



## **Sustainability Attitude & Stewardship**

By Joseph P. Day

*Summarized from his presentation at AIB International Sustainability Seminar  
Part 1 of 2*

For many of us when the question of sustainability arises the primary question is what are we doing that is sustainable and what are the implications long term? And are we doing anything about it? When considered on a global scale the answer is most probably no. That being said, it then all comes down to the company's and their employees attitude and stewardship. And in the end that just becomes good business.

This article is being written to challenge the reader to focus on energy, its use and not merely take it as a given.

Having said that, other fundamental drivers for the baker are:

Quality – Maintain consistent and high levels of product quality

Efficiency – Key to lower unit cost and improve gross margins

Waste Reduction – Key to increased productivity

In the new world that we are embarking on, all of these plus high levels of production must be achieved while creating sustainability in the business. Since natural gas is one of, if not the most prevalent fuel used by the bakery, this article will focus on it.

So, critical to stewardship is – What we don't monitor, we cannot manage!

This dictates that to be successful we need a plan. A plan with an end in mind. What do we want to achieve? To this end we must collect appropriate data, organize it and analyze it in order to gain the knowledge we need to develop the appropriate action plan.

Many bakers currently measure or compare gas usage at the gross plant level. This is conducted through gas metering or merely comparing company gas bills. In either case it provides you with an overall assessment of usage and a reasonable starting point. What it doesn't provide you is specifically where the gas is being used and/or wasted.

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To understand the specifics, you need to install gas meters downstream of your main gas line at the various processes.

Measure at each point of use:

Oven  
Boiler  
HVAC  
Water Heater  
Other?

Once the gas meters are in, what do you want to look for or measure?

Track and plot monthly usage:

- Seasonality
- Test your system
- Gross figures
- Baseline Data
- People Impact

Establish:

- Plant benchmarks
- Industry benchmarks
- Baseline data at each plant

This leads to a key question:

On average, how many BTU's/# are used to bake off a pound of dough?

**Build confidence in your numbers!!**

### **Gas Meters:**

As with real-estate, the most important aspect of installing your gas meter is location, location, location. In general location should be up stream of the GPR with a filter. This will allow metering at constant pressure.

For more information, see article "[Gas Meter Selection and Installation](#)".

When selecting and installing gas meters, we strongly encourage you to consider remote read outs or automated data collection. This avoids problems when the meter is installed in difficult locations or high in the building and not easily accessible. Here are a few things to consider when analyzing gas usage:

- Understand Process or System
- Where do the Btu's go?
- What % goes into the Product?
- What % are Losses?
- What Losses are necessary?
- What % represents opportunities for savings?
- Prioritize an Action Plan (Low hanging fruit)

Looking a little deeper, baking is largely a moisture reduction process using air as the active component. Sufficient air is required in the process to capture moisture from the product allowing it to bake properly. In addition, through air flow, the associated products of combustion and baking VOC's are captured in the air along with the moisture and all need to be exhausted from the oven. Any air in excess of that required to bake the product is considered "Tramp Air" which is unnecessarily heated to baking temperature and exhausted. This sensitivity toward excess air and potential wasted energy certainly applies to both the specific application as referenced earlier and thus entire plant. This emphasizes the importance of air management for the entire plant.

**Challenges:**

So the challenges are:

- Identify quantity of air required for process and ventilation
- Excess air unfavorably impacts fuel costs and emissions
- Optimizing air requirements and usage

**Look for Part 2 of Sustainability Attitude & Stewardship to follow in our newsletter next month.**

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