

Smart Buildings

CUSTOMER CASE STUDY



Big Box Retailer Thinks Big on Everyday Sustainability, Reducing Energy Use by 78% with the Turntide Smart Motor System

Since the beginning of the 20th century, this big box retailer has been a well-recognized brand that consumers have relied upon for everyday essentials and goods. With over 50,000 employees and thousands of retail locations, this retailer has a large presence throughout Canada and remains part of the fabric of Canadian life.

This big box retailer has made sustainability a key initiative in its end-to-end daily operations, such as defined and measurable goals around improving energy efficiency of its buildings, and driving operational efficiencies in how it transports products and goods to its retail locations. With a robust strategy around ESR (environmental and social responsibility), this retailer is seen as an industry leader around its green retailing practices, and has won awards for its proactive efforts.

Transform how you consume energy

Business Challenge

Big box retail locations are large, sophisticated buildings that handle a large amount of product inventory and must provide a welcoming environment for shoppers to browse around the store. With a dynamic indoor environment with varying levels of foot traffic and activity throughout the day, big box retail locations require robust, reliable HVAC systems to ensure each customer has a comfortable shopping experience.

Most Important HVAC Elements for a Big Box Retail Store

- ✓ AIR MOVEMENT
- ✓ INDOOR AIR QUALITY (IAQ)
- ✓ VENTILATION

Most big box retail locations feature high ceilings to create a more inviting and open shopping space for customers, while expanding available storage space for inventory. However, this configuration can stratify the air into pockets with variable temperatures, which can make the store uncomfortable for customers. These effects can be mitigated with HVAC system design that implements fans that mix the air, promoting air movement and reducing the temperature difference.

In addition, Indoor Air Quality (IAQ) is becoming an increasingly important metric within the retail space as the world begins transitioning back to normal post-pandemic. Public health and safety will remain a key issue, and it is important for retailers to monitor foot traffic as crowded spaces can be problematic for air quality. Using Demand Control Ventilation (DCV), retailers can monitor CO2 levels within a building, adjusting ventilation settings to ensure its buildings are properly ventilated while running at optimal efficiency per dollar spent.

This big box retailer contacted Turntide about piloting the Turntide Smart Motor System as a solution to upgrade its HVAC systems to be more efficient, more carbon neutral, and more intelligent.

Objective

The retailer focused initially on the energy reduction benefits of the Turntide Smart Motor System, and decided to run a pilot to understand Turntide's system benefits first hand prior to deciding on a larger scale Turntide roll out.

Turntide deployed the Turntide Smart Motor System at one of the retailer's locations in Ontario, Canada, retrofitting 2 of the 10 rooftop units (RTUs) at the store location.

Prior to deployment, Turntide installed an Energy Monitoring Kit and performed measurement and verification (M&V) of the existing RTU motors, to help the retailer understand the true impact a Turntide Smart Motor has on energy cost reduction.

The Business

Anonymous Big Box Retailer

Location: Ontario, Canada

Building Square Footage: 40,000 sq. ft.

HVAC System Size: 10 Rooftop Units (RTUs)

The Solution

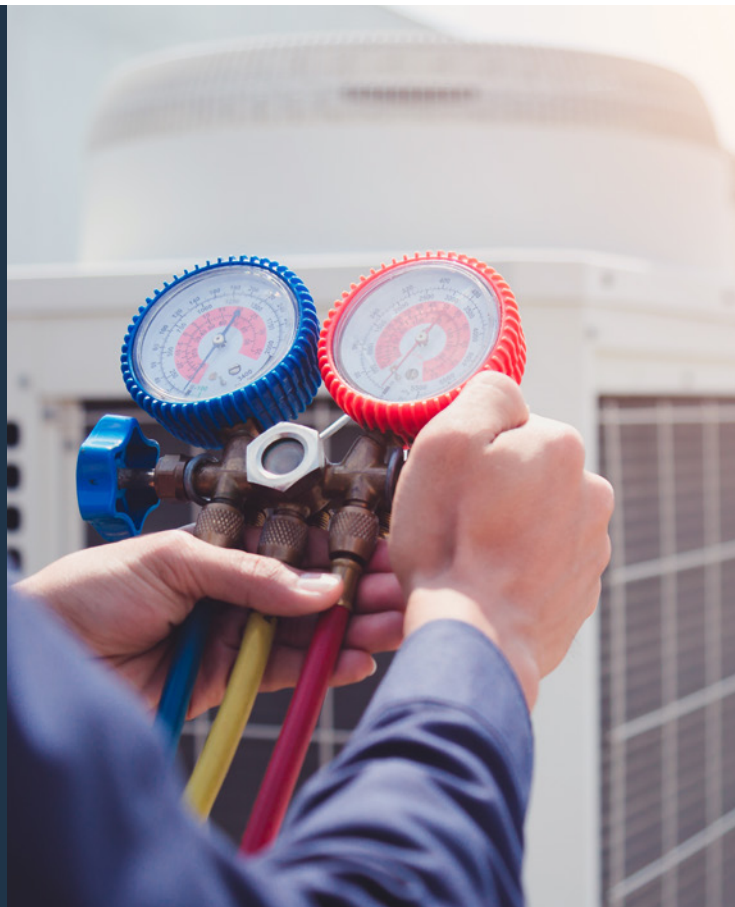
Turntide Smart Motor System (2 motors)

