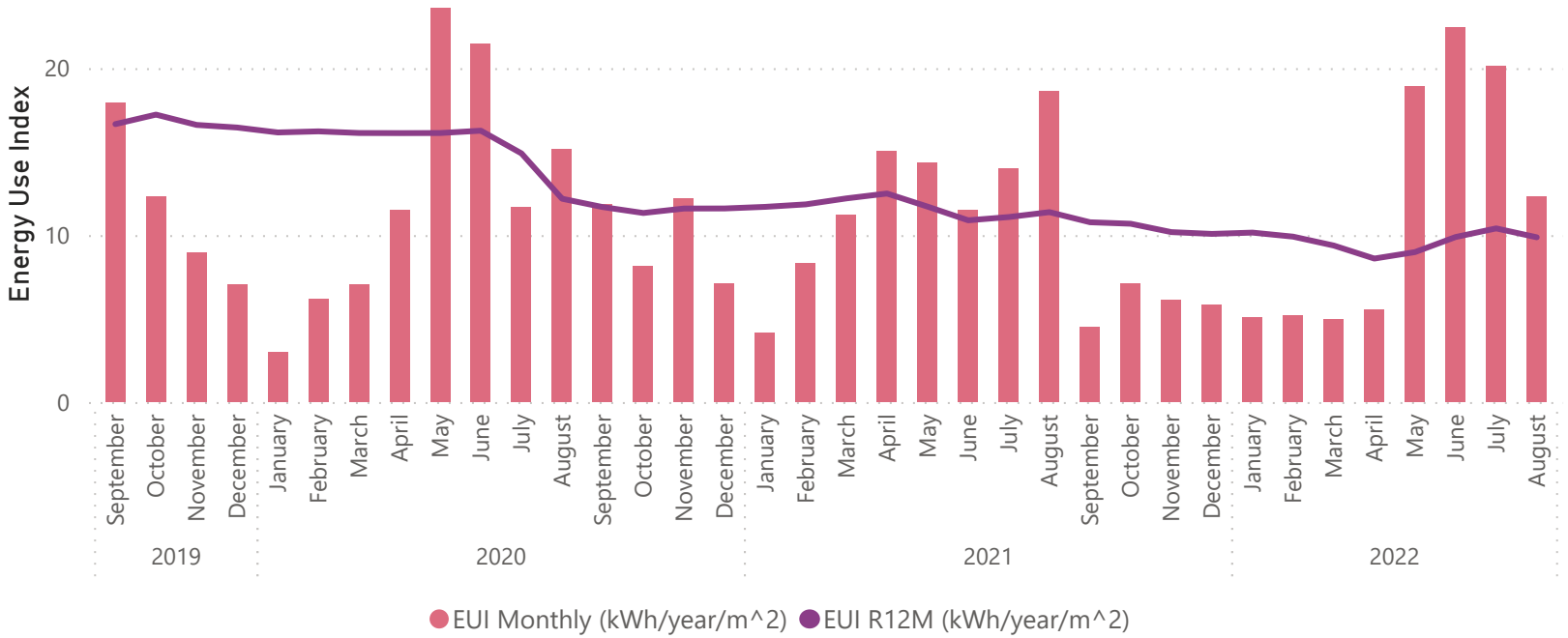


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

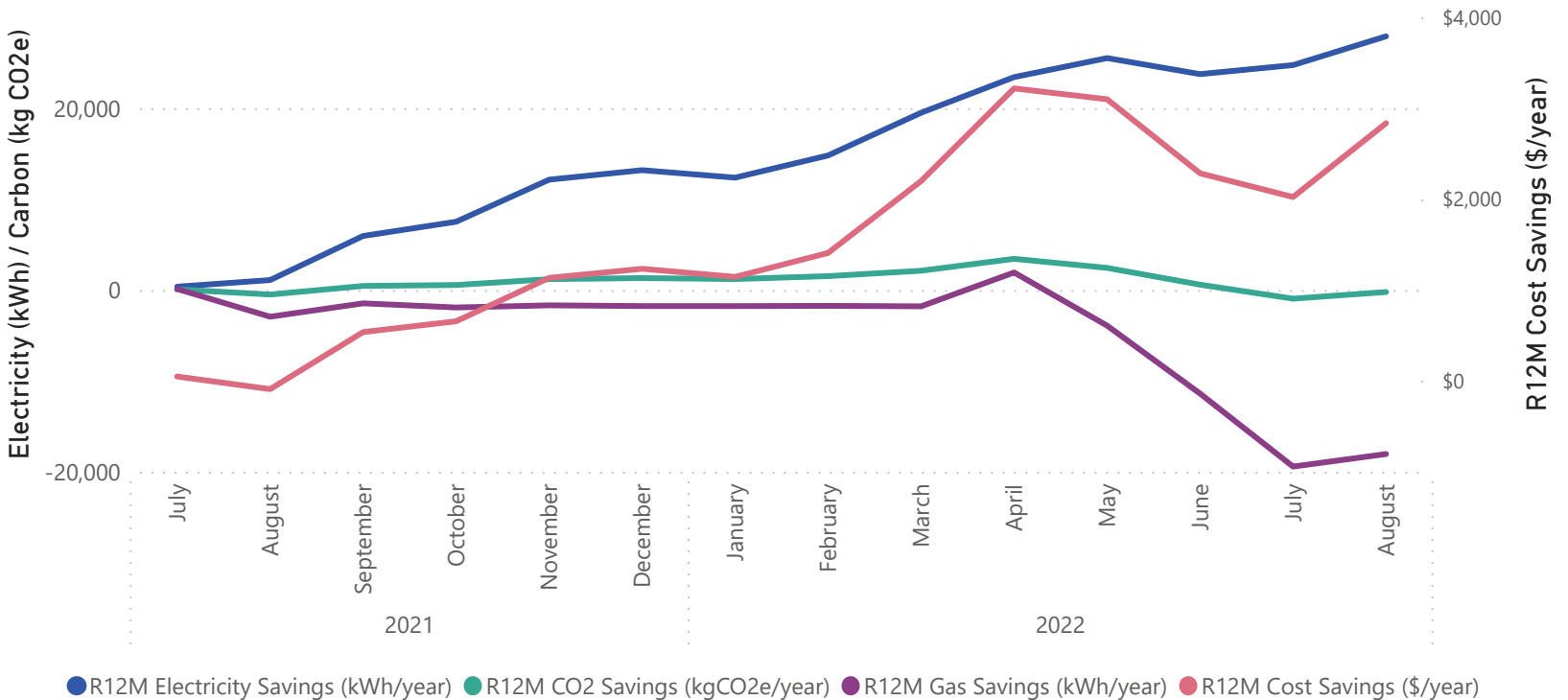
# Whakatane District Council

## War Memorial Hall

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



War Memorial Hall 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 **Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Water Treatment Plant

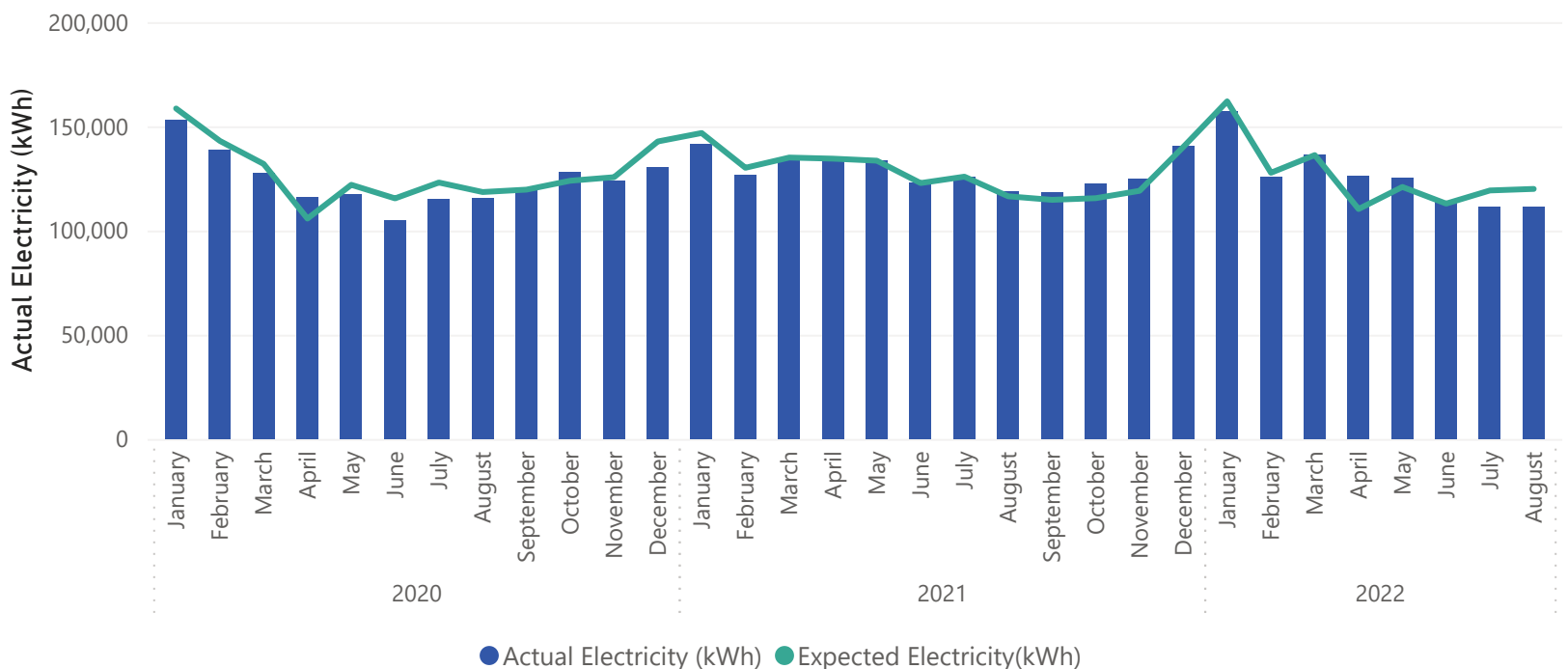
<p><b>\$1,774</b> Monthly Energy Cost Savings</p>	<p><b>8,439</b> Elec. Savings (kWh/mo)</p>	<p><b>7%</b> Elec. Savings (%)</p>	<p><b>-15,739</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>1,105</b> CO2e Savings (kg/mo)</p>
<p><b>-\$1,934</b> R12M Energy Cost Savings</p>				<p><b>-1,988</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The electricity use baseline was updated for the Water Treatment Plant, the baseline period is July 2021 to June 2022. The electricity baseline uses the amount of water pumped (m<sup>3</sup>) as the independent variable.

A 7% savings has been achieved at the WTP this month. The volume of water treated and total electricity use has decreased compared to August 2021. The monthly EUI is less than the average over the last 12 months, which is good.

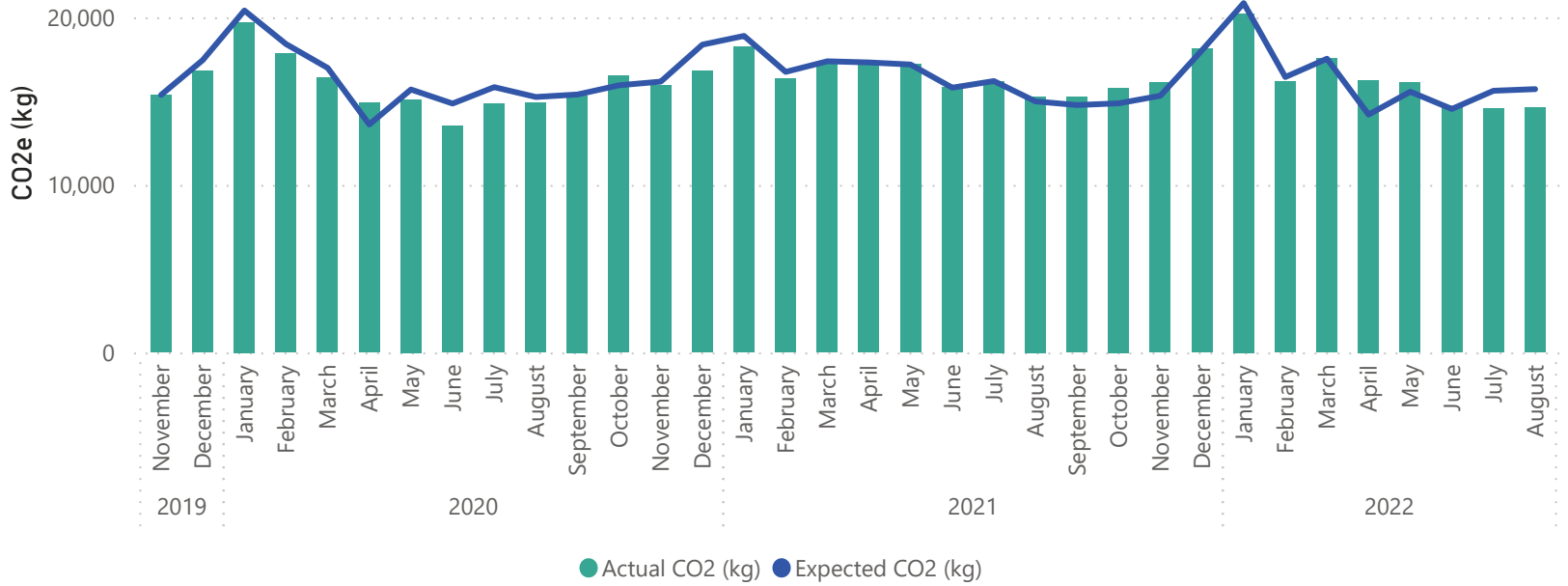
Water Treatment Plant Electricity Use Compared to Baseline (kWh)



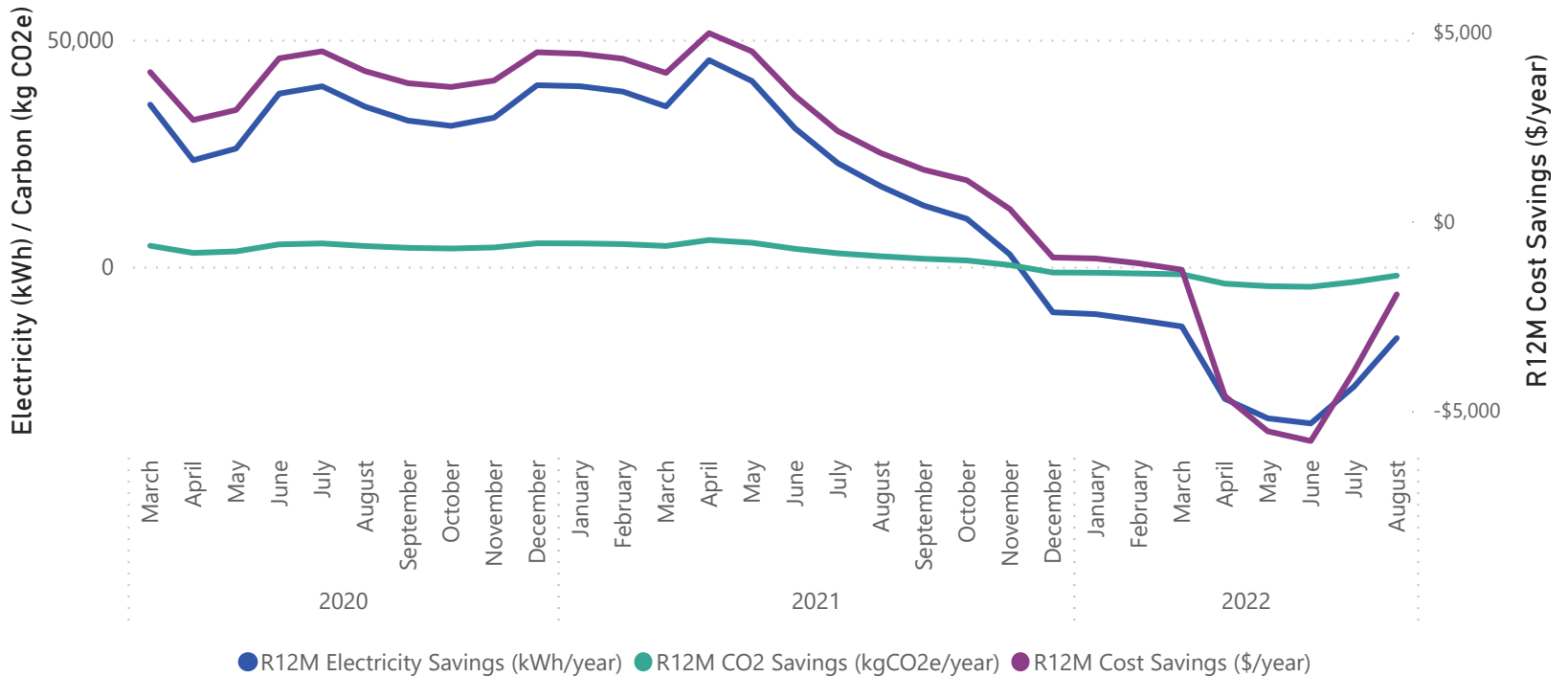
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council Water Treatment Plant

