



Energy Monitoring and Management: A Case Study of Brentwood Towers, Toronto

Brentwood Towers is a series of five multi-residential buildings in the popular Yonge-Davisville neighborhood. The 956 unit complex was built between 1958 and 1961. O'Shanter Development Co., the property owner, has undertaken a series of upgrades and retrofits at Brentwood Towers over the last 25 years, resulting in significant decreases in energy and water consumption. Significant savings have stemmed from hourly performance monitoring.

O'Shanter has achieved a measured 30% gas saving, equivalent to 600,000 m³ or \$180,000 per year, with additional savings in water and electricity. Using a 5% capitalization rate (CAP rate), this translates into an added capital value for the buildings of \$3.6 million, a very worthwhile investment.

Today O'Shanter gathers hourly natural gas, electricity and water data throughout their building portfolio using the EnergyBrain monitoring system. The system connects the utility meters to the internet, providing continuous feedback about building performance.



To achieve improved heating system control, O'Shanter has installed a more advanced Building Automation System (BAS), using Unitronics programmable logic controllers (PLCs). O'Shanter uses the BAS in conjunction with EnergyBrain to fine tune building systems. As control adjustments are made, the impact on energy use can be seen immediately.

Email alerts help mitigate the cost of unforeseen events by flagging variations in building performance. Alerts of increased consumption allows these costly issues to be identified and addressed within days, rather than months later when the utility bill arrives. In a glance, a manager can review the performance of the entire portfolio on his desktop, and quickly identify issues. Hourly monitoring also allows O'Shanter to verify retrofit results immediately and make decisions accordingly.

The energy required for space heating has been reduced by 30% over the last 25 years, saving over half a million cubic meters of natural gas a year. Energy for DHW heating has been reduced by 27%, saving an additional 180 thousand cubic meters of natural gas a year. Benchmarking puts these buildings 18%, or \$128,000 below the median energy consumption and over 40%, or \$418,000 below the worst offenders, proving substantial savings from good monitoring and control.