

guidance

Employee Engagement

Energy efficiency practices can reduce energy costs without compromising production or service. It is imperative that employees understand the importance of reducing energy and employing energy efficient practices. In addition to saving money and improving the bottom line, energy efficiency reduces the amount of GHG and contributes to the brewery's energy and environment conscious culture. This guidance document will teach brewers how to engage their employees on energy awareness.

Energy awareness programs aligned with employee interest and business objectives will also reinforce breweries' commitment to long-term sustainable operations and support cost savings and environmental support. However, the success of these awareness programs requires personal investment and dedication from all brewery team members.

Form a team of enthusiastic and capable employees to identify savings opportunities and process improvement ideas, develop and review energy KPIs, and ensure that reduction targets and goals are progressing. The team should come from all parts of the organization and should appoint an energy champion to guide the team and keep other members of the brewery involved and informed of their activities. The passion and commitment shown by team members will determine the success of the program.

The team will develop an energy balance, energy KPIs and methods to track and review energy usage data. The level of detail will be different for each organization and will depend on a number of factors. All organizations small to large can utilize the energy team to reduce energy usage and improve efficiency. It is important that the energy team focus on areas where energy use is significant. If you know how, where and by whom energy is being used, it becomes easier to focus on those activities that will generate the best

results. Information on energy usage can be obtained from permanently installed or temporary metering, operational data and design data. This information will allow the team to establish a base line and begin to develop targets and goals to lower energy use.

Team activities

- *Collect and analyze energy consumption data.*
- *Identify where areas or activities with significant energy consumption.*
- *Analyze and establish at least two years of plant energy data.*
- *Determine energy consumption indicators which are Key Performance Indicators (KPIs).*
- *Identify energy efficiency opportunities.*
- *Identify types of energy used, account numbers and meters.*
- *Identify sources of energy: electricity, natural gas, oil, diesel or other.*
- *Check invoices to confirm suppliers, account numbers and associated meters. Confirm the number of meters and their location.*
- *Quantify energy usage and cost. Historical data can be obtained from utility provider and bills. Request at least two years of data.*
- *Identify the main uses of energy (like lighting, HVAC and compressed air).*
- *Identify activities or areas of opportunities that have the best potential for energy savings.*

The energy team should create energy awareness throughout the plant, as well as receiving and providing feedback to individual departments on a monthly basis.

General Awareness Activities

- Organize special events, such as energy awareness day. Host or support an exhibit at a fair or other community event.
- Provide input into plant improvements to management.
- Provide updates on how their section is progressing and any problems they encounter. This should be provided in a monthly report and subdivided by the participating areas.
- Raise overall energy awareness among plant personnel (via posters, banners, bulletin board notices and stickers to name a few methods).
- Target specific departments where energy usage is high and further increase awareness by preparing a plant energy balance.
- Engage employees in energy saving activities, like a suggestion box for energy saving ideas and provide a prize for the best idea or sponsor a contest related to energy awareness.
- Inform employees of energy management projects or upcoming retrofits.

Establish an Energy Awareness Plan for a defined period of time (like 12 months). Using all the information gathered to-date, set out the objectives and targets for employee awareness. Decide on the areas that will need to be covered by the awareness campaign and communicate information monthly.

The following areas are examples that can be highlighted:

- Compressed Air Systems - If there is no production, the compressor should be powered off. Stress the importance of identifying leaks.
- Lighting - Highlight to employees how they can contribute to reducing energy by shutting off lights when not in use.
- HVAC: educate employees on maintaining desired temperature settings for energy savings.

Awareness programs are more effective when linked to changes that employees can see. If planning an energy retrofit in your facility, kick off the awareness program at the beginning of the retrofit and continue the program

throughout. Keep in mind that progress towards specific goals need to be measurable and then communicated.

Maintain interest and momentum; continue to reinforce the message frequently by using communication tools (emails, posters, etc.) as previously discussed. It is important to reinforce the message of energy efficiency as often as possible. This will help sustain the impact of the program, reinforce new behavior and lead to continuous improvement of the overall program.

Example Activity Matrix

| EXAMPLE ACTIVITY MATRIX | TEAM MEMBER | DATE COMPLETED |
|--|-------------|----------------|
| Energy Awareness Day (Team) | | |
| Energy awareness poster campaign | | |
| Reminder & informative emails every 2 weeks | | |
| Poster campaign at strategic locations (like photocopiers, printers etc.) | | |
| Reminder stickers to be placed on all light switches | | |
| Poster campaign in conference rooms, lunch rooms, change areas etc. | | |
| Regular reminder e-mails encouraging people to 'switch off' | | |
| Poster campaign highlighting successes | | |
| Regular Email updates to highlight company statistics, success stories, energy reduce, cost saved etc. | | |

Implement corrective actions when energy waste occurs.

Identify the following:

- What went wrong
- How the fault can be rectified
- Who will carry out the work
- When it will be done
- Actions to prevent further waste (determine the root cause)

Examples of Employee Awareness Programs



Example Matrix

| GOAL | OBJECTIVE | DESCRIPTION OF ACTION | START DATE | STATUS | ANNUAL SAVINGS [KWH]/ [\$] |
|-----------------------------|---|---|------------|--|----------------------------|
| Lower refrigeration kWh/bbl | Achieve 10% Improvement in refrigeration compressor Efficiency within 12 months | -Install a sequence controller -Review all users temperature set points -Hold weekly meetings to review refrigeration KPI's | 7/9/2012 | -In progress 2% improvement first month -10 operational improvements identified -3 capital projects justified | 7500 (\$1100) |
| Hold energy fair | 80% employee involvement | -Define date and prepare fair agenda -Communicate to all employees 8 weeks prior to the fair -Align fair content to engage employees both at work and home -Provide at least one energy saving device for home use | 8/1/2012 | -Fair Planned for January 15, 2013 -Agenda prepared and is being reviewed -Local energy companies asked to participate -Reviewing the possible expansion of fair to the include community | |