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



Water Treatment Plant Rolling 12 Month Savings

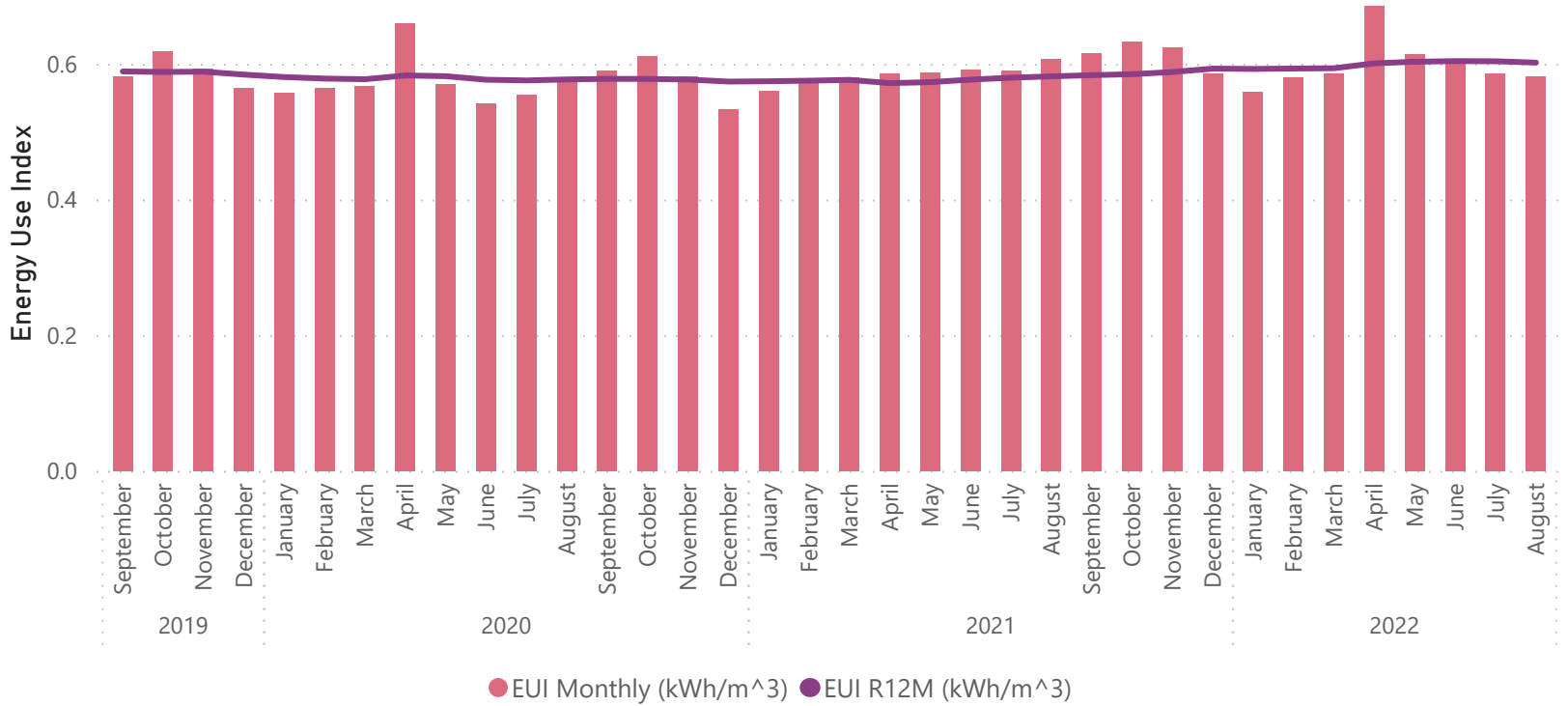


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Braemar Road Pump Station

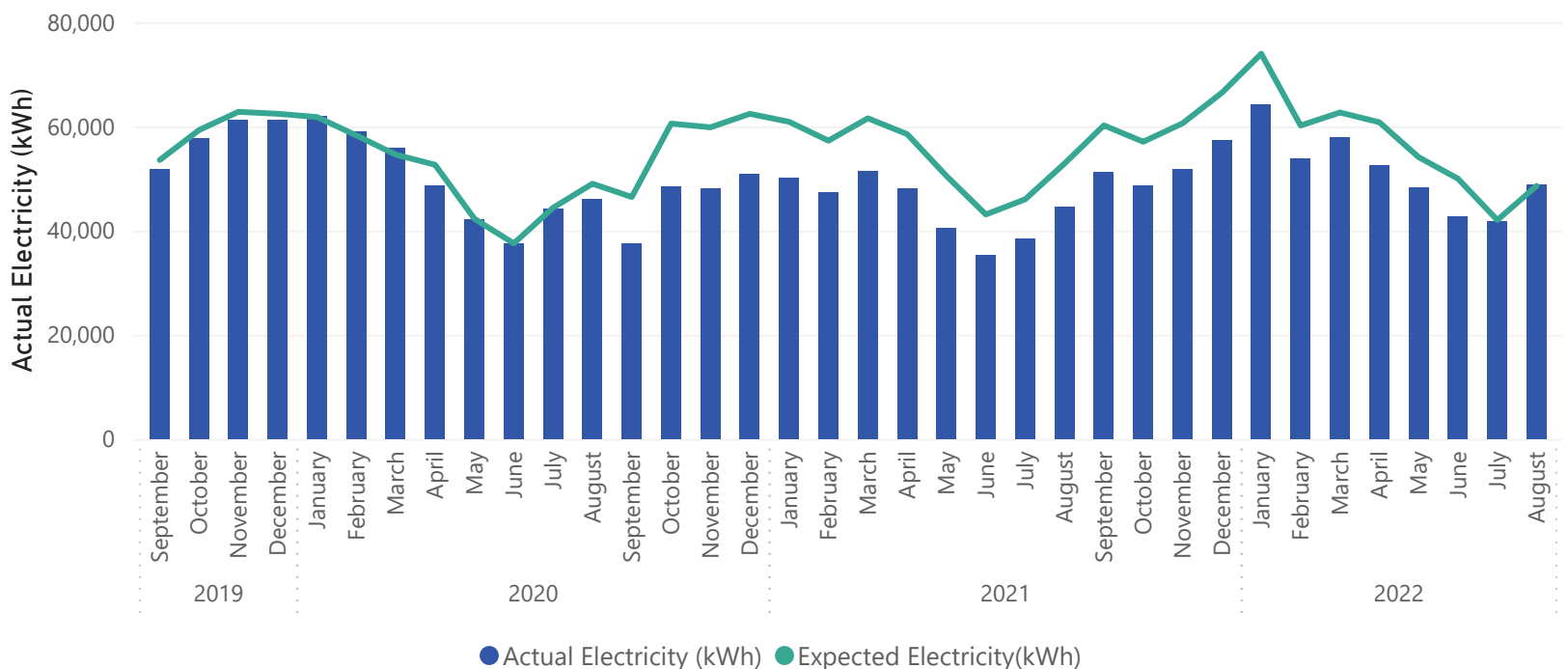
<p><b>-\$63</b> Monthly Energy Cost Savings</p>	<p><b>-293</b> Elec. Savings (kWh/mo)</p>	<p><b>-1%</b> Elec. Savings (%)</p>	<p><b>77,275</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-38</b> CO2e Savings (kg/mo)</p>
<p><b>\$10,955</b> R12M Energy Cost Savings</p>				<p><b>10,108</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The electricity use baseline was updated for the Braemar Road Pump Station, the baseline period is July 2021 to June 2022. The electricity baseline uses the amount of water pumped (m<sup>3</sup>) as the independent variable.

Savings from the high efficiency pumps and motors will no longer be visible when comparing to the new baseline, however, real savings have been achieved since September 2020, using approximately 15% less electricity compared to the older pumps and motors.

Braemar Rd Pumps Electricity Use Compared to Baseline (kWh)

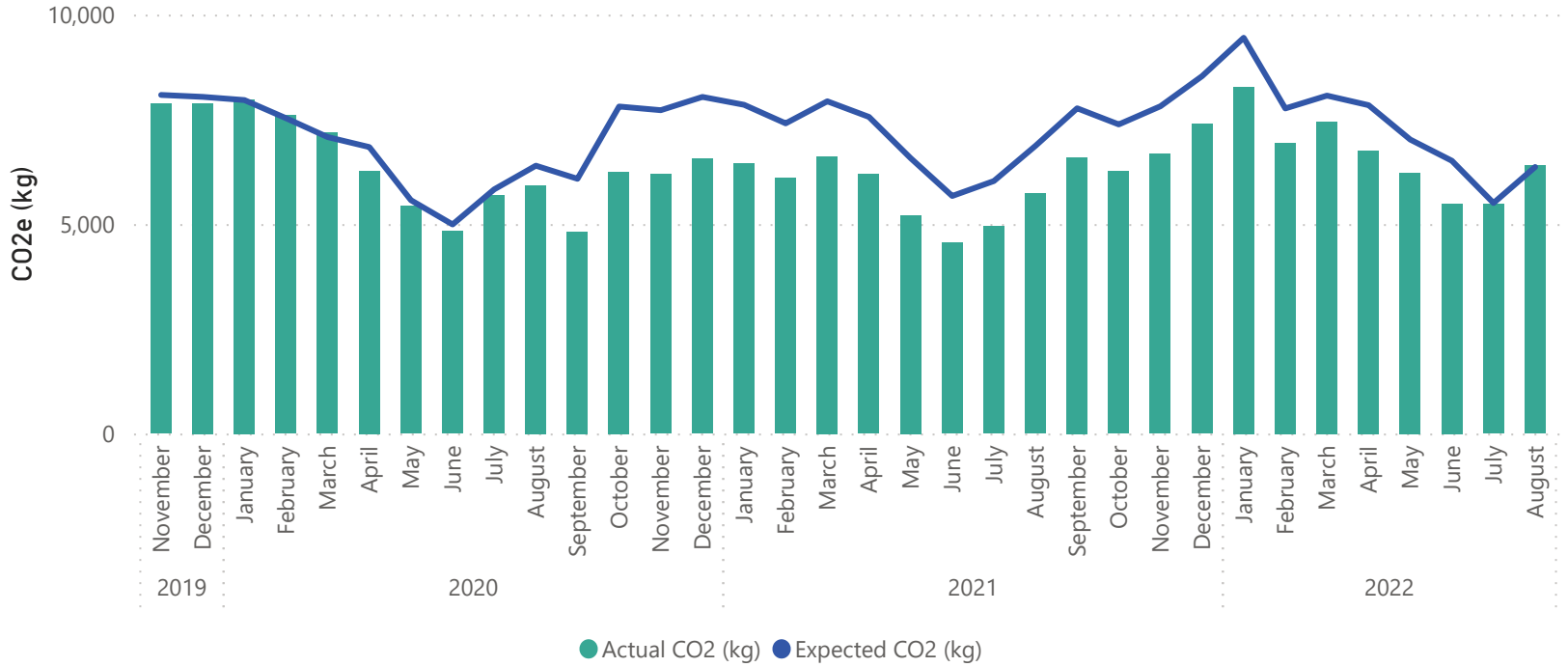


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

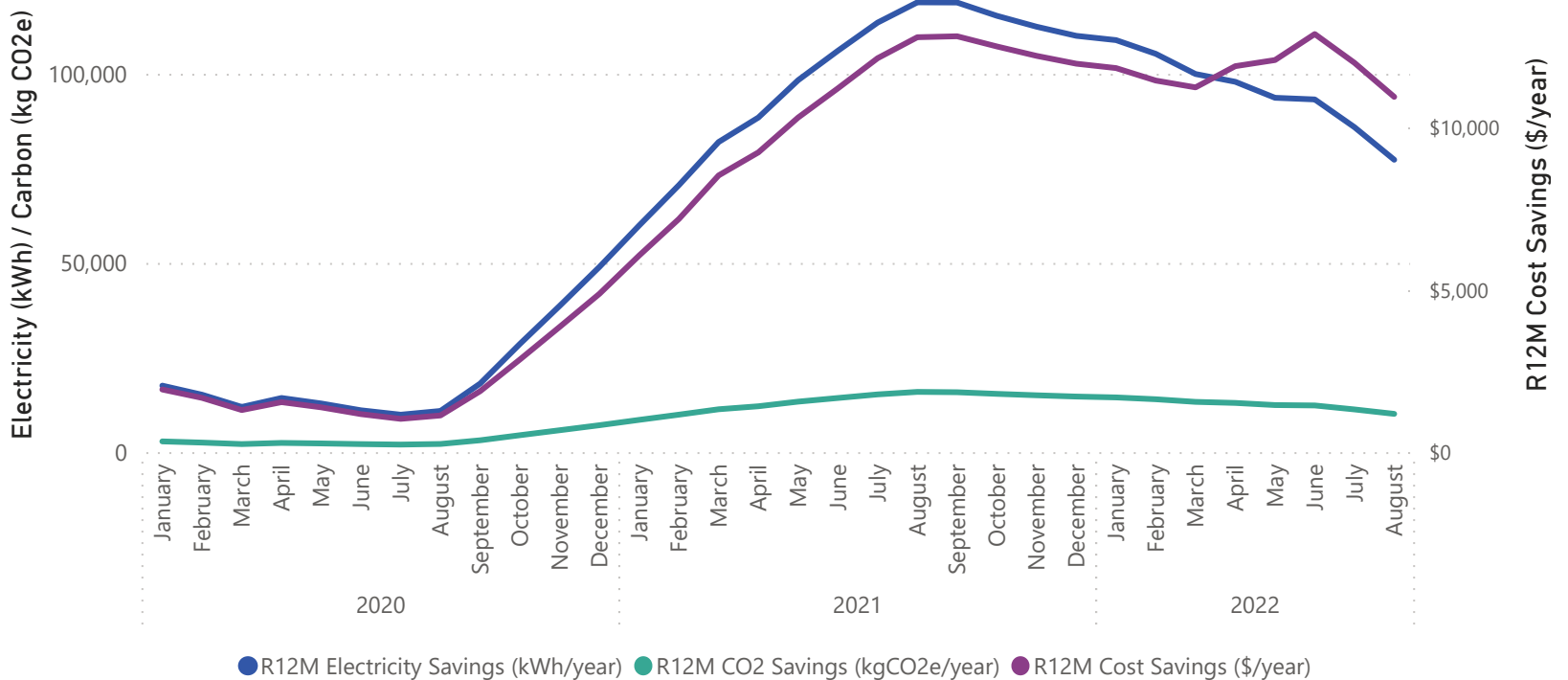
# Whakatane District Council

## Braemar Road Pump Station

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



Braemar Rd Pumps Rolling 12 Month Savings



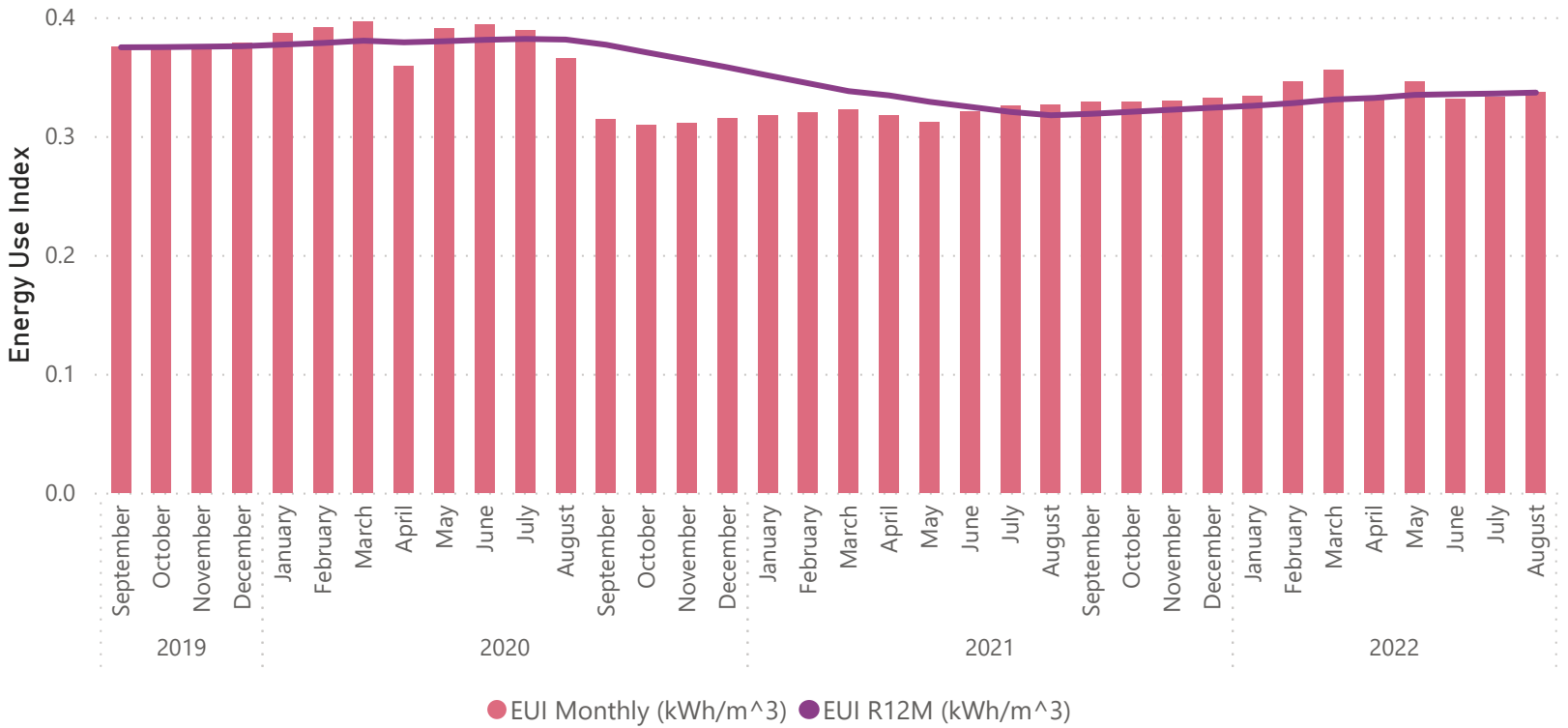
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**



# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Paul Road Pump Station

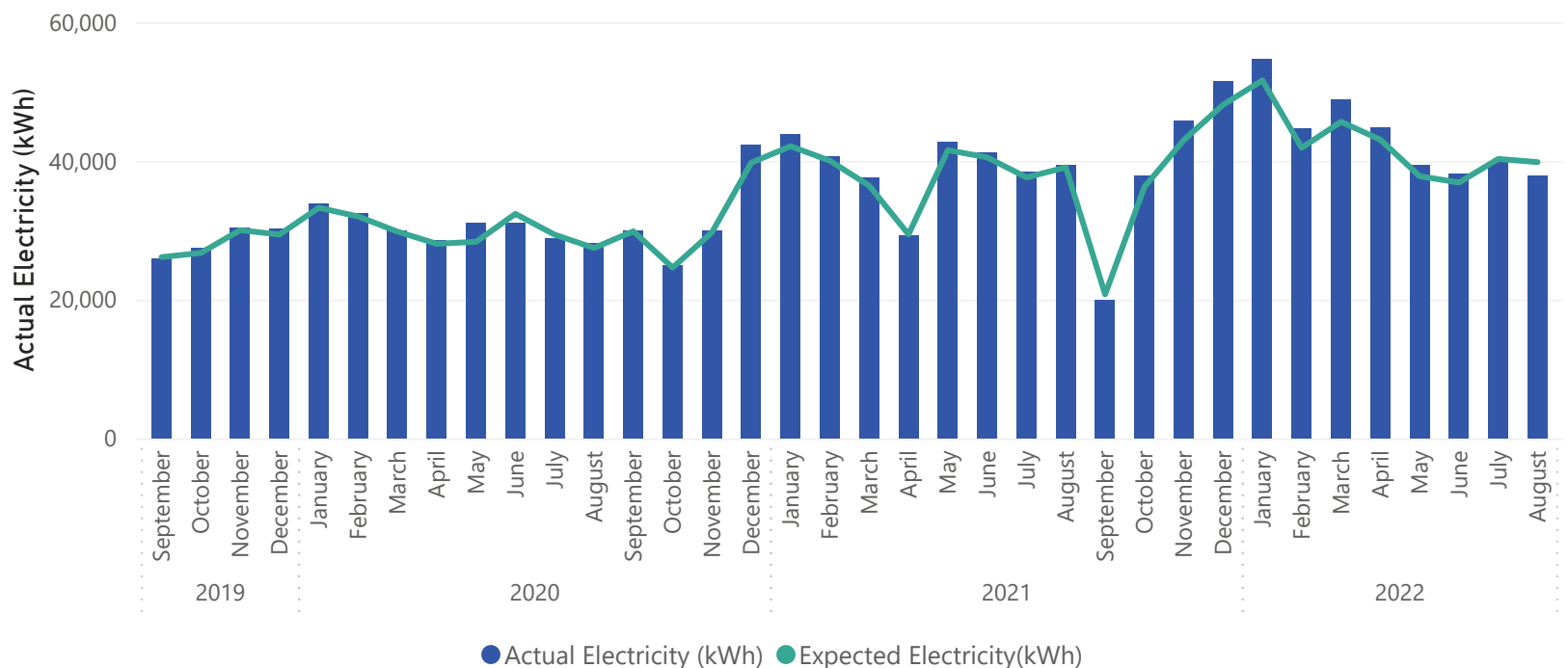
<p><b>\$423</b> Monthly Energy Cost Savings</p>	<p><b>1,944</b> Elec. Savings (kWh/mo)</p>	<p><b>5%</b> Elec. Savings (%)</p>	<p><b>-18,293</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>255</b> CO2e Savings (kg/mo)</p>
<p><b>-\$2,473</b> R12M Energy Cost Savings</p>				<p><b>-2,340</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The electricity use baseline was updated for the Paul Road Pump Station, the baseline period is July 2021 to June 2022. The electricity baseline uses the amount of water pumped (m<sup>3</sup>) as the independent variable. The updated baseline has a smaller baseload factor and a larger variable component.

A moderate savings has been achieved at the Paul Road Pump Station this month. The monthly EUI is less than average over the past 12 months, which is excellent.

Paul Rd Pumps Electricity Use Compared to Baseline (kWh)

