

## BACKGROUND

The Keltic Transportation building is a mixed-use building comprised of office space and warehousing space, with a total square footage of 36,300 sq.ft. The building's HVAC system includes rooftop units, AC split units, VAV boxes, baseboard heaters, unit heaters, and a washroom exhaust system. Prior to engagement with PMC, Keltic Transportation consumed over 474 thousand kWh of electricity and 1,191 GJ of gas annually, resulting in over \$70,000 in annual energy expenditure.

## SCOPE

PMC conducted a detailed energy audit, and determined that through the implementation of targeted retrofits, a **43% reduction** in annual energy usage could be attained. The following projects were implemented in early 2016:

- 1 Upgrade of all lighting to LED technology
- 2 Conversion of rooftop units from a constant to variable airflow system
- 3 BAS upgrades and new energy efficient operating sequences
- 4 PMC's planned preventive maintenance program



## BASELINE ENERGY PERFORMANCE

Building Size (sq.ft.)	36,300
Annual Electricity Consumption (kWh)	474,990
Average Electricity Demand (kW)	1,374
Annual Natural Gas Consumption (GJ)	1,191
Total Energy Utilization Index (kWh/sq.ft./yr)	22.20
<b>Total Annual Energy Costs</b>	<b>\$70,827</b>

## RESULTS

### ⚡ ENERGY SAVINGS

**181,500 kWh (38%)** in annual elec. savings  
**356 kW (26%)** in electrical demand savings  
**584 GJ (49%)** in annual natural gas savings  
**43% reduction** in annual energy use  
 (now at **12.73 kWh/sq.ft./year**)

### 💰 COST SAVINGS

**\$34,563 (49%)** in annual energy cost savings  
**\$24,075** in NB Power incentive rebates  
**4.4 year** payback

### 🌱 ENVIRONMENTAL BENEFITS

**54,791 kgCO<sub>2</sub>eq** of annual emissions avoidance  
 (equivalent to over **95 acres** of mature forest land)

