



WARRINGTON PCI  
SUSTAINABILITY

# Royal Centre

1055 W Georgia St, Vancouver BC

Case Study



Warrington PCI Management

300 - 1030 West Georgia St.  
Vancouver, BC, V6E2Y3

# WPM Reduces Energy Use by 45%

## THE BUILDING:

1055 West Georgia Street, Vancouver BC

39 storey, 603,543 square foot office tower with two below-ground retail levels built in 1973

## THE CHALLENGE:

Transition the 50-year-old mechanical operations in one of downtown Vancouver's largest and most iconic office towers to exceed municipal 2026 greenhouse gas reduction targets and position the property to meet ownership's 2040 Net Zero goals.

## THE SOLUTION:

During every one of the 9 years WPM has managed the property, our operations team has systematically implemented a wide variety of conservation measures designed to optimize the performance of every aspect of Royal Centre's mechanical infrastructure.

This disciplined approach and intimate knowledge of the building's operating systems allowed WPM to take the city's GHG reduction targets in stride by introducing targeted adjustments to the existing optimization plans.

## THE RESULTS:

Since 2016, WPM's management approach has resulted in:

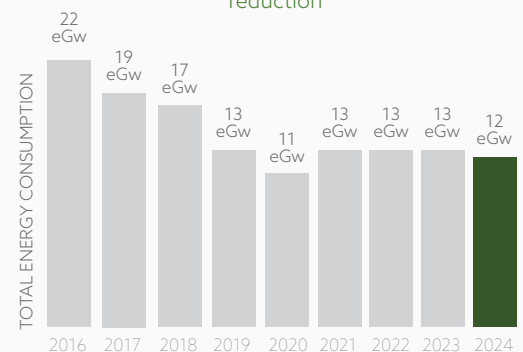
- \$6,250,000 in avoided utility costs
- 4,970 tonnes in avoided CO2 emissions
- CAM reduction of \$1.25 psf
- 54 Gigawatt Hours of total energy savings
- LEED Gold, BOMA BEST Gold and Zero Carbon Building Certification
- Exceeding the regulatory 2026 GHG reduction requirement
- Increased the Energy Star score from 39 to 71
- Total energy usage reduction of 45%



## Energy Performance

Since WPM implemented Operational Analytics in 2016

↓ 45%  
energy consumption  
reduction



Energy conservation measures, including DDC controls upgrades and HVAC improvements, **have reduced energy use by almost 63 eGWh since 2016.**

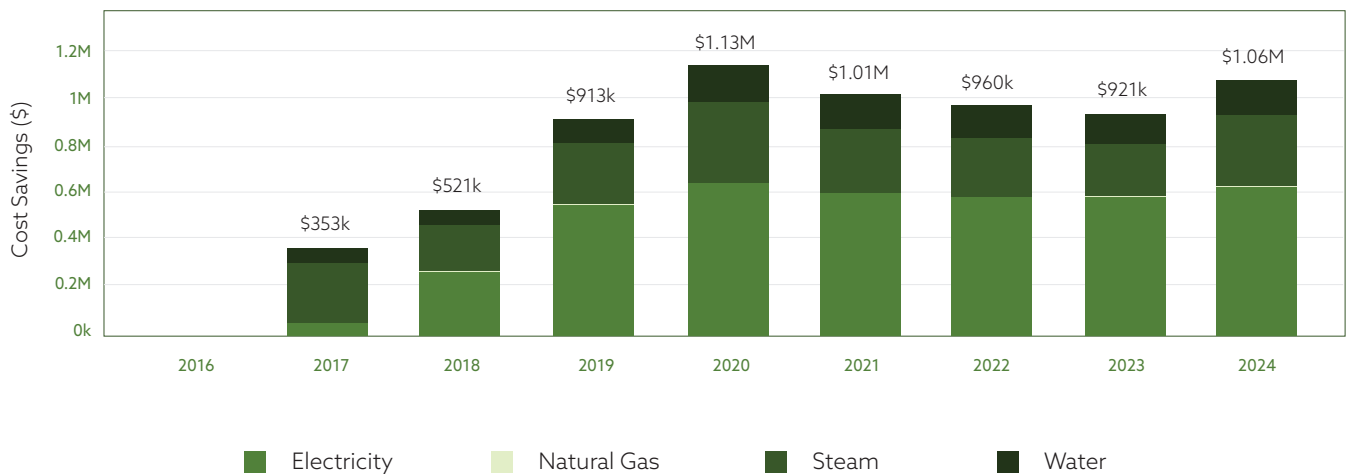
**That's enough to power 5727 Canadian households for one year.**

