# Empowering Chemical Processing Energy Efficiency

*Graphet Data Mining impacted energy efficiency for complex chemicals operations at this site. The customer team is very focused on identifying realistic opportunities for implementation. They want to ensure that projects will not compromise the quality of product or adversely affect process operations. With the energy data mining and analysis services provided by Graphet, it was possible to set achievable targets with accountability for results.*

**Overview of opportunities developed**

- Compressed Air system control strategies
- Steam system optimization
- Process cooling for drying operations
- CO2 plant optimization
- Pumping optimization
- Lighting upgrades

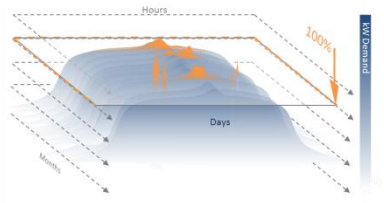
## About

Graphet Data Mining facilitated process efficiency and energy management for a world leading producer of essential chemicals involved with pollution control, water treatment, and packaging. Their history of sustainable energy practices along with services provided by Graphet Data Mining enabled them to reduce wasteful energy expenses involved with operation and production.

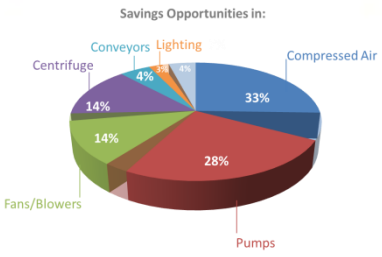
With Graphet's support, significant short term opportunities influenced site energy efficiency through compressed air, steam and CO2 systems optimization.

Total energy usage in their Midwestern plant equaled 20,302,381 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 with savings opportunities identified within systems including compressed air, leak repair, pumping, lighting, and system optimization.

Peak Demand Management




Electric Energy Consumption




An energy plan was developed establishing prioritized energy conservation opportunities carefully selected to generate the biggest savings margins. **By investing in the high priority savings opportunities, energy costs could be reduced by 9%** yielding **simple payback** after rebates **in less than 3 years.**

## Energy Savings Snapshot

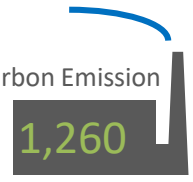

- **Payback:**

High Priority Projects: **2.5** years

- **Potential Energy Reduction:**

**1,827,214** kWh

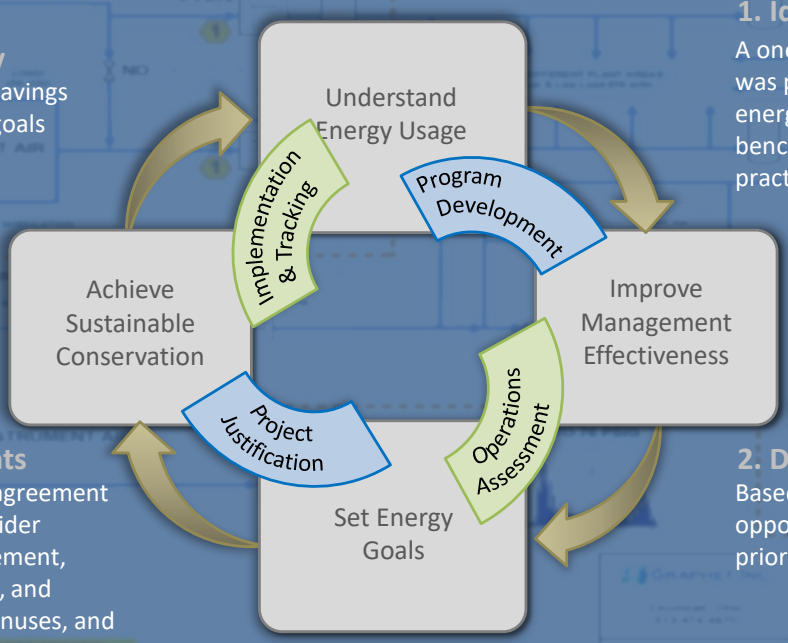
Potential Carbon Emission Reduction




metric tons $CO_2$ ††

## Process for Success »

**4. Empower Sustainability**
Graphet identified up to 9% in savings potential. High priority energy goals would yield payback in 3 years.




**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.

**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.

For additional information please visit www.graphet.com/contact-us/.

††calculated from epa.gov