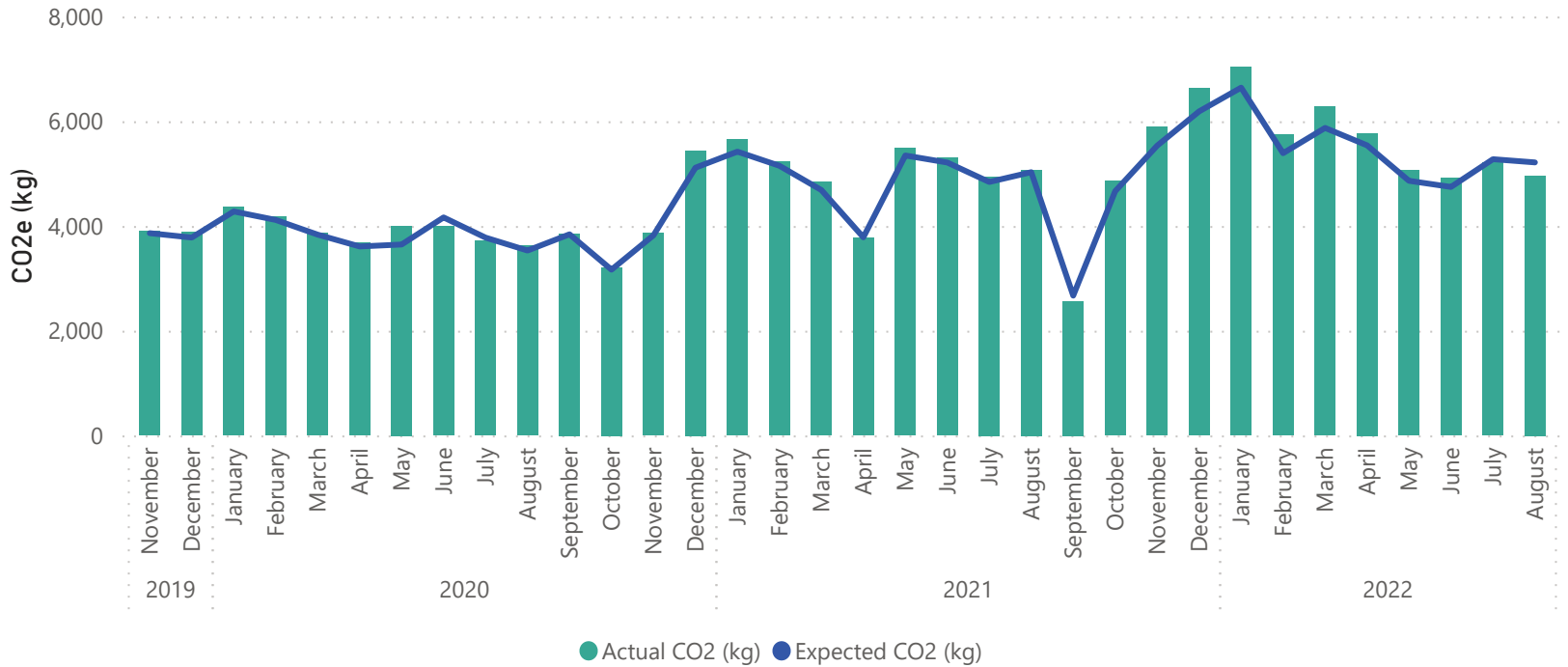


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

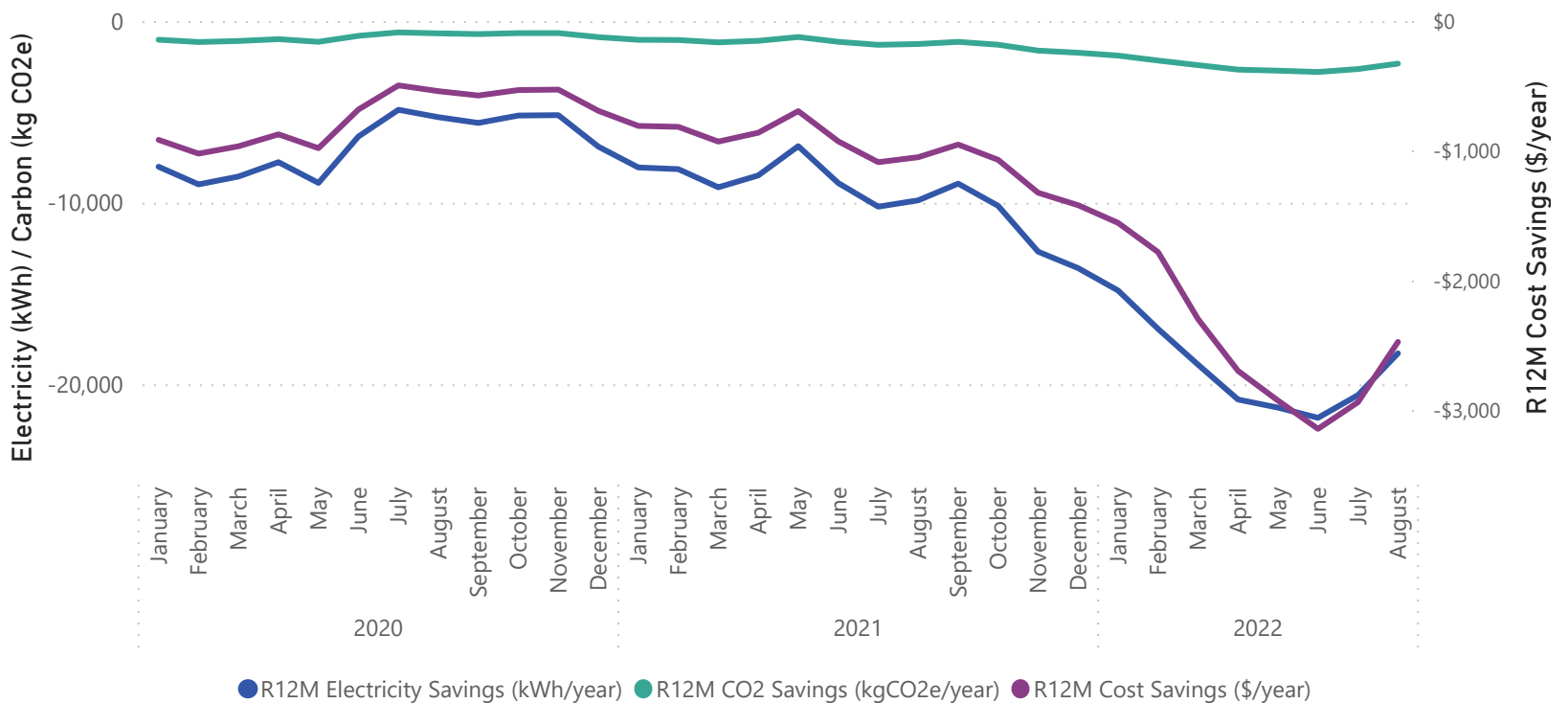
# Whakatane District Council

## Paul Road Pump Station

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



Paul Rd Pumps Rolling 12 Month Savings

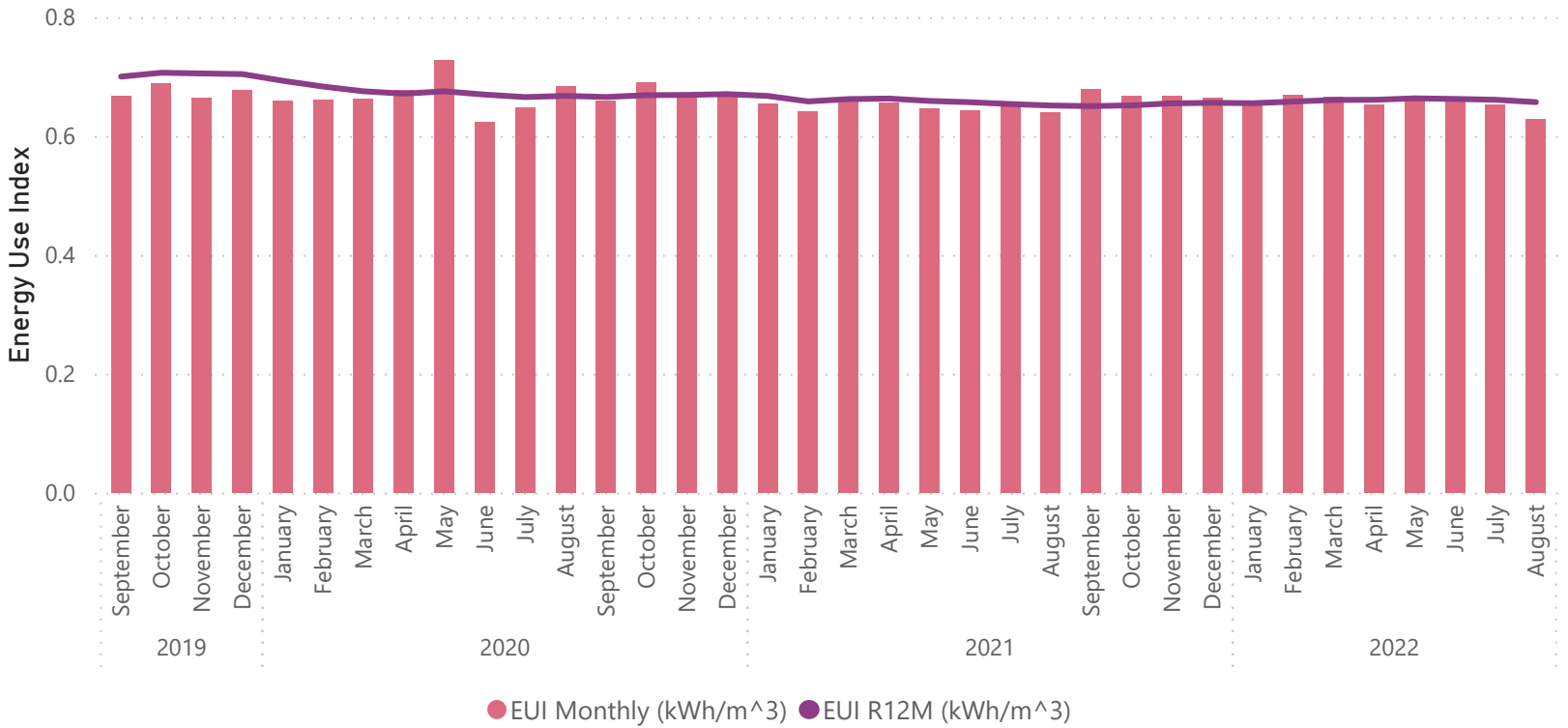


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

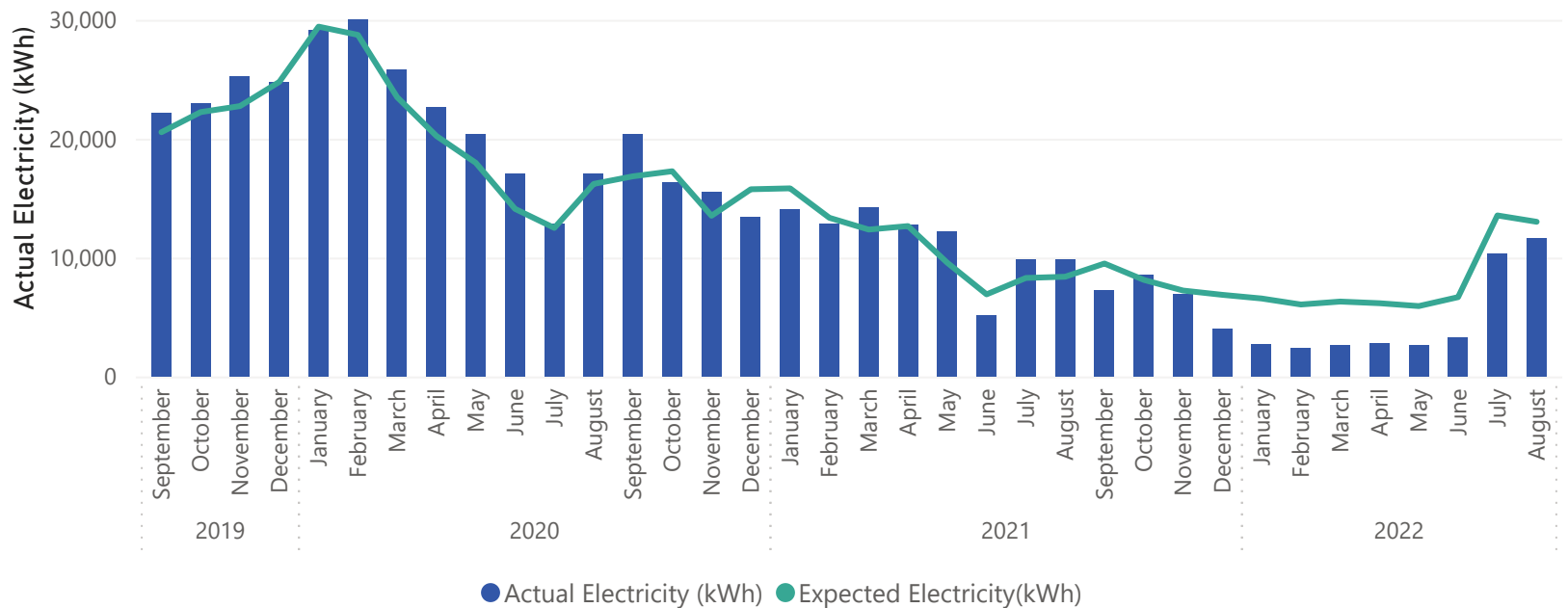
## Johnson Road Pump Station

<p><b>\$307</b> Monthly Energy Cost Savings</p>	<p><b>1,391</b> Elec. Savings (kWh/mo)</p>	<p><b>11%</b> Elec. Savings (%)</p>	<p><b>30,609</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>182</b> CO2e Savings (kg/mo)</p>
<p><b>\$6,749</b> R12M Energy Cost Savings</p>				<p><b>3,951</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The electricity use baseline was updated for the Johnson Road Pump Station, the baseline period is Aug 2018 to June 2022. The electricity baseline uses the amount of water pumped (m<sup>3</sup>) as the independent variable. The updated baseline has a smaller baseload factor and a larger variable component.

Johnson Rd Pumps Electricity Use Compared to Baseline (kWh)

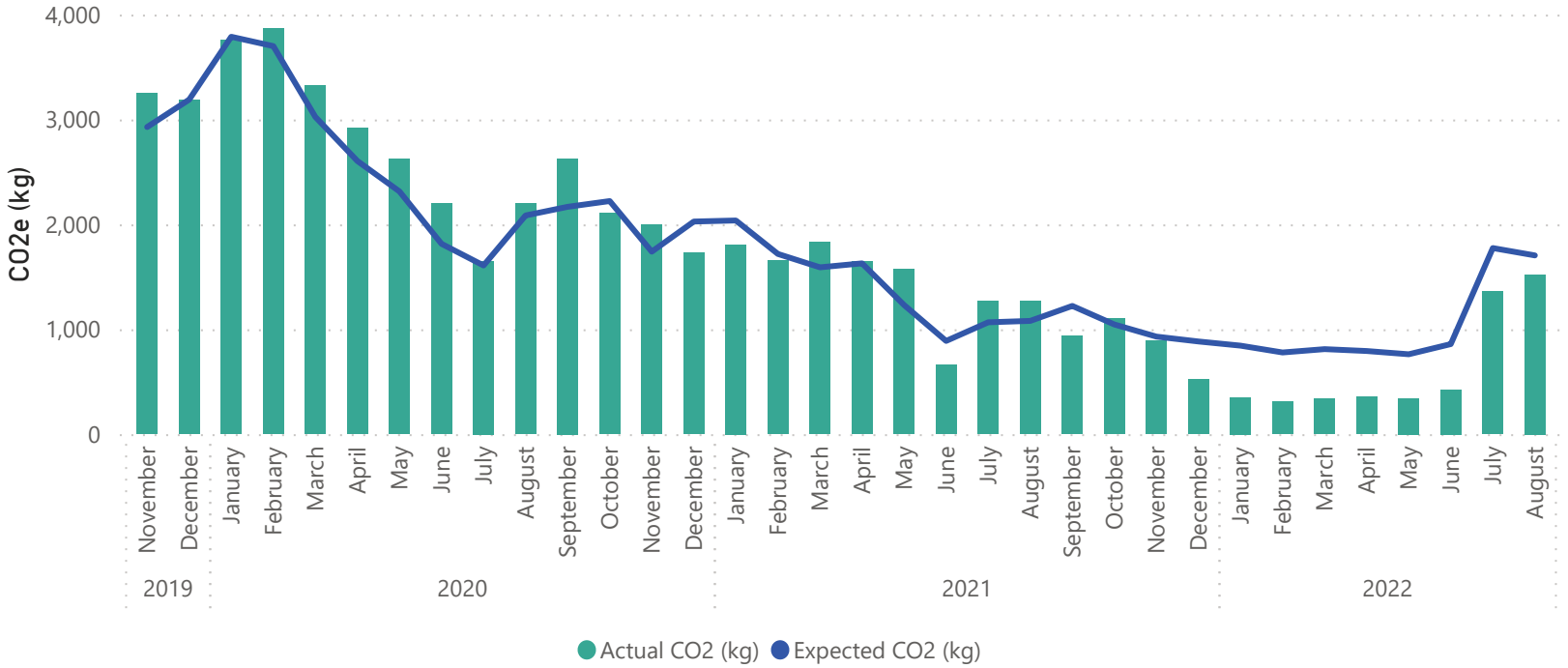


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

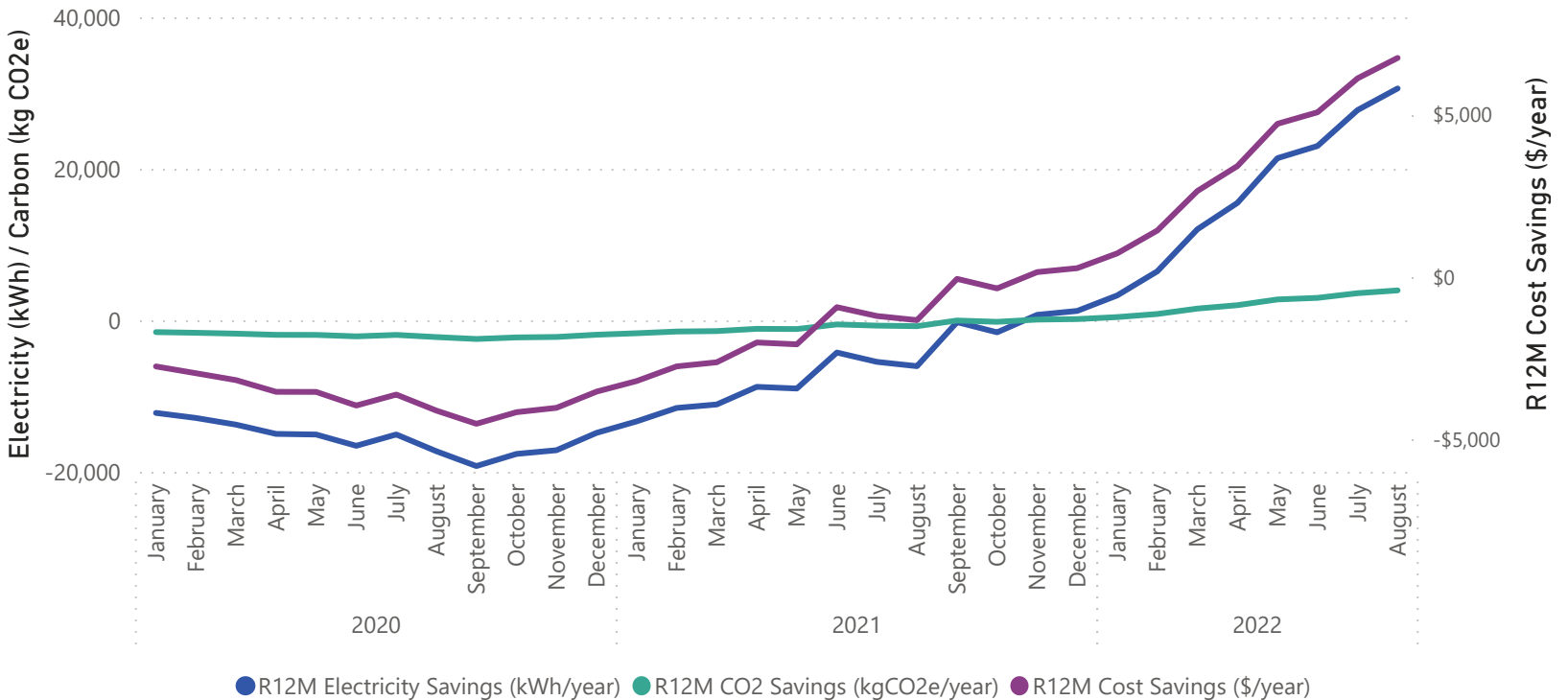
# Whakatane District Council

## Johnson Road Pump Station

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



Johnson Rd Pumps Rolling 12 Month Savings

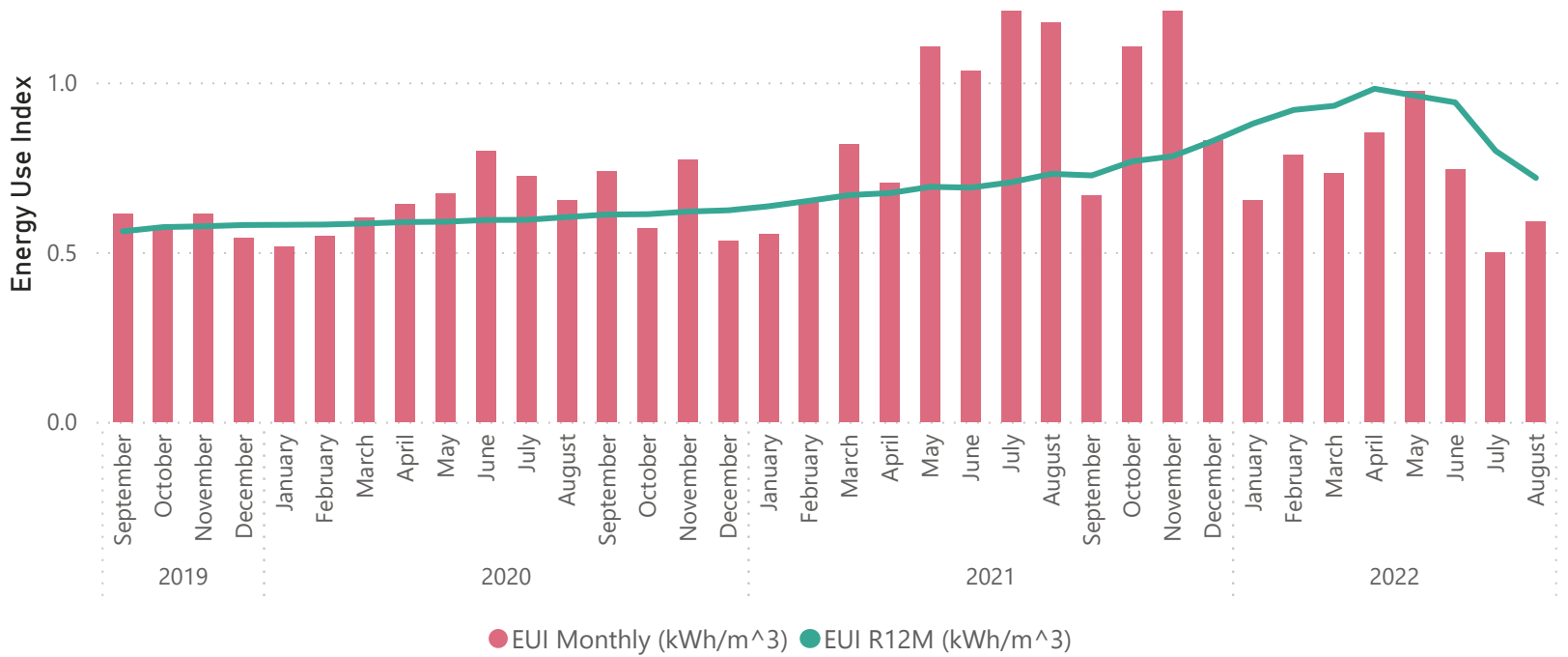


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Johnson and Braemar Rd Pump Stations

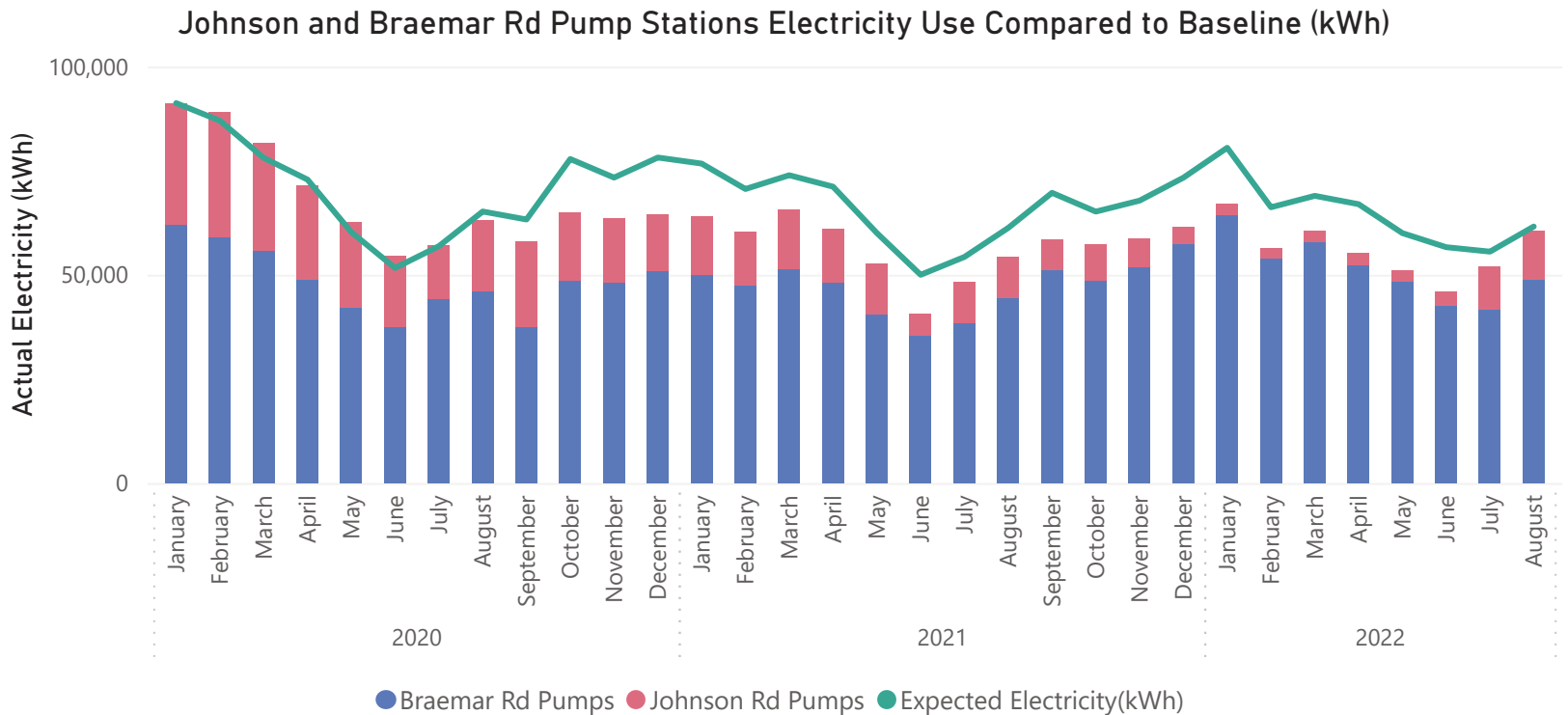
<p><b>\$244</b> Monthly Energy Cost Savings</p>	<p><b>1,098</b> Elec. Savings (kWh/mo)</p>	<p><b>2%</b> Elec. Savings (%)</p>	<p><b>107,884</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>144</b> CO2e Savings (kg/mo)</p>
<p><b>\$17,704</b> R12M Energy Cost Savings</p>				<p><b>14,059</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

Baselines were updated for Johnson Road and Braemar Road pump stations.

