



Auckland Council faces a unique challenge with their building portfolio, managing everything from large administration buildings to community facilities such as libraries, leisure centres and swimming pools, all with highly specific energy use profiles.



BraveGen's sophisticated monitoring, analytical tools and alerts are in place at nearly 70 council-owned sites, including the corporate centre at 135 Albert Street and the large Westgate multipurpose site.

The solution is enabling the Auckland Council team to target a further 13.2% reduction in energy consumption in 2021, putting it on track to save \$1.5m a year in operating costs, and realising its aim of reducing overall energy usage. Strategically the Council is now well positioned to gain NABERSNZ ratings for appropriate buildings, and continue to efficiently improve the portfolio's performance.

In addition to the energy and water savings, BraveGen's proven capability to track, and optimise building energy performance has also enabled Auckland Council to realise additional benefits such as improved air quality and lighting, and through this, increased staff and customer wellbeing.

ON TRACK FOR
13.2%

ENERGY USE
REDUCTION IN
THE LAST YEAR

ON TRACK FOR
\$1.5M

SAVINGS IN
OPERATIONAL
COSTS

1,231

TONNES OF
CO₂-e AVOIDED

Background

Auckland Council has more than 3,500 property assets. BraveGen monitoring has been installed on nearly 70 of their most used buildings. These range from administration offices hosting staff and contractors, to public premises operating at a range of hours, such as libraries and leisure centres.

The collaboration between BraveGen and Auckland Council began in 2012 with the council aiming to get better information on its overall energy consumption and reduce this systematically, with the goal to achieve reductions in its overall energy use by 2040. The aim is a 5% year on year reduction from 2019 onwards, an increase after successfully achieving their initial targets.

For large portfolios, it is critical to enable sites to be grouped in line with user's needs. For Council the sites are categorised by region and type (corporate administration, leisure centre dry (without swimming pool), leisure centre wet (with swimming pool), library, other (including cemeteries, art galleries and car parks), and regional facilities, which includes the Auckland Town Hall and Aotea Centre. The site grouping enables the BraveGen and Council teams to benchmark and navigate the data quickly - critical when you are managing a complex portfolio.

Approach

BraveGen's team of specialist engineers designed, specified and installed remote monitoring equipment to gather electricity, gas, water and temperature data across the range of sites. Sub-load monitoring provides continuous 15 minute data enabling continuous monitoring to target specific end uses as needed. Data is collected from the sites and consolidated in BraveGen's cloud analytics platform.

The data is tested, validated and correlated with any production data, e.g. hours of operation, number of staff, air requirements, whether it's a 'wet' or 'dry' leisure centre (i.e. with or without a pool), adding onsite context and meaning to the data.

BraveGen Hub is hosted on Amazon Web Services (AWS). High powered cloud computing and Machine Learning (ML) analyses performance, identifying alerts and trends 24/7. The Hub alert service detects anomalies in utilities consumption, with faults qualified and escalated to be rectified.

BraveGen's data scientists and highly experienced engineers work with Council to analyse the data to target and recommend identified solutions across sites.



"BraveGen have been a highly valued partner to Auckland Council for our carbon and energy management programme, and their smart metering system and analysis has given us an incredibly detailed picture of the organisation."

Peter Young / Manager Corporate
Property and Facilities,
Auckland Council

Across the sites Auckland Council have achieved specific savings including;

- Lighting upgrade at Remuera Library.
- Air conditioning optimisation at Papakura Service Centre.
- Chiller upgrades at 135 Albert St.
- Power generated from solar panels at the new Wellsford library.
- Building Management System optimisation to align with building use.

Outcomes

With BraveGen’s sophisticated monitoring and analytical tools in place across the sites, the Council has reduced energy consumption by 11.73 GWh since starting.