+ 2x 5HP motor systems (V02/P05)

Turntide Monitoring Systems

+ Remote Monitoring Kit (RMK-001)

+ Energy Monitoring Kit (EMK-001)

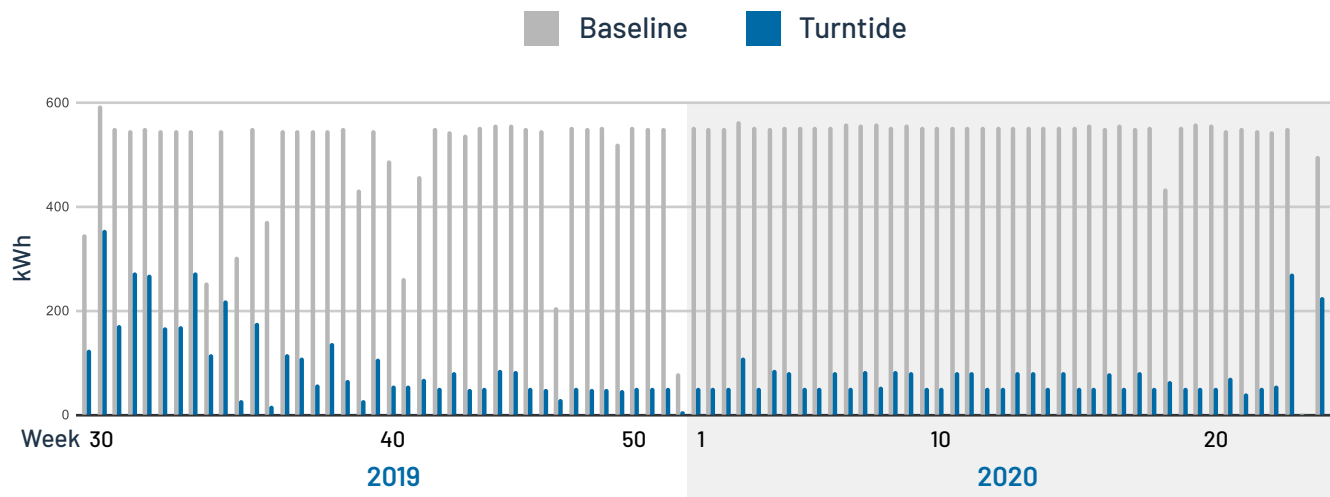


Business Outcomes

The pilot proved to be successful in demonstrating the value proposition of Turntide’s Smart Motor System. On an annual basis, for the two motors alone, the retailer saves 78% on energy savings compared to the baseline, which also helped the retailer save 31.8 metric tons of CO₂ to reduce its carbon footprint. All these energy and environmental savings also helped them save CA\$5.3K (\$4.4K USD) annually on their utility bill, proving that Turntide truly provided a complete win-win solution for the retailer’s HVAC systems.

With the goal of operating greener buildings, the big box retailer decided to roll-out Turntide across a larger scale, which has spanned more than 100 locations to date. It’s investments in technologies like the Turntide Smart Motor System that keep this retailer front and center as one of the greenest companies within the retail space.

Weekly Total Energy Consumption



Immediate Impact of Turntide Smart Motors

- ✔ \$4.4K TOTAL SAVINGS (USD)
- ✔ 78% TOTAL ENERGY REDUCTION
- ✔ 44,869 KWH IN ENERGY SAVINGS

With Two Turntide Motors, One Retail Location Saves...

- ✔ 3,578 GALLONS OF GAS
- ✔ 39 ACRES OF FOREST
- ✔ 31.8 METRIC TONS OF CO²

Turntide for Big Box Retail

Offering a win-win solution to help big box retailers achieve optimal sustainability in its day-to-day operations, the Turntide Smart Motor System is a no-brainer solution to help retailers save money, save energy, and save the environment. Contact us today to learn more about Turntide's convenient and hassle-free HVAC system upgrades that provide industry-leading efficiency through optimally efficient motors.



LEARN MORE >

Speak with our team to learn more about how Turntide can help you drive down energy costs, boost your bottom line, and meet your sustainability goals.

TURNTIDE TECHNOLOGIES

Our breakthrough technologies accelerate electrification and sustainable operations for energy-intensive industries