It is clear from the combined monitoring how the new, more efficient pumps (installed September 2020) at Braemar Road 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 than Johnson Rd.

Johnson Rd achieved savings in August 2022, Braemar Rd pump station used 1% more electricity than expected.



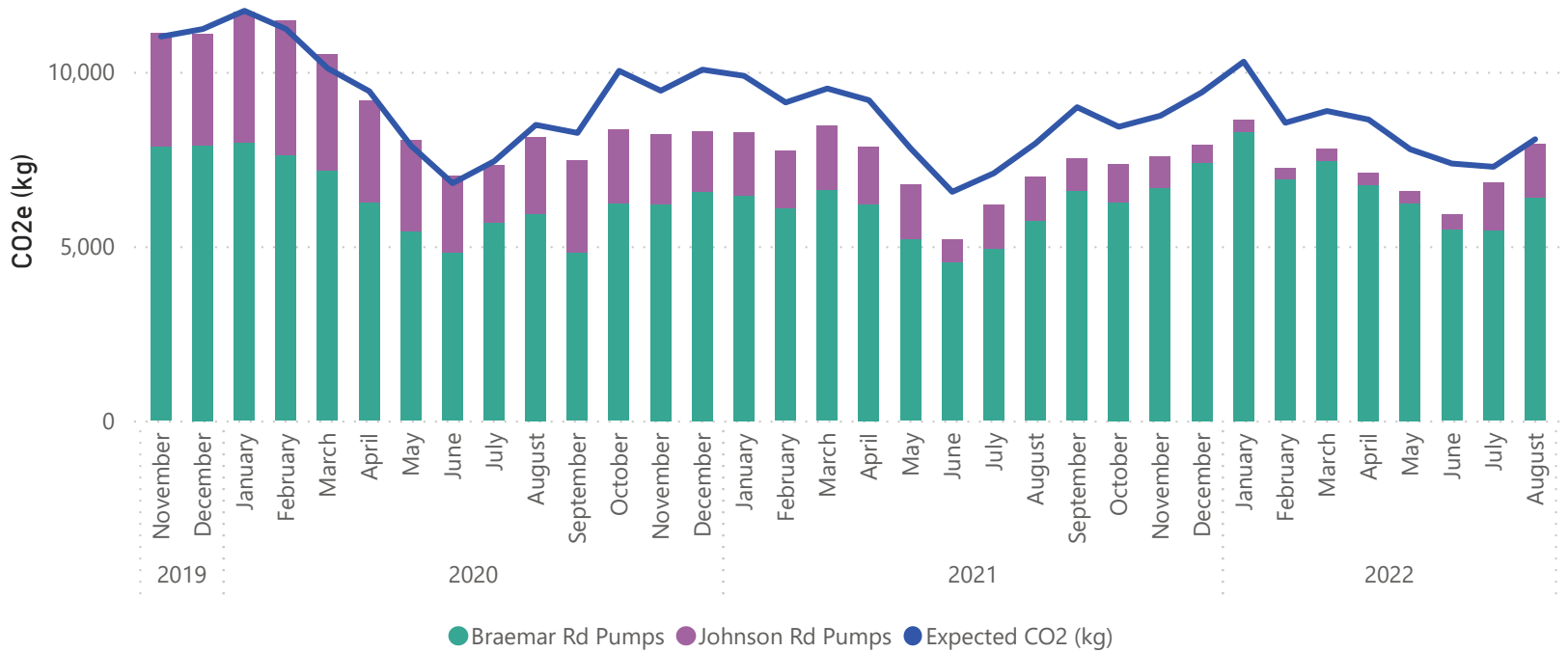
**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**



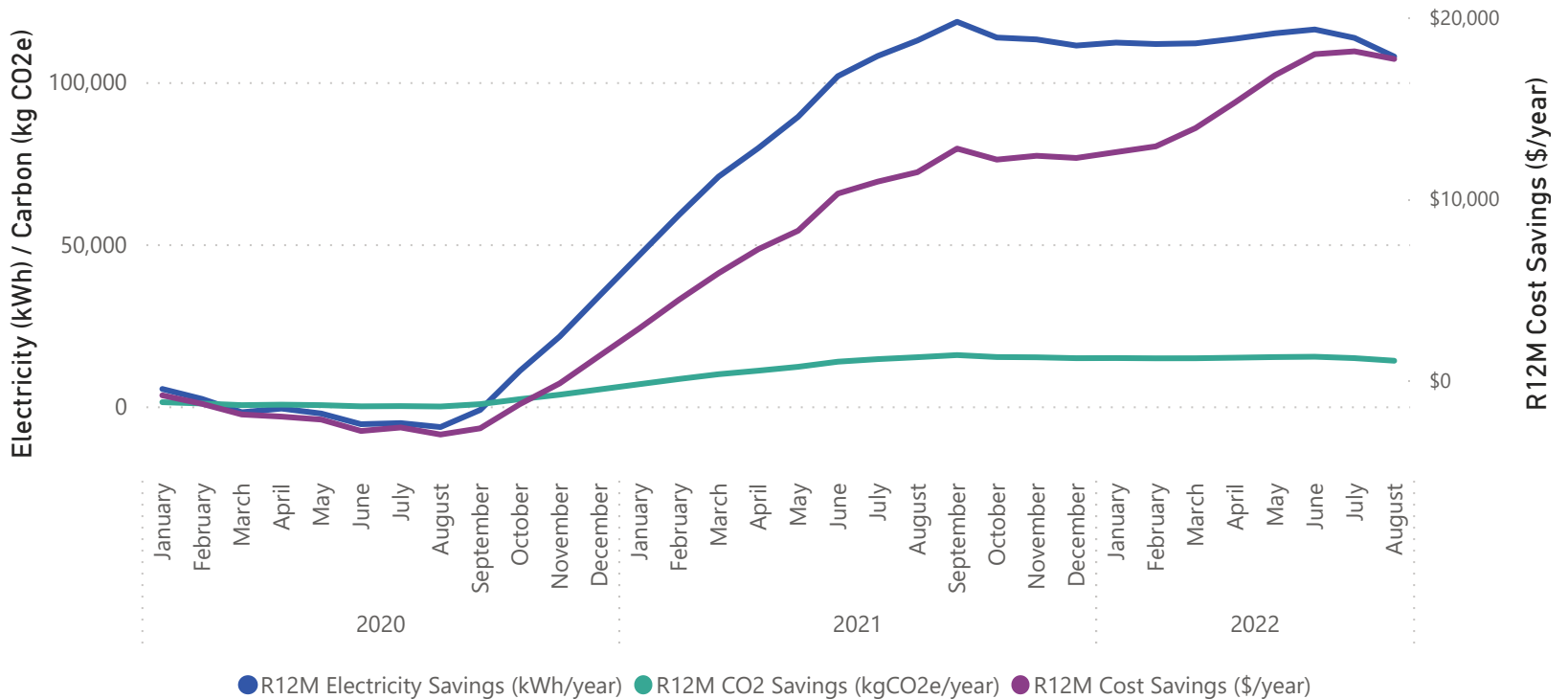
# Whakatane District Council

## 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

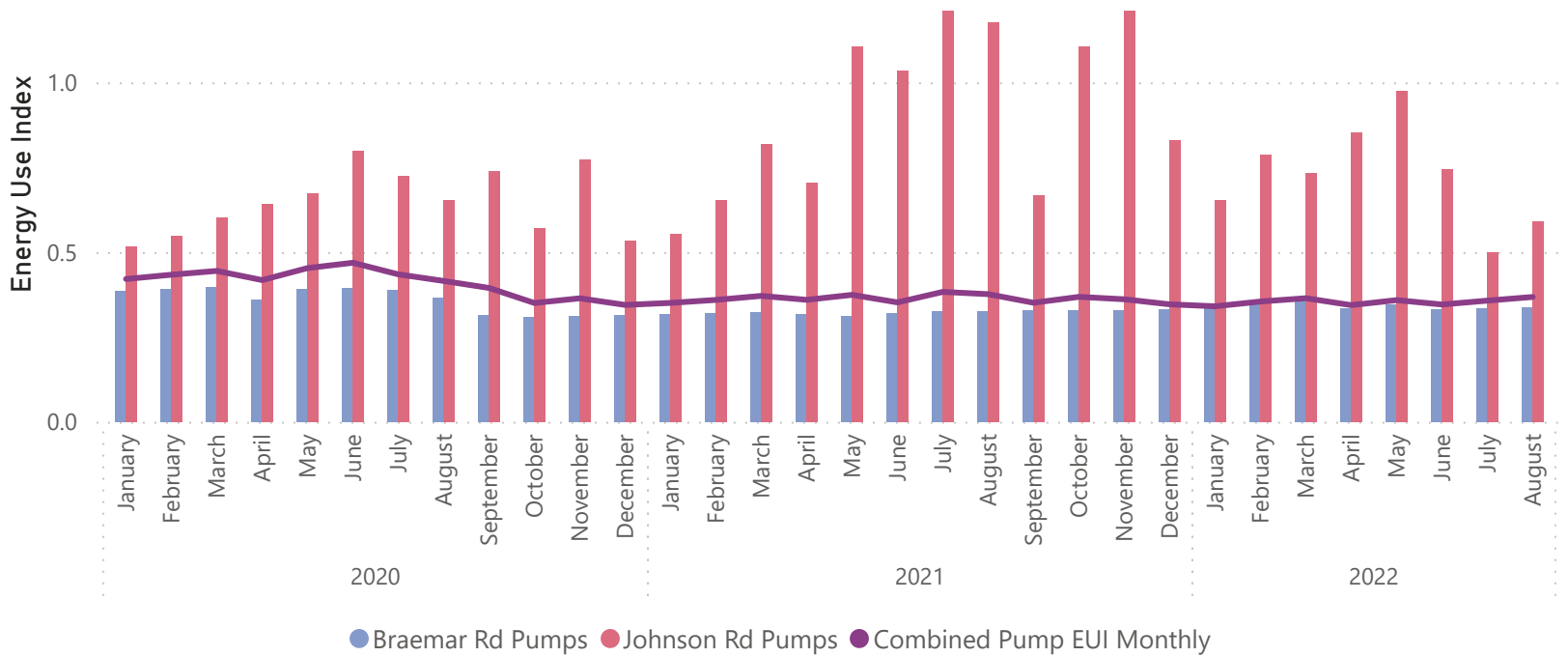


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Bridger Glade Pump Station

<p><b>-\$209</b> Monthly Energy Cost Savings</p>	<p><b>-1,140</b> Elec. Savings (kWh/mo)</p>	<p><b>-13%</b> Elec. Savings (%)</p>	<p><b>-4,390</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-149</b> CO2e Savings (kg/mo)</p>
<p><b>-\$806</b> R12M Energy Cost Savings</p>				<p><b>-569</b> R12M CO2e Savings (kg/yr)</p>

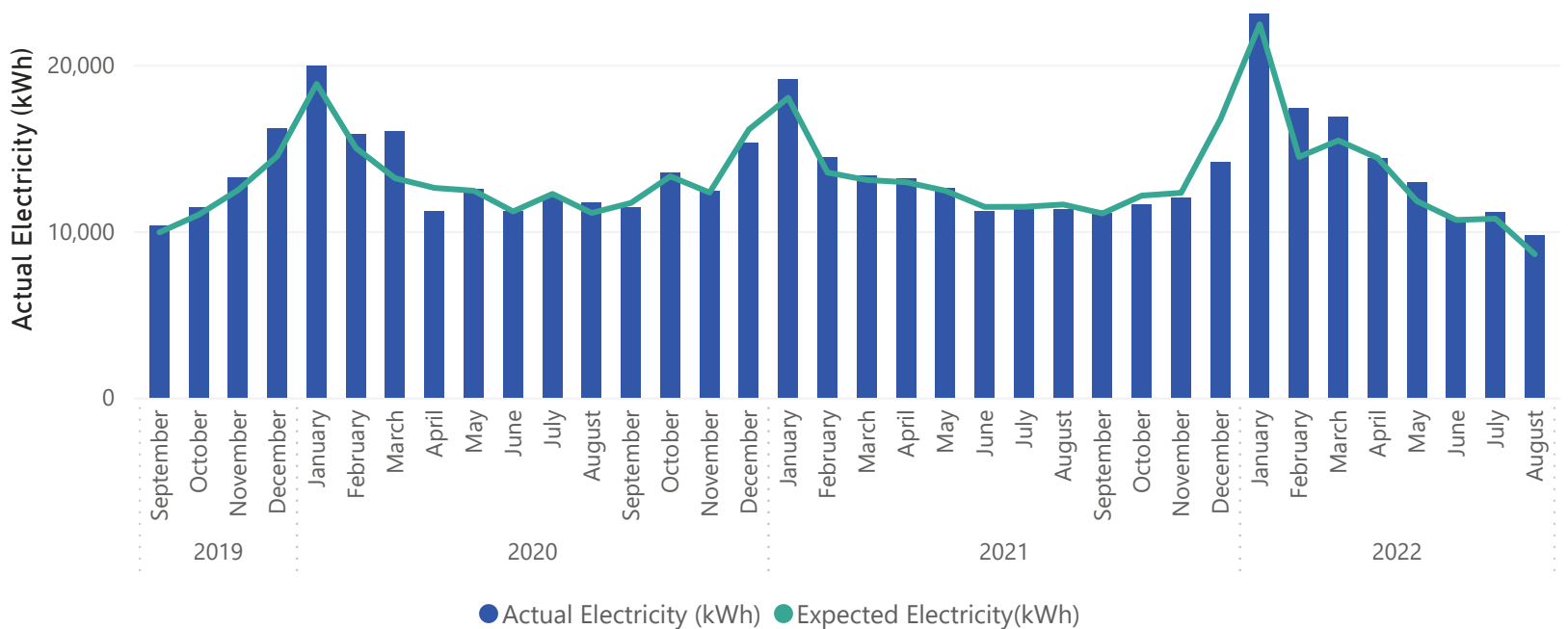
### Comments:

The electricity use baseline was updated for the Bridger Glade Pump Station, the baseline period is July 2021 to June 2022. The electricity baseline uses the amount of water pumped (m<sup>3</sup>) as the independent variable. The updated baseline has no baseload factor and a marginally larger variable component.

Months of high demand have typically used more electricity than expected. This may indicate that during periods of high demand the pump station is operating outside of its best efficiency point.

August 2022 electricity usage is more than expected, the monthly EUI has also increased. This could indicate that the pumps are operating outside of their best efficiency point.

