



About ANZ Centre

Building Info

- Constructed in 2015
- 3 stories plus car park
- ~12,000 square meters
Mixed Office & Retail

HVAC System

- 124x Fan-Coil-Unit (FCU)
- 3x Outdoor Air-Handling Unit
connected to 6x on-floor VAV
- 2x Water Loops
- 3x Heat Pump Chillers

What is ASO?

Automated System Optimization is a supervisory control technology that dynamically changes HVAC BMS settings to optimize system performance in real-time.

Distinguished by its ability to write back to the BMS, it not only detects, but automatically corrects control issues, running a continuous loop of monitoring, diagnostics, and correction to sustain performance

Overview

Although the ANZ Centre was already deemed to be energy efficient, they piloted BTune to determine if additional energy savings could be achieved without creating additional expense or workload for the building team.

BTune In Action

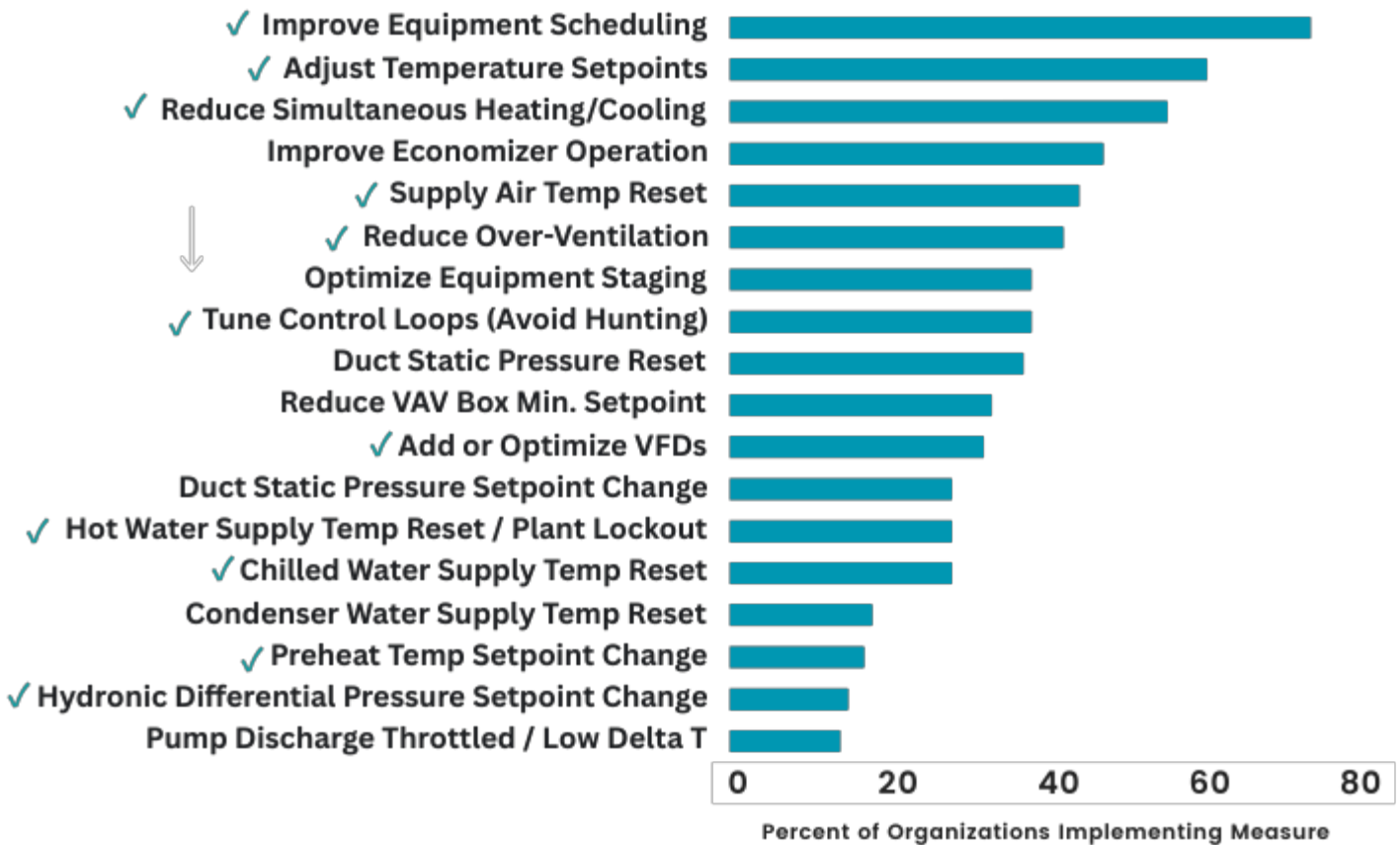
BTune's technology uses Automated System Optimization (ASO) to quickly compare HVAC performance against best practice energy efficiency control standards to identify any area improvement. After the BTune edge device was connected to the BMS, it quickly began analyzing historical and real-time building data and identified 12 Energy Savings Opportunities (ESOs) that would reduce HVAC energy consumption across 200+ individual pieces of equipment.

Once the action report was approved by the facilities team, BTune deployed supervisory control to automatically implement the ESOs, and continued to monitor and further optimize energy performance over the next 15 months.

