



Case Study: How a Specialty Grocery Retailer Reduced Energy Costs in 100+ Stores with Axiom Cloud's Energy Efficiency Module

THE SITUATION

Refrigeration accounts for more than 50% of the total electricity spend for most retail grocers. Most grocers have already addressed the “low-hanging fruit” opportunities, are actively looking for the next big energy savings opportunity. , Even the most sophisticated operators are challenged to continually optimize energy performance across hundreds or even thousands of stores, and they understand that recent technology advances can deliver substantial progress toward this mission.

A mid-sized specialty grocer with an average store size of about 20,000 sq. ft. knew that their refrigeration systems were capable of more efficient operations, but the savings opportunities were buried within the massive amount of data and alerts generated by their refrigeration controllers. They turned to Axiom's AI-powered continuous commissioning capabilities to identify and target high-impact energy efficiency opportunities.

CASE STUDY

Number of Locations

- 115 stores

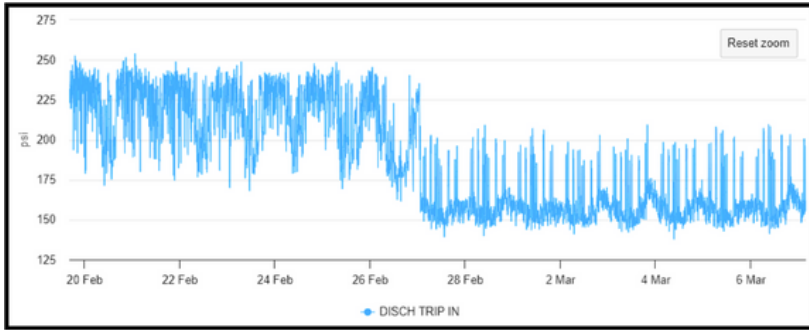
Subscribed Modules

- Early Leak Detection
- Predictive Maintenance
- Energy Efficiency (Featured)

KEY CHALLENGES

- **Identifying hidden opportunities:** Much of wasted refrigeration energy usage is hidden as systems can still maintain target temperatures through increased equipment runtimes.
- **Prioritizing actions:** Facility operators for large site portfolios struggle to identify and prioritize energy savings opportunities buried in massive amounts of data collected from refrigeration controllers and IoT devices.
- **Maintaining savings over time:** Energy efficiency measures are rarely “set it and forget it.” Energy performance can drift by as much as 2% annually without effective monitoring and continuous commissioning.
- **Restoring optimal refrigeration controller settings after service calls:** Optimal energy efficiency settings are routinely disabled by technicians during maintenance and repairs, then never re-enabled. This creates hidden, ongoing energy waste that persists undetected across ~70% of facilities.
- **Adapting to changing conditions:** Control settings aren't updated as equipment ages or store layouts change.
- **Conducting routine maintenance to support efficiency:** Maintenance issues like fouled condenser coils and inadequate airflow go undetected for months or years





Example above: head pressure dropped by ~60 PSI when a condenser algorithm issue was resolved, significantly lowering system energy usage

THE SOLUTION

This grocery chain deployed Axiom Cloud's AI-powered Energy Efficiency Module to over 100 specialty grocery stores. The solution was seamlessly integrated with their existing refrigeration controllers and required no new hardware.

Axiom's platform continuously monitors refrigeration system performance and identifies opportunities to optimize energy usage while maintaining food safety. The solution autonomously discovers high-value savings opportunities tailored to each store's unique equipment configuration and geographic location.

Savings start with simple but critical actions like restoring optimal controller settings after service calls, then expand to advanced, store-specific opportunities such as temperature setpoints that aren't matched to product mix, underperforming condensers and other equipment, and geography-specific control strategies like floating suction/head pressures.

Critically, the solution also monitors performance over time to ensure that savings persist, automatically detecting when technicians have disabled efficiency settings during service calls and prioritizing corrective actions to restore enterprise-wide energy savings.

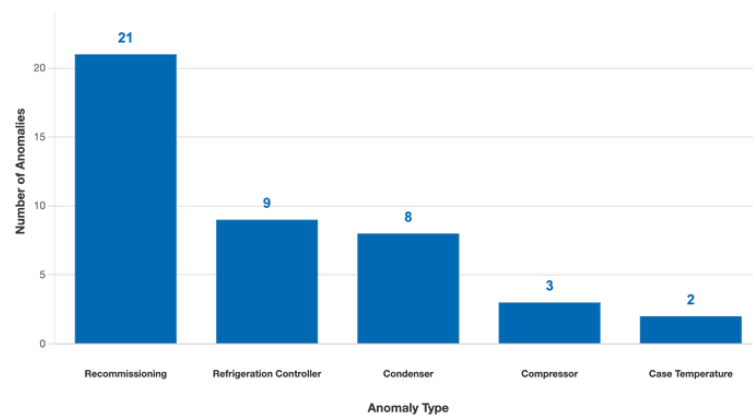
RESULTS AND BENEFITS

Results and Benefits

In the first 12 months following implementation, the grocer experienced significant improvements:

- **Energy Savings:** 43 energy efficiency anomalies were found across 34 stores with a combined annual value of \$158,600 and a reduction of 755,000 kWh in electric usage.
- **Carbon Footprint Reduction:** Improved energy efficiency reduced CO₂e emissions by 295 metric tons.
- **Continuous Commissioning:** Axiom provided the benefits of continuous commissioning at a fraction of the traditional cost, thus avoiding the typical 2% annual energy performance drift that occurs without proactive monitoring.
- **Geographic Optimization:** Energy efficiency strategies were automatically tailored to each location's refrigeration system design and climate to maximize savings.

DISTRIBUTION OF ENERGY EFFICIENCY ANOMALIES BY TYPE



CONCLUSION

This grocer's success demonstrates the significant untapped potential in refrigeration energy optimization. By leveraging AI and data-driven insights, they transformed their approach to energy management, achieving substantial cost savings while advancing their sustainability objectives.

For grocery retailers facing similar challenges, Axiom's Energy Efficiency Module offers a scalable solution that delivers immediate energy savings without requiring new hardware or specialized in-house expertise.