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## Chilled Water Loop and Mechanical Cooling Adjustments:

Adding pressure gauges to the chilled water loop allowed the WPM team to significantly reduce water pump speeds, while adjustments to the outdoor air temperature lockout setpoint reduced chiller runtime in the shoulder seasons.

### Cost Savings vs Baseline Year (Normalized)

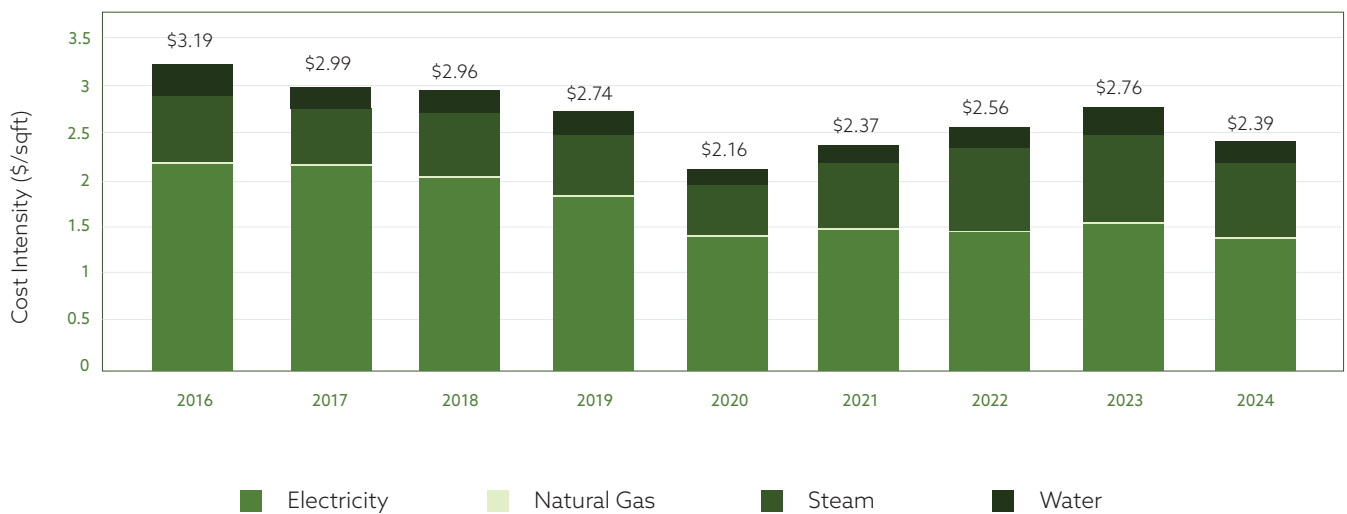


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## VAV Heating and Loop Controls Adjustments:

The operations team overrode the VAV setpoints to restrict overcooling during the summer months, while the heating loop lockout setpoint was reduced by two degrees, which resulted in **reduced steam use during the summer months**.

