

Empowering Data Center Energy Efficiency

Graphet Data Mining collaborated effectively with the facilities, operations and corporate teams to drive efficiency improvements at this large data center site. Customer trended data and supplementary monitoring by Graphet helped to substantiate understanding of performance & opportunities. This resulted in achieving consensus on implementing conservation opportunities and without adversely impacting on critical operations.

Overview of Systems & Opportunities

- Data Center cooling optimization
- Office Space conditioning
- Lighting improvements
- Multiple buildings (total area 1.2 million sq ft) – comparative analysis



About

Graphet Data Mining facilitated process efficiency and energy management for a multinational data center and technology corporation in the western region. Graphet Data Mining's expertise was applied to reducing wasteful energy usage and create better energy management practices to achieve sustainable conservation and improve profit margins.

Graphet's data mining & analysis services created an effective medium for a collaborative decision making between facilities and operations teams. As a result, many opportunities were included in the energy plan, including the low payback options. Using insights from data collected at the site, it was possible to develop a viable business case for implementation approval.

Total energy usage totaled 12,356,538 kWh in the baseline year. Graphet's modeling and analysis toolset was used for accurate targeting and tracking of savings opportunities. Energy consumption was monitored in each building on the multi-site campus with savings opportunities identified within systems including HVAC, chilled water, lighting, condenser water, and hospitality services.

Energy Savings Snapshot



• Payback:

- High Priority Projects: **1.9** years
- Mid Priority Projects: **0.4** years
- Low Priority Projects: **26.2** years

• Rebates:

Maximum rebates available across all projects:

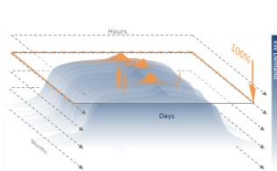
\$568,593

• Potential Energy Reduction:

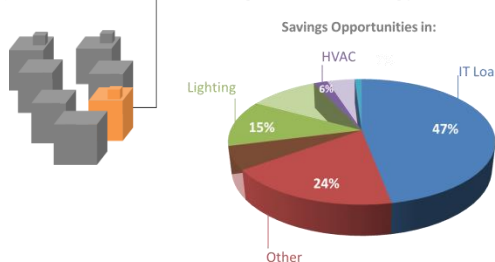
1,977,046 kWh

Potential Carbon Emission Reduction
1,363
metric tons CO₂^{††}

Peak Demand Management



Building 3 Electric Energy Consumption



By investing in the high priority savings opportunities, energy costs could be reduced by almost 7% yielding simple payback after rebates in less than 2 years.

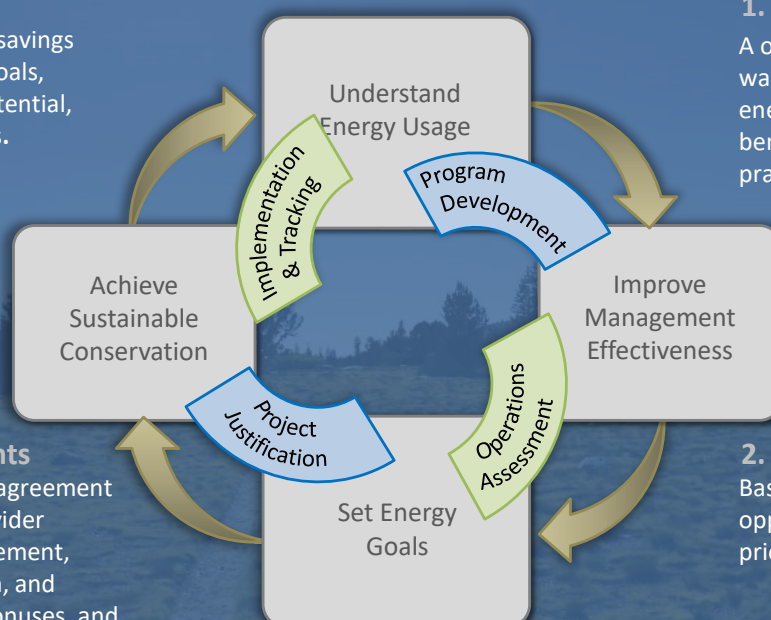
Process for Success »

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.

