



A Case Study

Food Processing Facilities' energy cost savings with ECRp[®] Program

The Challenge

Refrigeration is a major source of energy consumption in the food processing industry, accounting for up to 60% of electricity spending. As a result, a multinational leader in beef, poultry, and pork products with multiple facilities across Canada investigated the possibility of decreasing energy consumption through their existing refrigeration systems.

The chain was looking to improve energy efficiency in its existing locations. The challenge was to identify significant energy cost reduction opportunities with ease of implementation and minimal interruption to their operations.

The Solution

Star Energy was engaged to take the lead on this project based on its previous experience in the food processing sector, specifically for its expertise in refrigeration systems. The chain decided to conduct "Detailed Engineering Studies", ASHRAE level 3 audits, across seven locations to identify energy cost reduction opportunities to achieve the client's ambitious target. To ensure that the energy savings are sustained over the lifetime of the retrofit, a rigorous monitoring and tracking system was also developed.

The Result

Across pilot locations, Star Energy identified multiple energy cost reduction opportunities. Over eight energy cost reduction measures were initially identified. After thorough engineering assessments and calculations, the top four measures were picked based on key financial metrics and the ease of implementation in multiple locations across the portfolio. Over \$5M incentives were secured from local utilities to implement the program.

Profile

The company has various food processing facility formats spread across multiple weather zones and has a variety of refrigeration, HVAC, and lighting systems. Most of the locations have a refrigeration controller.



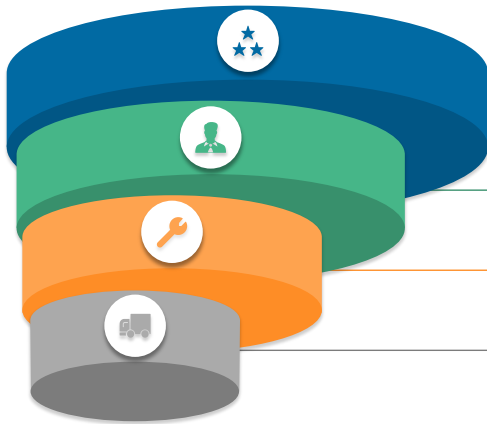
Average area:
108,000 Sq. Ft.



Average electricity use index:
107.8 kWh/Sq. Ft.



Program: Major steps



Monitoring and Tracking

Ongoing monitoring and tracing of results for sustained savings

Measurement and verification

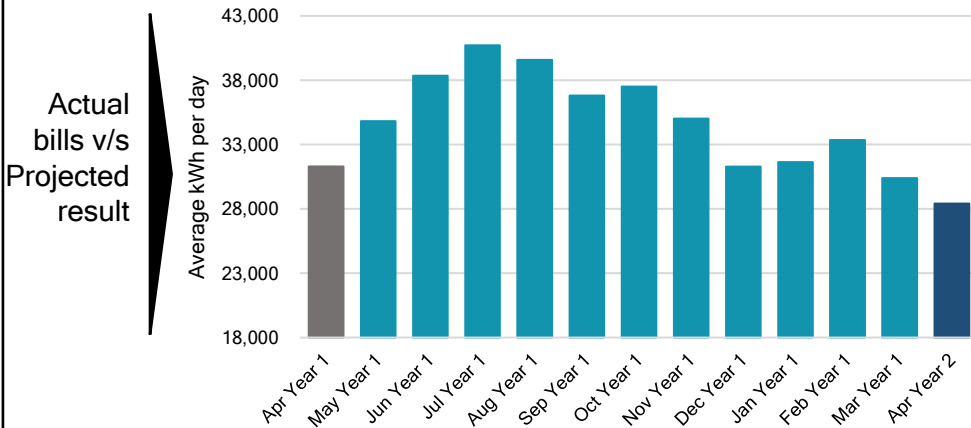
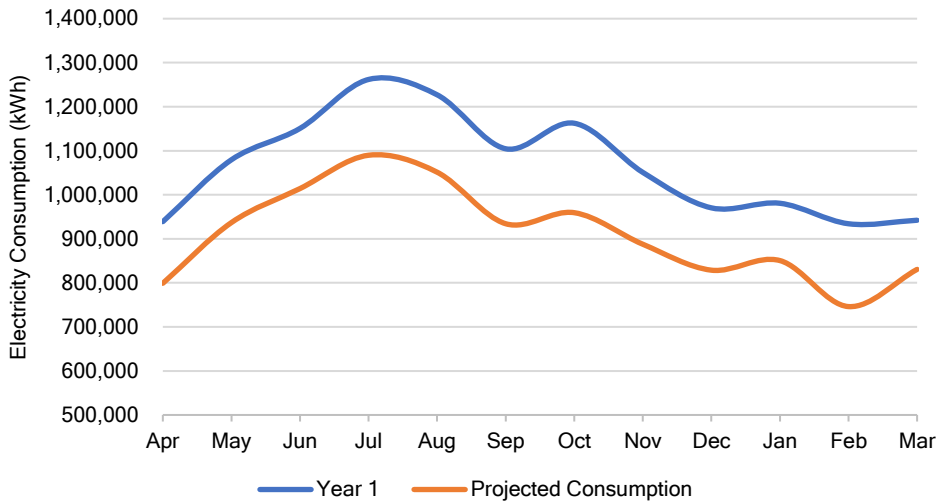
Measurement and verification of savings

Implementation

Selection of level of support for implementing energy cost reduction measures

Discovery

Benchmarking, Data analysis and opportunity identification through detailed energy audit



Highlights

(Average projection per facility)

\$138,500

Average electricity cost reduction per facility.

9% Average savings on annual electricity cost of the facility.

3 years
Average simple payback

30%
IRR

10 kWh/Sq. Ft
Average reduction in energy use index

Over
\$470,000
NPV/facility



Star Energy is an energy management company that specializes in the food processing sector. Our experience working with major clients across North America has helped us to develop a program that not only optimizes the returns on capital but also improves asset values and the life of mechanical and electrical systems. We have worked with utilities across the US and Canada and our program is typically eligible for utility incentives that reduce implementation costs and further improve payback from the program. Our program is highly customizable to each client's financial and operational requirements.

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