

Empowering Dairy Product Manufacturing Energy Efficiency

Graphet Data Mining helped uncover calibration issues with a newly installed building controls system. The rigor used to evaluate the ammonia refrigeration system operation using this control system trend data revealed the improper calibration of critical sensors, causing the system to be inefficient. Using predictive modeling methods and analyzing compressor performance, it was possible to develop an efficient control strategy. This helped the customer correct the sensor calibrations resulting in a significant energy saving opportunity with a quick payback.



Overview of facility & systems services

- Ammonia Refrigeration modeling
- Compressed Air optimization
- Lighting improvements
- Recalibration of incorrectly installed controlled system parameters

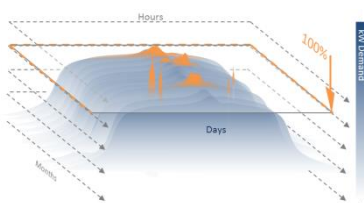
About

Graphet Data Mining facilitated process efficiency and energy management for one of the largest producers of dairy products in the western region. This new site was built with state-of-the-art design and plenty of capacity to grow. Its mission is to maintain excellence in product development and innovation. With the help of Graphet Data Mining, wasteful energy expenditure was identified and a plan for short, mid and long term priorities for running the site's energy intensive operations more efficiently was developed.

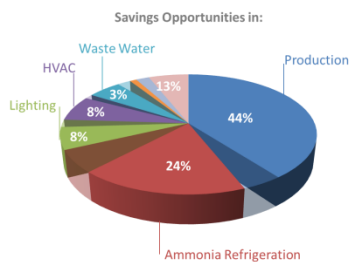
Graphet Data Mining gathered detailed information and trended data about site operations to develop a current and future baseline understanding of performance and opportunities. This was the starting point to facilitate process efficiency, support energy management and justify funding and rebate approvals.

Total energy usage totaled 83,337,311 kWh in the baseline year. Graphet's modeling and analysis toolset was used for accurate targeting and tracking of savings opportunities.

Peak Demand Management



Electric Energy Consumption



By investing in the high priority savings opportunities, energy costs could be reduced by almost 12%, yielding simple payback after rebates in less than 3 months.

Energy Savings Snapshot



• Payback:

- High Priority Projects: **0.2** years
- Mid Priority Projects: **2.2** years
- Low Priority Projects: **22.8** years

• Rebates:

Maximum rebates available across all projects:

\$237,486

• Potential Energy Reduction:

10,553,366 kWh

Potential Carbon Emission Reduction

7,277
metric tons CO₂⁺⁺

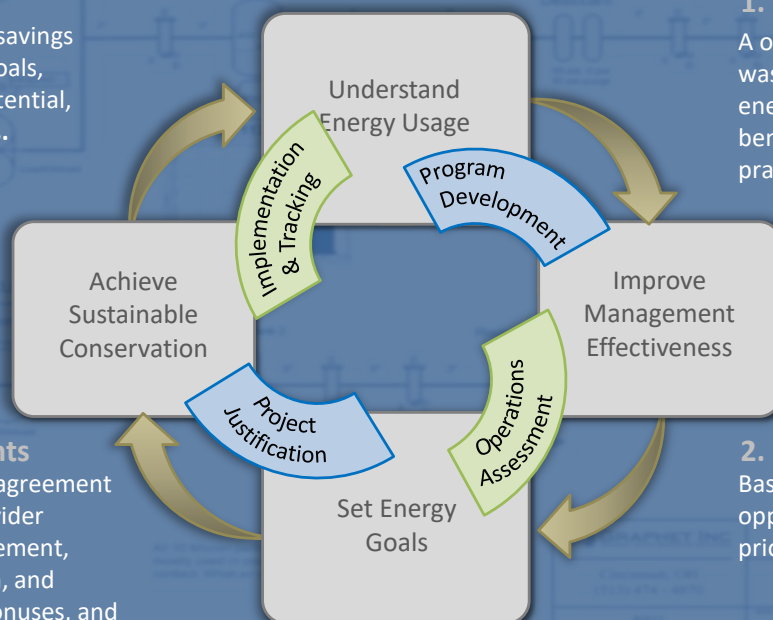
Process for Success »

4. Empower Sustainability

Graphet identified up to 38% in savings potential. High priority energy goals, accounting for nearly the full potential, would yield payback in 1 ½ years.

3. Implement Improvements

With Graphet's energy plan, an agreement was signed with the energy provider outlining improvements to implement, setting a timeline for installation, and detailing customized rebates, bonuses, and support.



1. Identify Opportunities

A one-day energy management session was performed on site to evaluate energy-intensive processes and benchmark energy management practices.

2. Develop Action Plan

Based on energy usage patterns, savings opportunities were identified and prioritized.

