

Benchmarking Utility Performance in the Food Industry

Benchmarking is the backbone of a utility monitoring and targeting (M&T) system. It enables the continuous improvement of utility performance.

What is benchmarking?

Benchmarking is a process that allows a company to compare current production data — like cost, cycle time, productivity and quality — both to its past performance and to industry best practices. To assess utility performance, a company would first establish an energy baseline for its facility — measuring selected indicators per kW/hr (electricity), BTU (gas or liquid fuel) or mega joules (combined energy use) — and use this information as a starting point for continuous improvement efforts. It is particularly valuable if the company can also compare its data in a blind peer group to identify potential areas for improvement.



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Why benchmark?

Establishing an energy baseline for your facility allows you to:

- **connect** your baseline utility use to product costing models
- **isolate** wasteful processes
- **normalize** the impact of weather on utility use
- **pinpoint** potential improvements in process or utility conservation to cut costs and reduce greenhouse gas emissions
- **measure** the impact of improvements
- **compare** your utility performance to that of your competitors
- **link** your utility performance to environmental emissions reductions

How to get started

Industry associations can champion benchmarking projects by mobilizing their members to gather the baseline data to create an interactive industry profile for their members. This profile identifies sectoral performance and reveals the gaps between the high and low performers. Facilities on the lower end of the scale can use the benchmarks to set real improvement targets for themselves.

The baseline performance of one plant will differ from others for a number of reasons. Geography, facility layout, processes and production schedules all cause performance to vary. The mix of utility use in different food processing sectors is also very diverse. A frozen vegetable processing plant has a much different demand for energy and water than a bakery, meat plant or beverage processor. Sectors and sub-sectors need separate benchmarks to be useful.

National benchmarks are currently available for the dairy, brewing, and wine industries. The Ontario Agri Business Association has energy benchmarks for the grain and feed sectors. Other benchmarks are under development and will become available as industry associations are engaged. Talk to your industry association about how your sector can participate.

Setting utility performance benchmarks

Creating a sector or sub-sector profile for utility performance benchmarking requires the following steps:

- **conduct** electricity, gas, water and wastewater use baseline studies for individual plants
- **determine** the utility use per unit of production or other parameters as decided by the plant (to determine utility intensity)
- **compare** the intensity of utility use of the participating plants and identify the performance level of the leading (the top 25%) and the lagging (the bottom 25%) performers

Where a sector profile is established, individual plants can use the data to determine gaps in their own performance and identify projects that will improve utility performance to the sectoral standard.

From baseline to best practice at the plant level

A company can use its utility baseline to further dissect its operational utility use and compare energy consumption levels to best practice standards. In many cases, these standards are not specific to any single industry. For example, utility companies can provide information on “best-in-class” operation of boilers or large-scale freezers.

At the individual plant level, the steps involved in utility performance benchmarking include:

- **identify** the areas or processes at the plant that will benefit most from benchmarking
- **identify** the key factors and variables to measure the processes
- **analyze** the data and identify the best practice by selecting a best-in-class standard with which to compare performance
- **determine** the conditions under which the best practice can be achieved and specify the action(s) that must be taken
- **set-up** specific improvement targets and deadlines
- **develop** a continuous process to monitor results, review and update the data

Additional resources

See OMAFRA fact sheets on:

- *Utility Monitoring & Targeting: Save Energy, Cut Costs*
- *Selecting Meters for Your Food or Beverage Processing Facility*

More information about utility performance benchmarking is available from Natural Resources Canada at: www.oeenrcan.gc.ca/industrial/cipec.cfm.

We're here to help!

To find out how the Business Development Branch, Ontario Ministry of Agriculture, Food and Rural Affairs can provide you with knowledge, connections, and resources to help you grow your business, call toll-free at 1-888-466-2372 extension 63795 or e-mail at foodinvest@ontario.ca.