Bridger Glade Pumps Electricity Use Compared to Baseline (kWh)

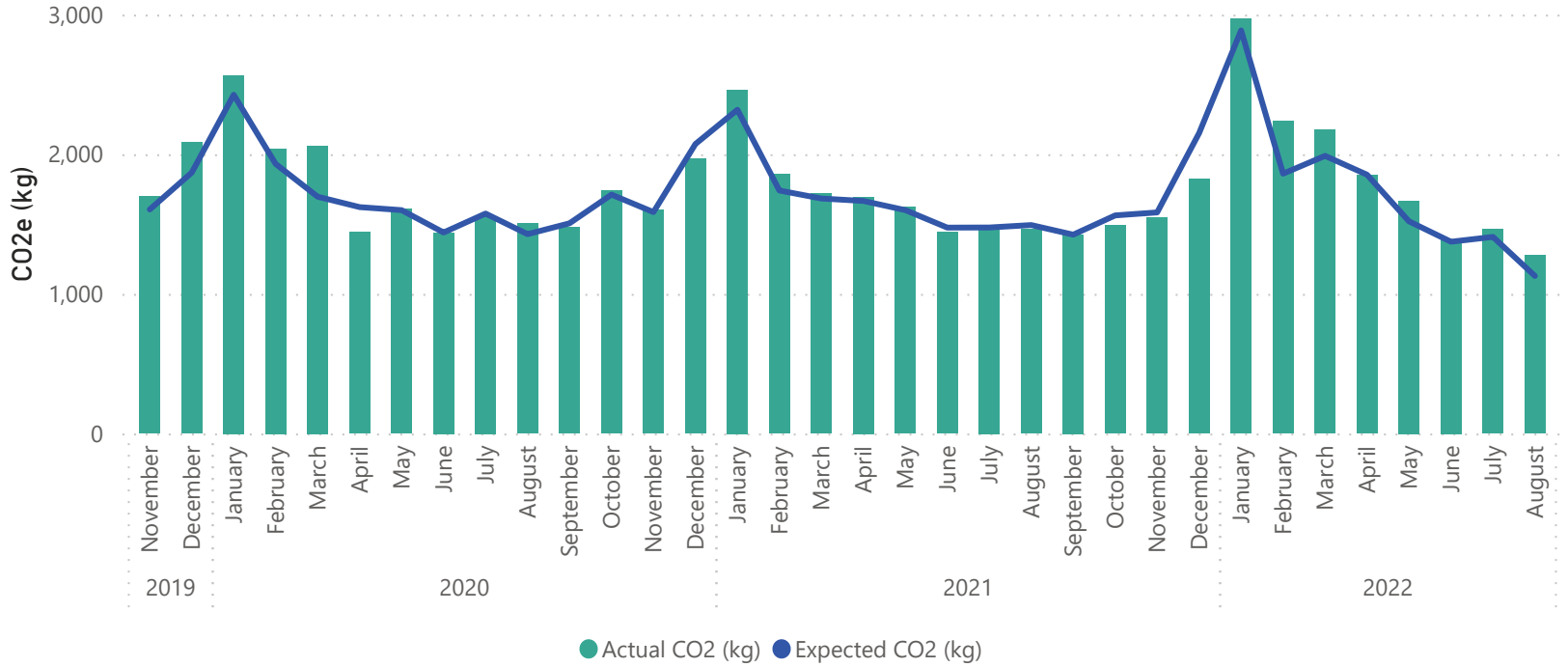


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

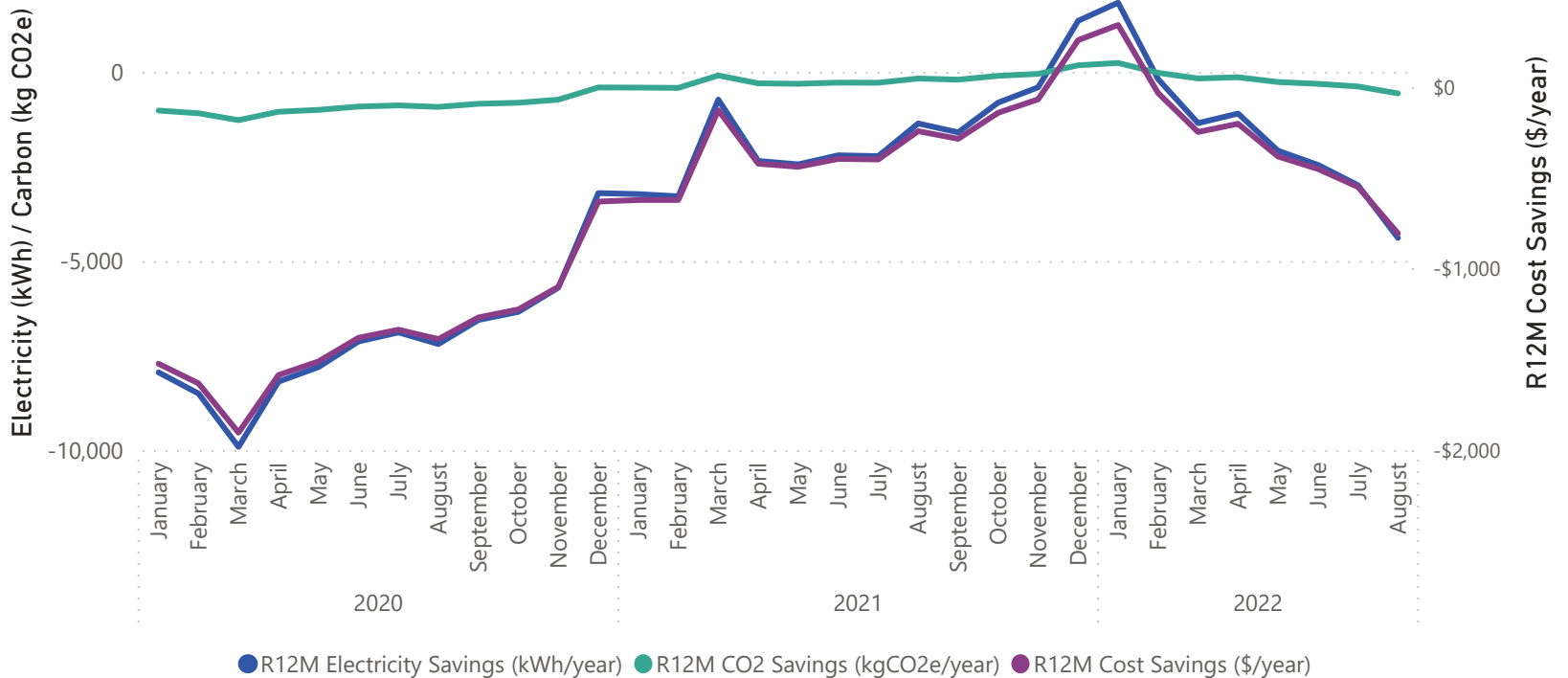
# Whakatane District Council

## Bridger Glade Pump Station

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



Bridger Glade Pumps Rolling 12 Month Savings

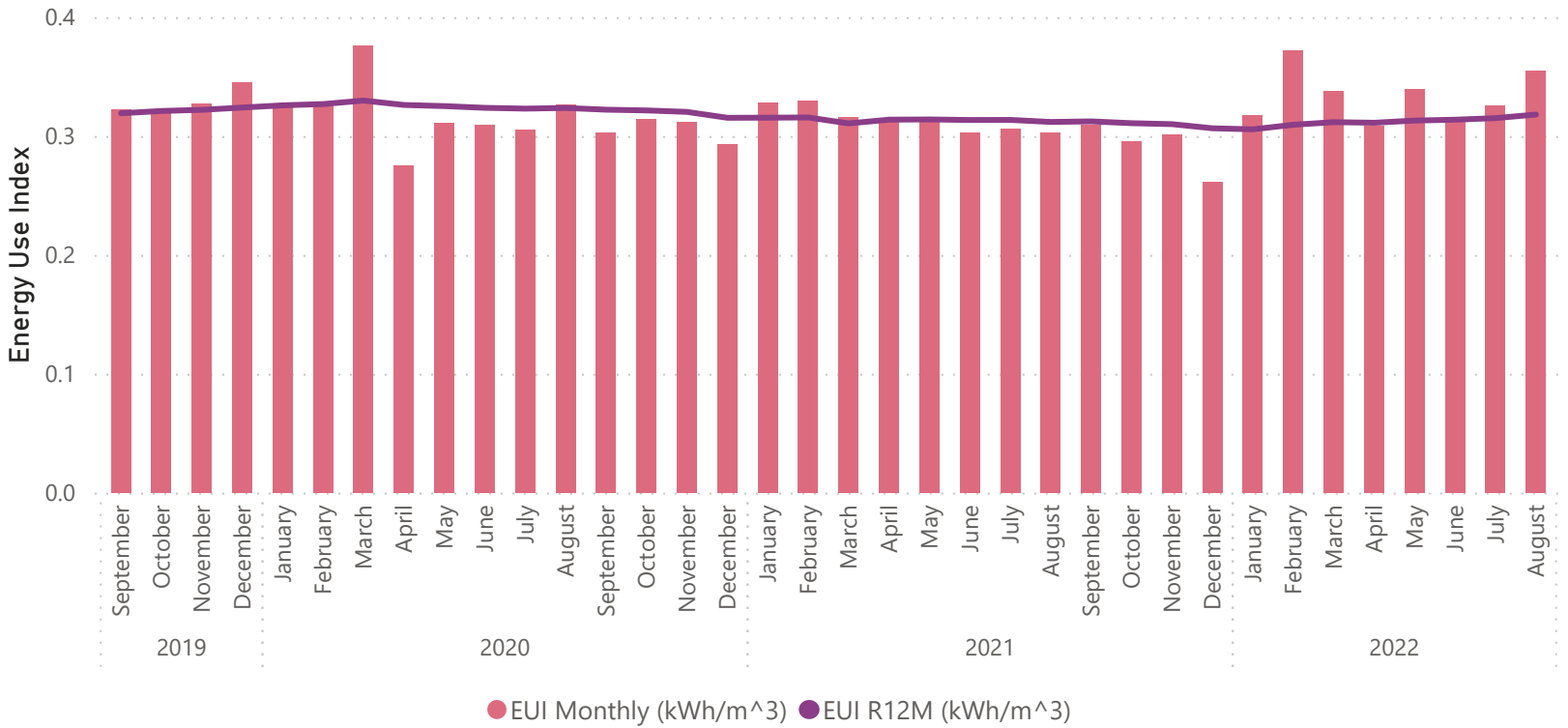


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

# Whakatane District Council

## Ohope Oxidation Ponds

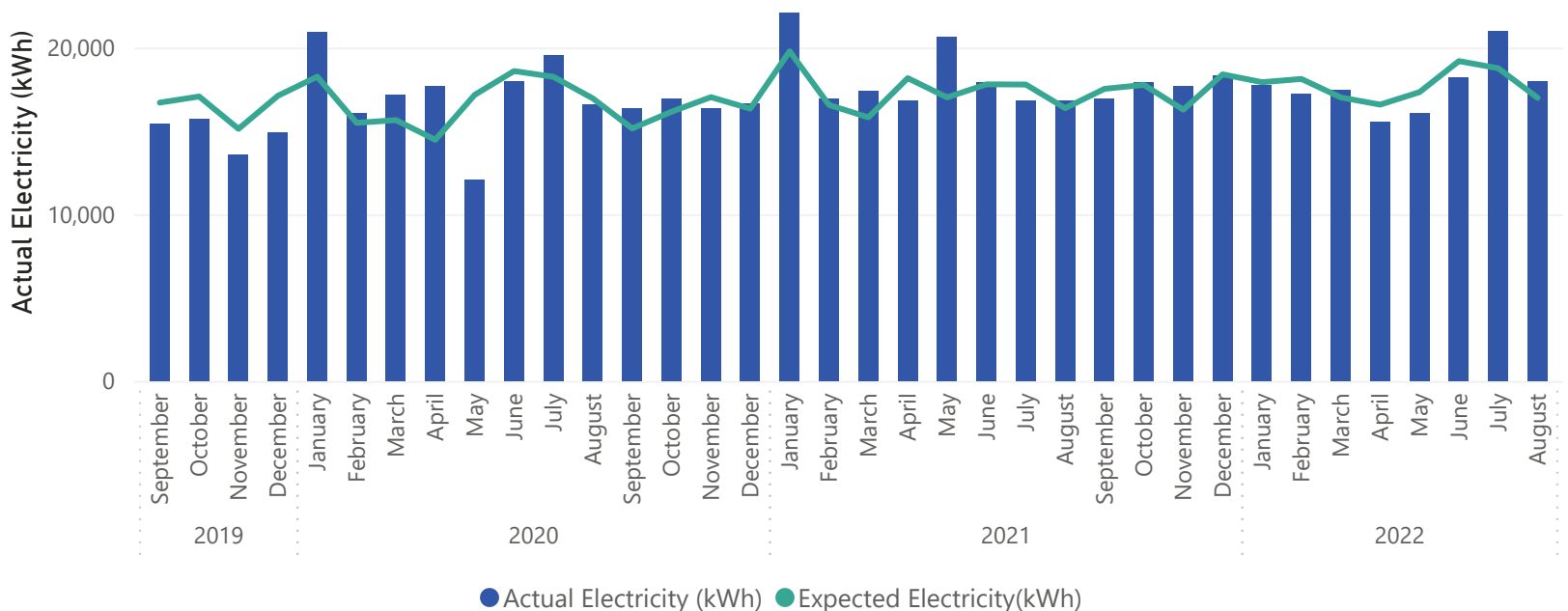
<p><b>-\$183</b> Monthly Energy Cost Savings</p>	<p><b>-1,020</b> Elec. Savings (kWh/mo)</p>	<p><b>-6%</b> Elec. Savings (%)</p>	<p><b>-320</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-134</b> CO2e Savings (kg/mo)</p>
<p><b>-\$57</b> R12M Energy Cost Savings</p>				<p><b>-49</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The baseline for electricity use was updated for the Ohope Oxidation Ponds, the baseline period is July 2021 to June 2022. The electricity baseline uses the amount of effluent pumped (m<sup>3</sup>) as the independent variable. The updated baseline has a larger baseload factor and a smaller variable component.

Electricity use has been more than expected in July and August 2022. July 2022's EUI was less than expected and August 2022's monthly EUI is more than expected, the average of these two months is close to the EUI over the past 12 months.

Ohope Oxidation Ponds Electricity Use Compared to Baseline (kWh)

