

# Energent Manufacturing Case Study



## Food Manufacturer - Ontario

Energent's sophisticated Energy Management platform provides real-time information for clients to better understand their energy consumption. To enhance the value of the dashboard and drive even more savings, Energent provides comprehensive Energy Analyst (EA) services to support the customer's energy management decisions. Below is an example of using the Energent Platform and professional Energy Analyst services to complete a full analysis of various types of heating fuel. In this scenario, this food processor is exploring using Biogas as an alternative to Natural Gas.

### Site Natural Gas Use:

**Figure 1** is a "Consumption vs. Actual" graph showing the daily consumption values of site gas since May 1 (red line) against the predicted value as stated by the model (green line). The highlighted areas show the time when the client experimented with an alternative energy source. Energent was then able to compare the cost and consumption values for the alternative fuel as compared to the forecasted value if the typical fuel was used. This real-time business case analysis provided high value for the client as they were able to waste less fuel during testing and receive the information much quicker.

**Figure 1**

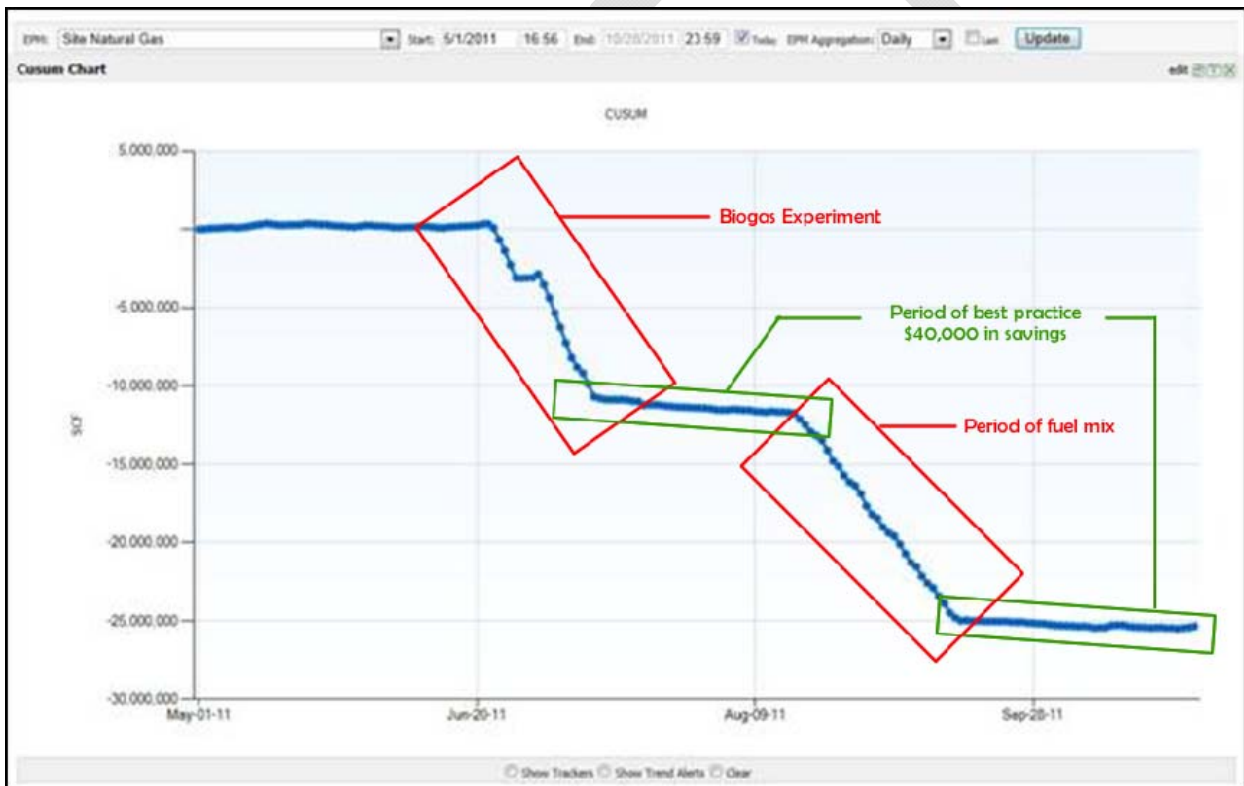


**Figure 2** is a CUSUM (Cumulative Sum of Difference) graph of the same time period for the client. A downward trend on the CUSUM graph shows a period of “under-consumption” or savings as compared to the predicted baseline. A horizontal CUSUM line notifies the user that the consumption is equal to that of the predicted value.

## Biogas Experiment

We can see from this chart that actual use was well below the target use during the intervals June 23- July 16 and Aug 16 to Sept 16. This is highlighted in the CUSUM graph in Figure 2. There is a short period of a flat and slightly upward CUSUM line which indicates a short time when the system was being re-calibrated for the experiment. These two experiments allowed the client to quickly identify the most cost effective scenario for including Biogas as part of the manufacturing process.

**Figure 2**



The savings during this period of time from Aug 16 to Sept 16 is ~13,000,000 SCF of gas. This is a significant amount of savings (approximately \$130,000 assuming \$0.01 per SCF). Energent is now able to pull the cost of the Biogas replacement and compare to the cost of Natural Gas in the analysis for both experiments.

## Period of Best Practice

Further analysis also noted a gradual slope of the CUSUM chart from during the intervals July 17-Aug 15 and Sept 17-Oct 31. The savings obtained during the period from July 17 - Aug 15 & Sept 17 to Oct 31 is 400,000 SCF. This represents savings of \$40,000. The Energent EA is working with the client to understand this time between the two experiments and what operational changes occurred to facilitate this \$40,000 in Natural Gas savings. This period of savings represents a payback of just **2.5 months** with the identification and analysis of this savings event.

## Conclusion

The combination of Energent's comprehensive Energy Management platform and Energent's professional EA services has provided this client with two distinct and quantifiable value propositions. In the first scenario, Energent is able to contribute to the business case for using alternative fuels for their processes, and provide specific consumption and CUSUM analytics-based information to support the conclusion.

In the second scenario, identifying periods of savings is certainly advantageous for the client, but the real savings come from leveraging this onetime event into consistent and repeatable best practices. Energent's EA services provide the analytical point of view for operational staff at the client location, which is then able to make decisions about optimizing the efficiency of their manufacturing processes.

Energent's intuitive platform increases user adoption by our clients, but when supported by the Energent Energy Analyst, the tool becomes a powerful energy management solution that will enable strategic energy management decisions through powerful and accurate analytics.