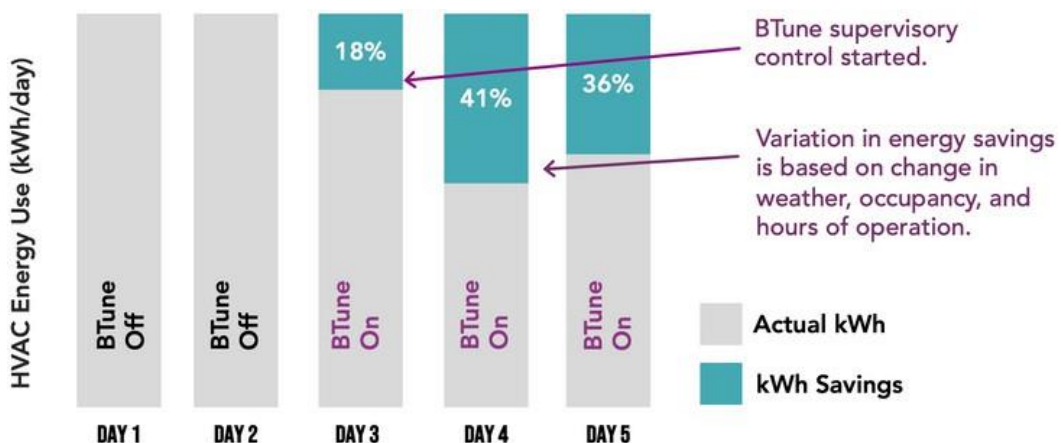
ASO In Action

ANZ Centre

Below are the 18 most common Energy Savings Opportunities (ESOs) for the HVAC system. BTune analyzes every piece of HVAC equipment for these (and more) ESOs to autonomously identify and implement a corrective strategy from our library of 50+ optimization strategies. The specific ESOs addressed in the ANZ Centre are noted with a “✓” below.



By prioritising common optimization opportunities, BTune can immediately reduce HVAC energy use, as noted in the chart below. To confirm BTune was driving this reduction, our technology was shut off (energy use increased) and turned back on (energy use dropped).



Measured & Verified Outcomes

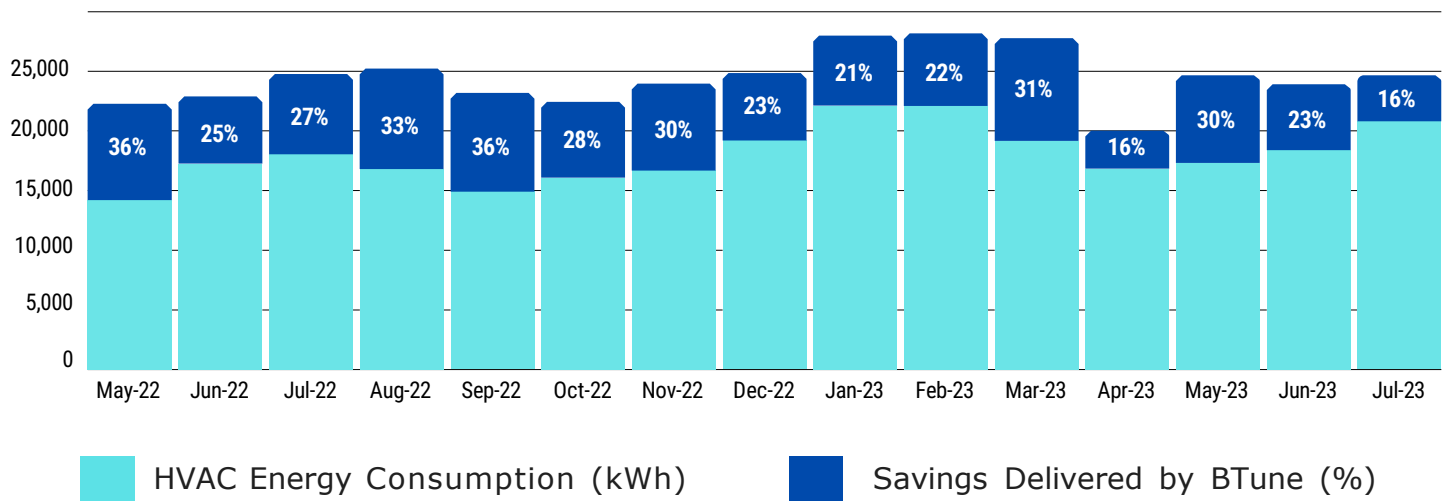
ANZ Centre

M&V Process

BTune validates every efficiency project using the International Performance Measurement & Verification Protocol (IPMVP®) methodology. From May 2022 to April 2023, an extensive Measurement and Verification (M&V) process was carried out to validate the BTune energy savings achieved at the ANZ Centre. (See Statistic validation of baseline in table right.)

Statistical Test	Description	Criteria	Value
Mean Bias Error (overall period)	% sum of difference in energy baseline over energy measured one year	< 0.005%	0.0000%
R2	Explained variation/ total variation	>0.75	0.80
CV RMSE	SEy(standard error in the energy axis) /average of the energy measured	<0.2	0.189

Project Results



27%

Average monthly reduction in HVAC energy use, energy costs, and associated carbon emissions.

“ We brought in BTune to help us optimize our energy use and they have made saving energy, costs, and carbon easy.

Their team has been efficient to work with and provided support to field concerns from stakeholders and maintain relationships with contractors, reducing our effort and overhead.

Kerrie Bloomfield

Property Manager, CHC Properties