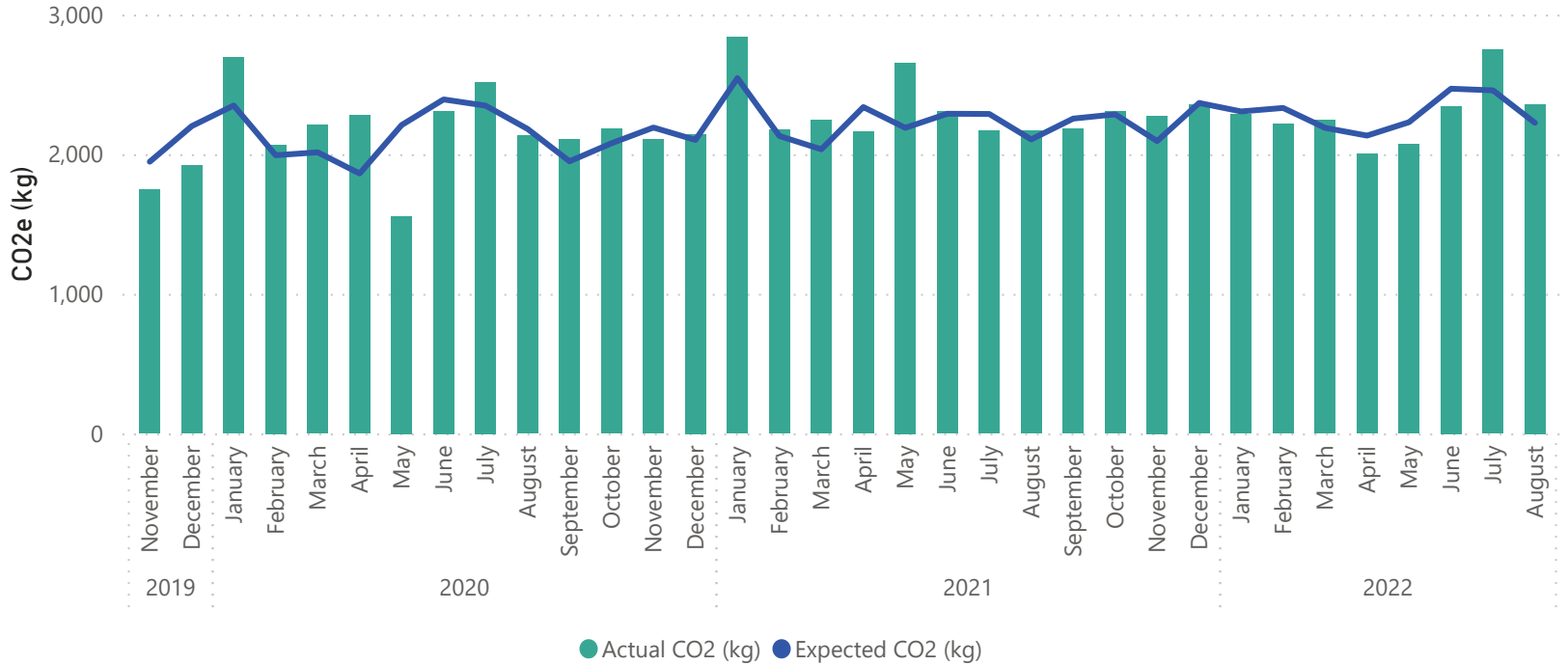


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

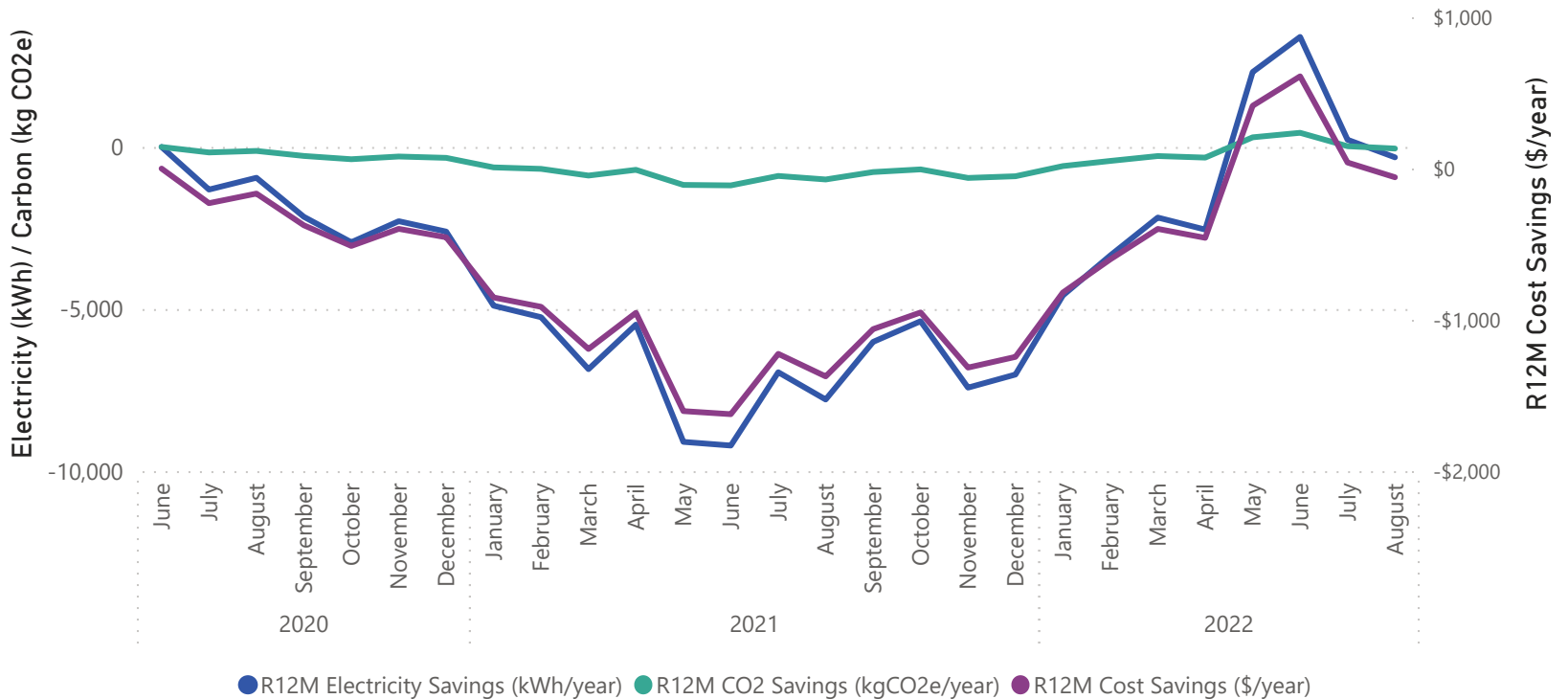
# Whakatane District Council

## Ohope Oxidation Ponds

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



Ohope Oxidation Ponds Rolling 12 Month Savings

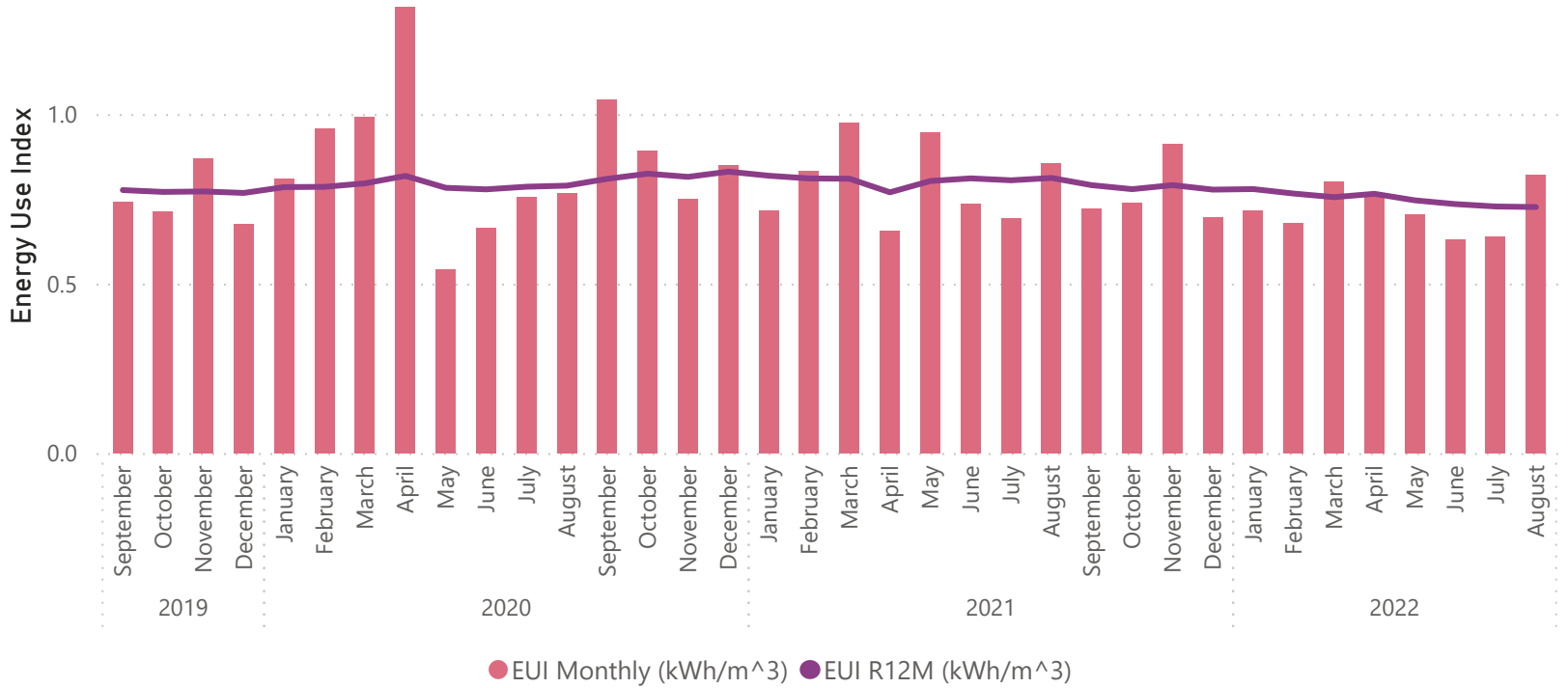


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**



# Whakatane District Council

## Whakatane Oxidation Ponds

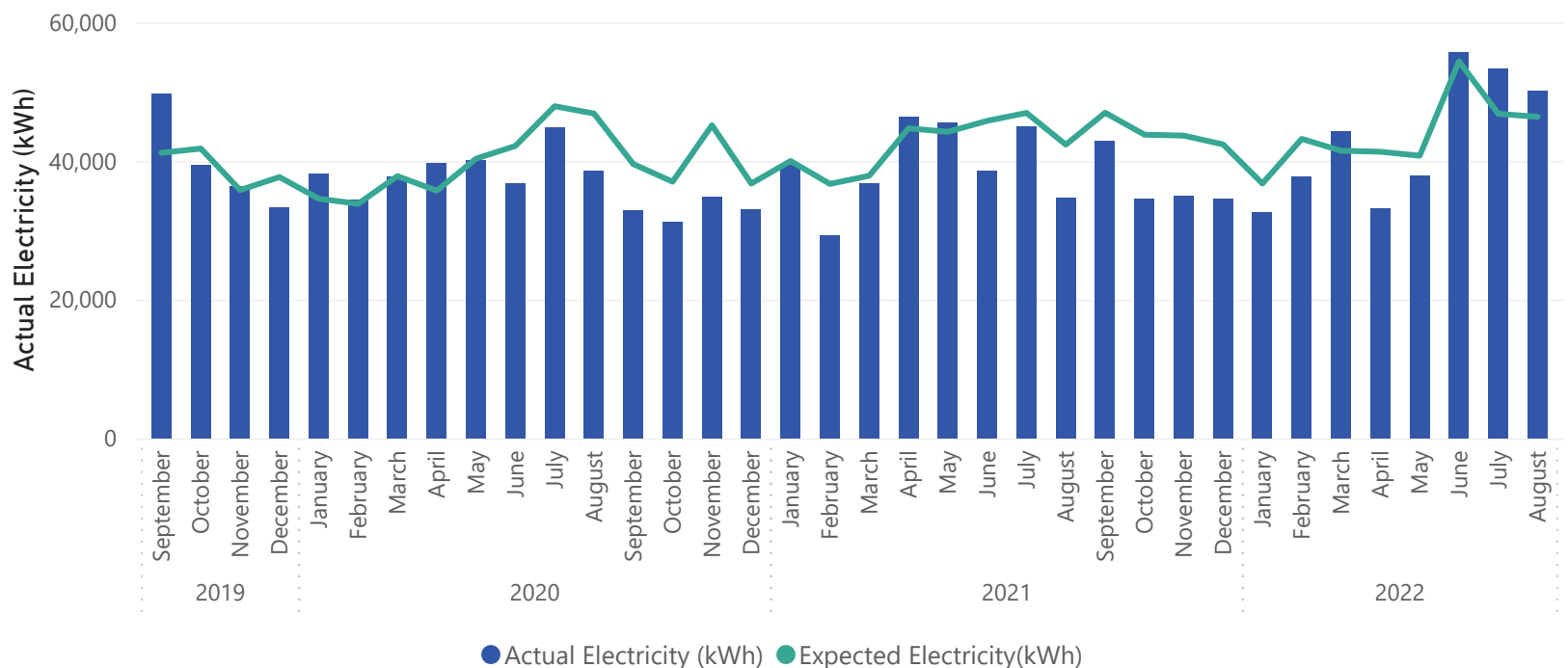
<p><b>-\$734</b> Monthly Energy Cost Savings</p>	<p><b>-3,754</b> Elec. Savings (kWh/mo)</p>	<p><b>-8%</b> Elec. Savings (%)</p>	<p><b>36,052</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-492</b> CO2e Savings (kg/mo)</p>
<p><b>\$4,980</b> R12M Energy Cost Savings</p>				<p><b>4,616</b> R12M CO2e Savings (kg/yr)</p>

### Comments:

The electricity use baseline was updated for the Whakatane Oxidation Ponds, the baseline period is July 2021 to June 2022. The electricity baseline combines electricity use for the NHH and TOU account and uses the effluent volumes each month (m<sup>3</sup>) as the independent variable. The updated baseline has a smaller baseload factor and a smaller variable component.

The past three months have used more electricity than expected, which may have some interaction with rainfall, however, monthly rainfall in August 2022 was less than average. The EUI has decreased for the past three months, which is expected due to the relatively large baseload and higher pumping demands.

Whakatane Oxidation Ponds Electricity Use Compared to Baseline (kWh)