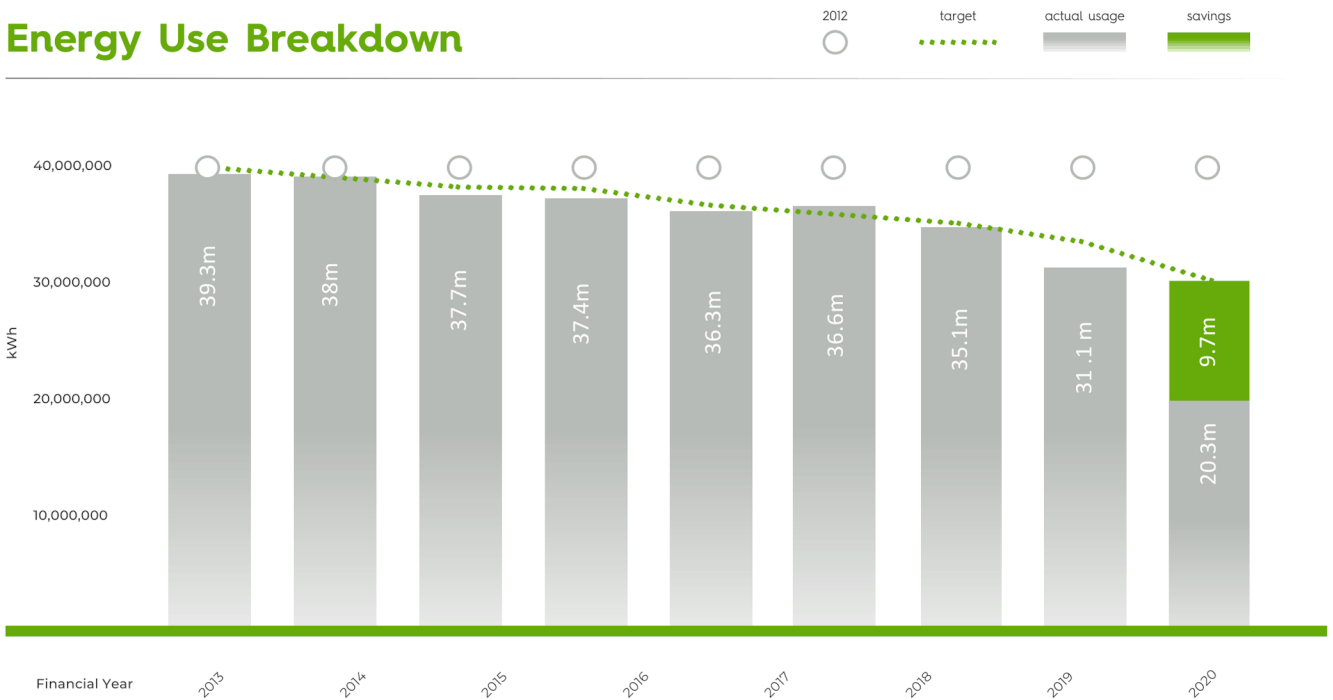
Specific projects include the upgrade of the chiller plant at 135 Albert St and a controls upgrade at North Shore Leisure Centre in Takapuna, identified and verified by BraveGen, have saved the council \$42,000 annually. This systematic approach to energy management means the council is on target to achieve reductions in its overall energy use by 2040 and realise annual savings of \$1.5 million.

Throughout Covid-19 the council team were incredibly active. The real-time monitoring ensured key buildings were effectively closed, whilst appropriate air flow only at key sites was maintained – saving ratepayers and the environment!

Reducing energy consumption and the resulting electrical and architectural upgrades have also had flow on effects to staff and customer wellbeing, including improved amenity and comfort of administration buildings and community facilities.

NEARLY 70	RESULTING IN 11.73	1,231	ON TRACK FOR 1.5M
COUNCIL SITES MONITORED	GWh ENERGY SAVINGS (~1,035 HOUSEHOLDS)	TONNES CO ₂ -e AVOIDED	AVERAGE PER YEAR SAVED IN OPERATING COSTS

Energy Use Breakdown



Why Partner With BraveGen

BraveGen is an award-winning, New Zealand owned and operated expert in energy efficiency and decarbonisation. BraveGen's digital services and solutions will enable you to find and make issues visible, enable stakeholders to take action, change behaviours and ultimately make an impact.

We have helped organisations like yours integrate sustainability and energy efficiency into your business to achieve operational excellence and reduced operating costs for over 20 years.

BraveGen provides an end-to-end service including carbon, energy and water optimisation. Our unique strength is our market leading digital toolsets and expert engineers. Combined, these provide the most cost-effective way for businesses to achieve and maintain their sustainability goals.

Monitoring

We supply and install high quality IoT sensors across a wide range of devices, including but not limited to;

- Pumps
- Motors
- Fans
- Temperature
- Refrigeration units
- HVAC
- Boilers
- Compressed air
- Lighting
- HVAC
- Lifts
- Compressors

As New Zealand's leader in energy and water monitoring, we have been recognised with a range of awards including;

FINALIST /

NZI Sustainable Business
Network Awards 2015

WINNER /

EECA Business Service
Excellence Awards 2016

FINALIST /

AUT Business School Excellence
in Business Support Awards 2016

Analytics

Data collection is automated with Hub, BraveGen's cloud analytics platform, then enriching and correlating the data with various other data sets including our own data warehouse, to provide unparalleled industry benchmarking and best practice guidance.

BraveGen currently works with: over 150 companies across:

- 1,000+ sites,
- managing over 576 Gwh of energy (equivalent to 76,000 Kiwi homes),
- saving over 413m Kwh in energy use
- delivering over \$60 million in savings; and
- helping to avoid 49,000 tCO₂-e (equivalent to 11,666 cars driven on kiwi roads for one year).

Next Steps

BraveGen solutions and consulting provide the most cost-effective results - for the long term. Our focus is on creating actionable initiatives for our clients so you can focus on delivering outcomes.

Visit BraveGenHQ.com or call our team today to discuss how we can help deliver your sustainability goals.

BraveGen is the software name of Energy Solution Providers Limited.

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