### Utility Costs By Year (\$/sqft)

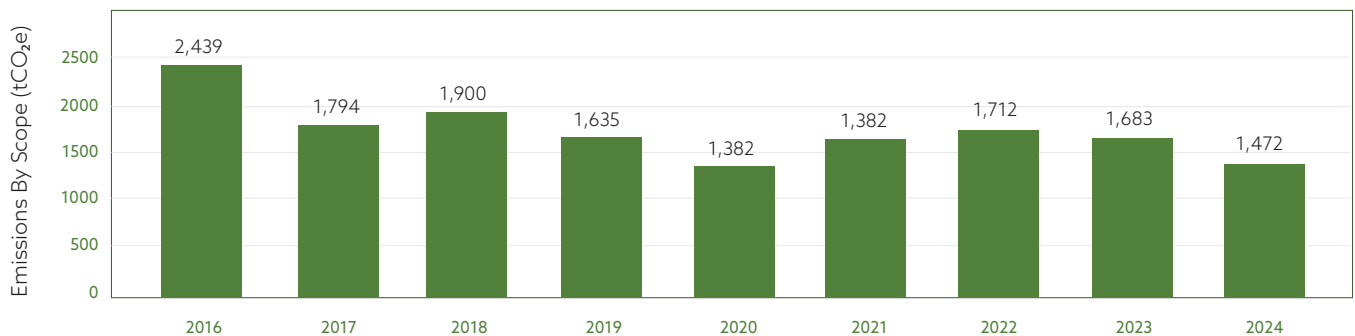


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## Space Temperature Readings:

WPM resolved multiple control issues on several floors, allowing zones to properly control their programmed setpoints.

## GHG Emission Reductions By Year (Excluding Carbon Offsets)



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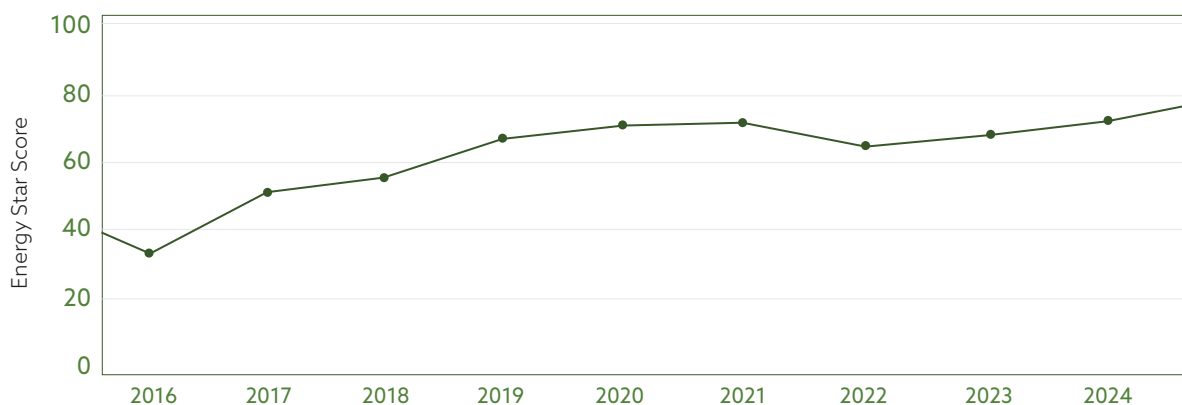
## Hot Water Supply Temperatures:

These setpoints were reduced from 45C to 25C for both heating loops, **significantly** reducing after-hours steam use in the winter and shoulder seasons.

## ENERGY STAR SCORE

71

History of ENERGY STAR Scores By Year



# THE FUTURE

## Continued system optimization and Net Zero Planning

WPM has completed multiple studies over the last few years in order to develop an accurate decarbonization strategy to meet the City of Vancouver's 2040 emissions reduction targets. The final piece in this exhaustive planning stage is a Heat Recovery Chiller (HRC) Feasibility Study, fully funded by Fortis BC, which will complete by Fall 2025. Introduction of a HRC into the building's mechanical system **has the potential to reduce energy use by another 20% and Co2 emissions by 356 tonnes per year.**

### Systematic Direct Digital Control Upgrades:

Whole-building HVAC control is critical to achieving fully-optimized performance, and WPM has a program in place to upgrade DDC controls floor-by-floor and year over year.

### Bank Pavillion Supply Air Pressure Setpoint:

The bank pavilion Air Handling Unit (AHU) supply air pressure setpoint is currently reset based on outdoor air temperature. WPM intends to reset this setpoint based on historic data instead, which will potentially reduce energy use by 10%.

### Bank Pavillion Heating Loop Adjustment:

Since the start of the year, the operations team has steadily been adjusting the rate of the heating loop ramp down from 3°C per hour to 10°C per hour. By increasing the loop temperature ramp down rate, the team anticipates annual energy savings of up to 5%.

### Minimum Hot Water Supply Temperature:

WPM's operations team introduced a new strategy in early 2025 to decrease these temperatures based on historical data while still maintaining tenant comfort. This strategy is expected to reduce energy costs by 5%.



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