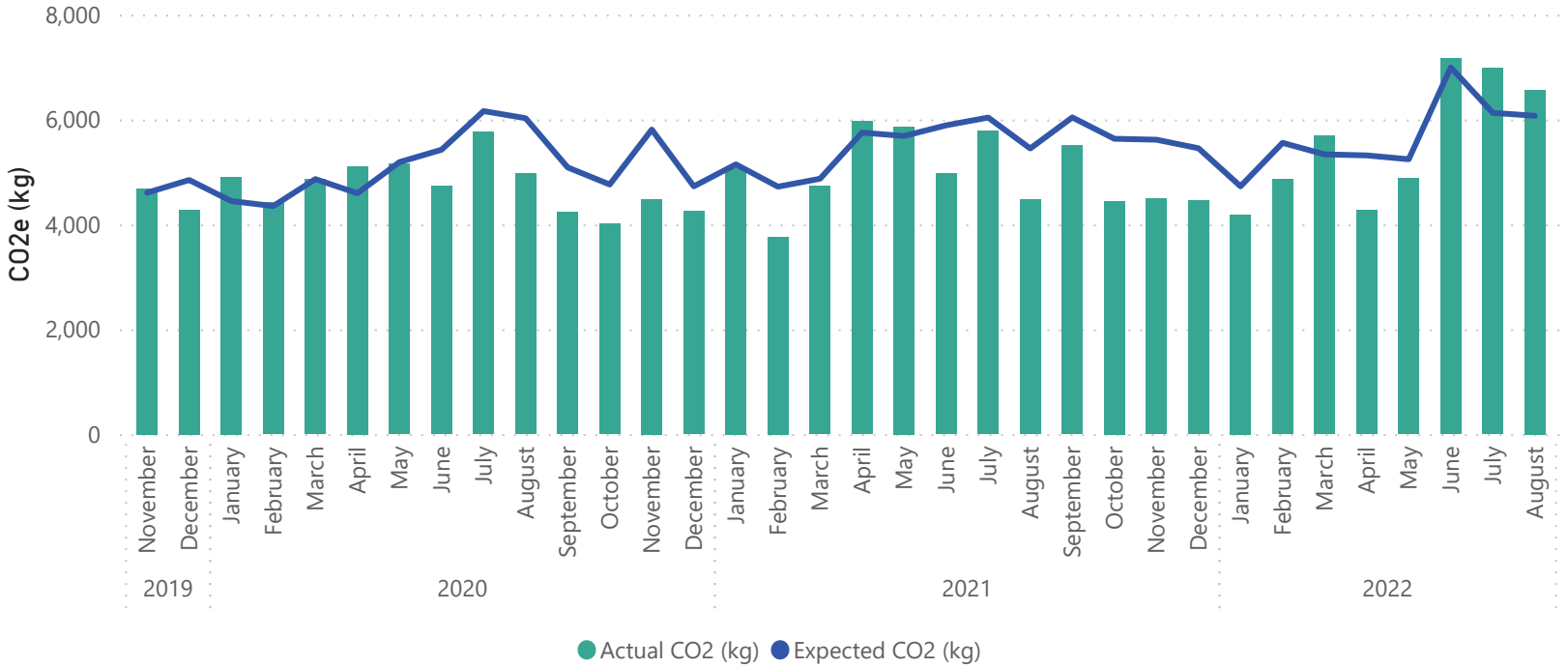


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

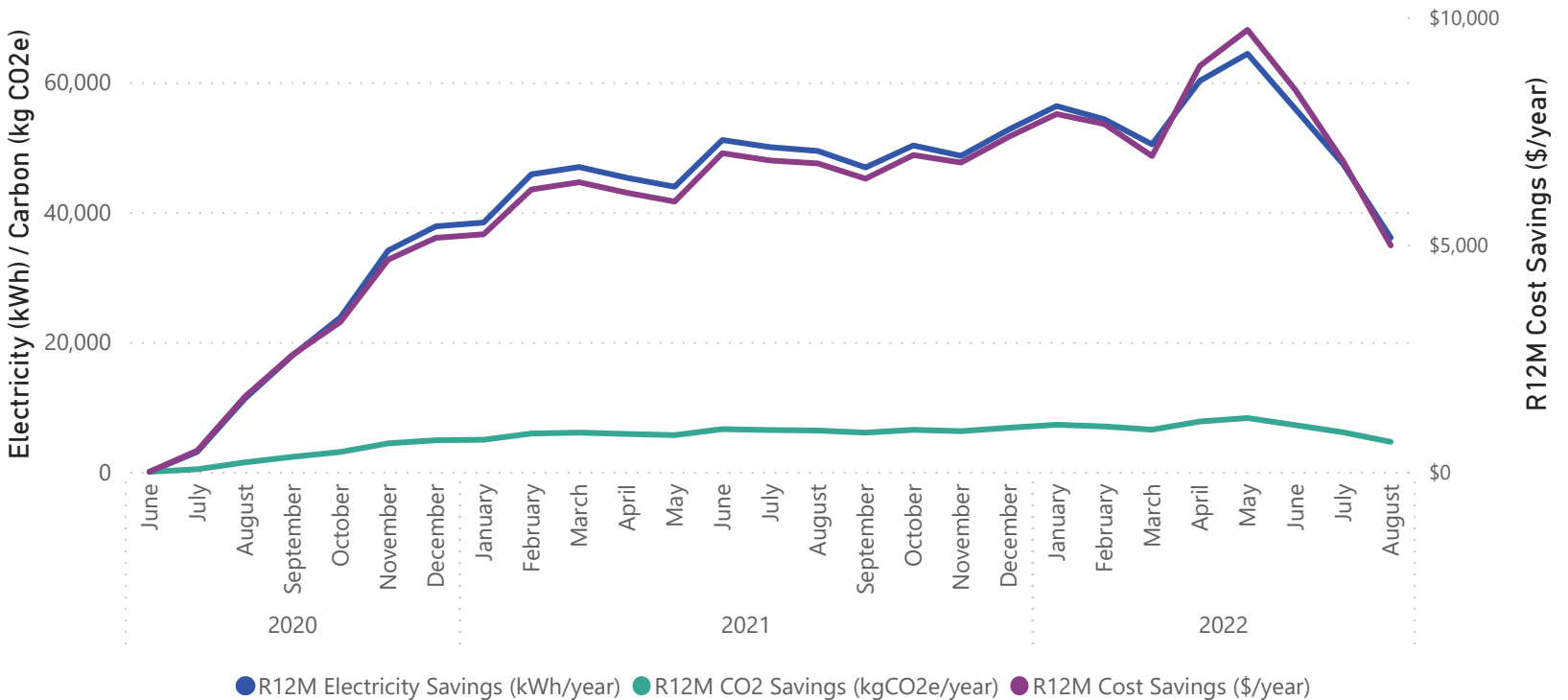
# Whakatane District Council

## Whakatane Oxidation Ponds

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



Whakatane Oxidation Ponds Rolling 12 Month Savings

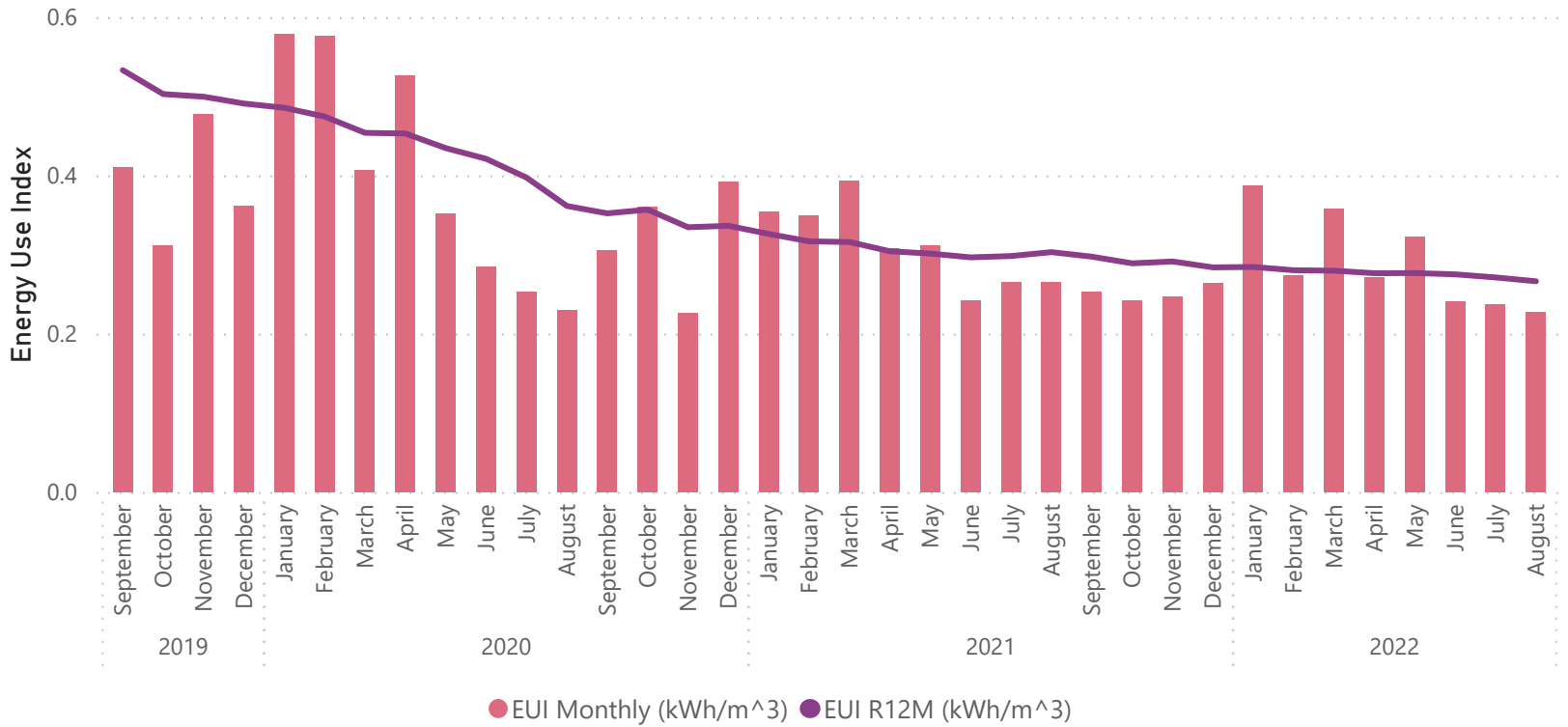


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time **Baselines were updated for all sites from July 2022.**

# 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  
**Baselines were updated for all sites from July 2022.**

## Whakatane District Council

### McAlister Street and Rose Garden Pump Stations

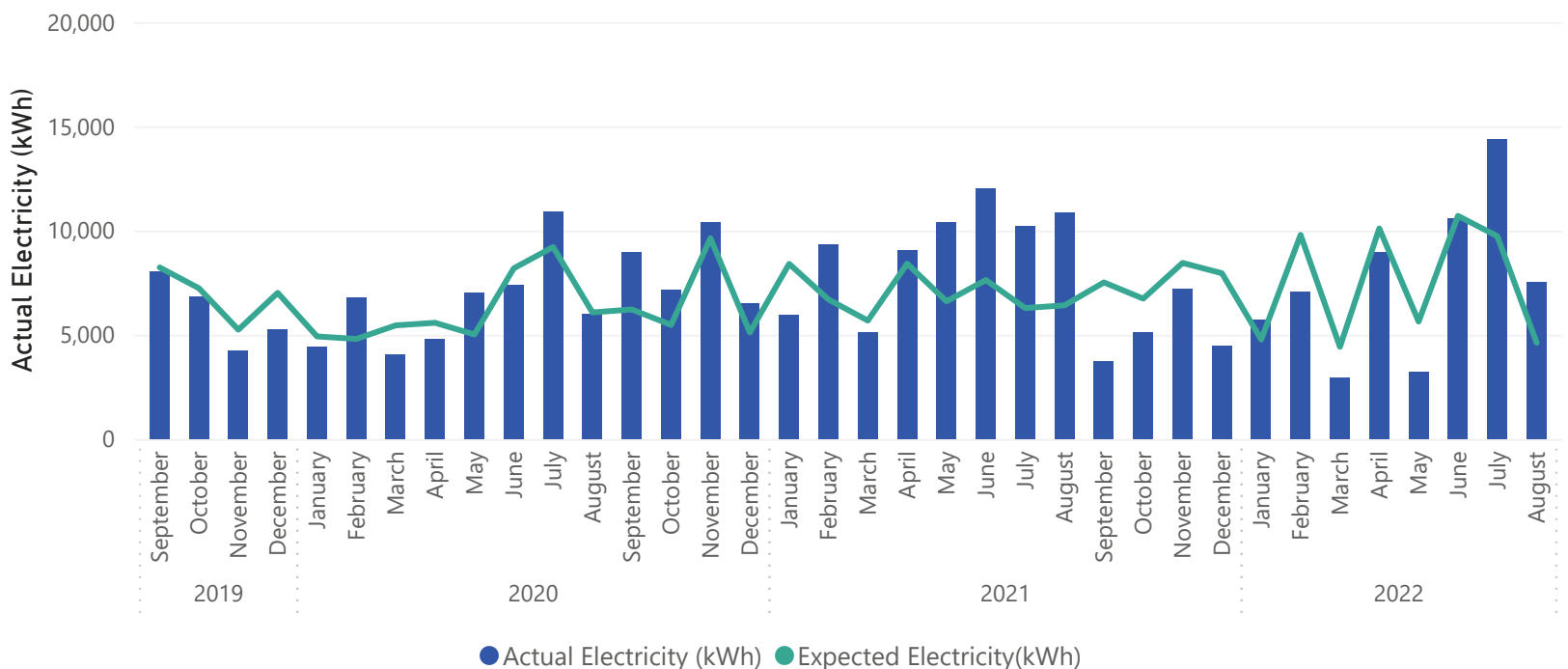
<p><b>-\$234</b> Monthly Energy Cost Savings</p>	<p><b>-2,917</b> Elec. Savings (kWh/mo)</p>	<p><b>-63%</b> Elec. Savings (%)</p>	<p><b>9,487</b> R12M Electricity Savings (kWh/yr)</p>	<p><b>-382</b> CO2e Savings (kg/mo)</p>
<p><b>\$5,081</b> R12M Energy Cost Savings</p>				<p><b>1,204</b> R12M CO2e Savings (kg/yr)</p>

#### Comments:

The baseline for McAlister St and Rose Garden Pumps was updated, the baseline adjusts for the amount of rainfall at the Kopeopeo weather station. Expected electricity is for McAlister St and Rose Gardens combined. The baseline period uses data from July 2021 to June 2022. The updated baseline uses a smaller baseload and a marginally smaller variable component.

Electricity used for the month was 63% more than expected. Rainfall was down from June and July, with greater than 200mm of rain per month. Rainfall in August was approximately 65mm. Increases in electricity use are primarily from the McAlister Street Pump Station.

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

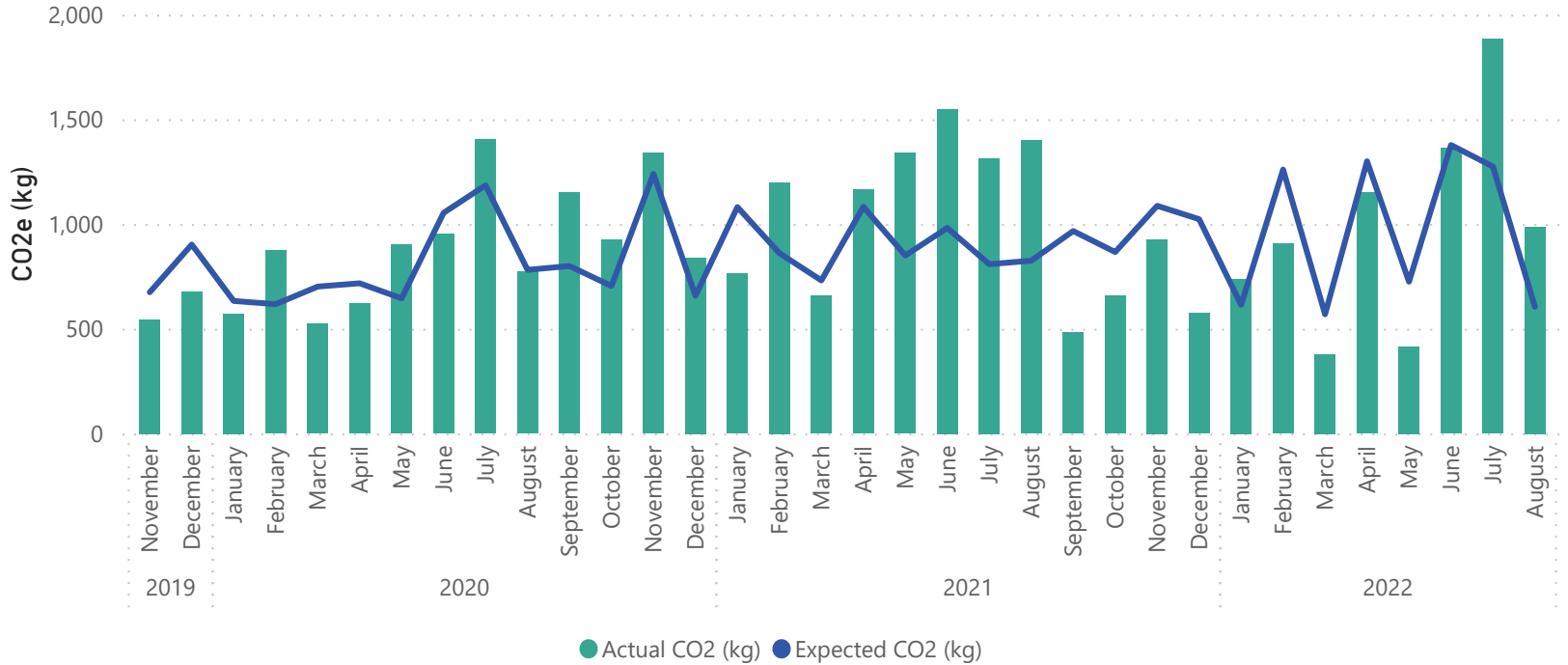


**Note:** New Zealand was in Covid-19 alert levels 3 and 4 from 23 March until 12 May, 2020. Energy use may have been impacted during this time  
**Baselines were updated for all sites from July 2022.**

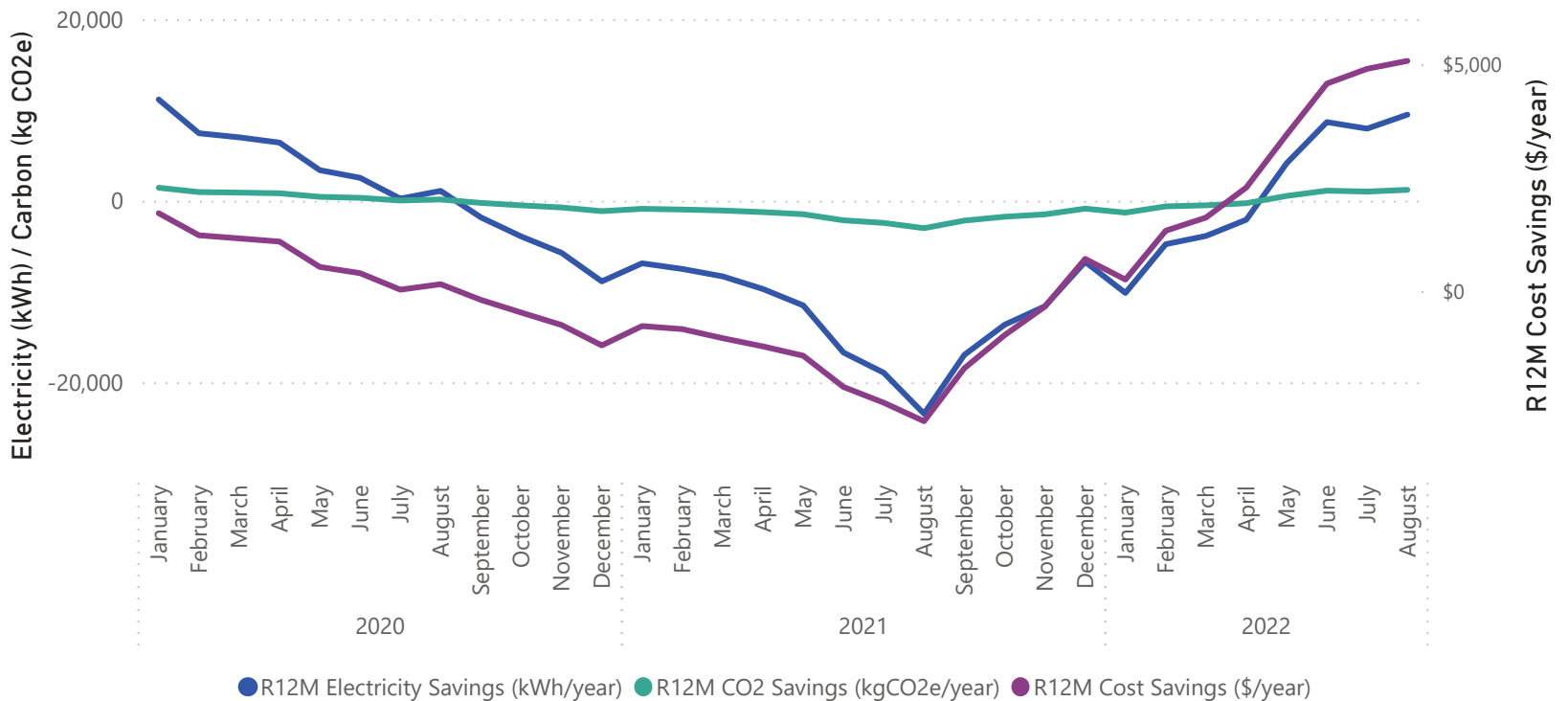
# Whakatane District Council

## McAlister Street and Rose Garden Pump Stations

McAlister and Rose Garden Pumps Carbon Emissions Compared to Baseline (kg CO2e)



McAlister and Rose Garden Pumps 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 **Baselines were updated for all sites from July 2022.**