



Energy Conservation

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Getting Started (Planning)

Why do I want to do this?

- Cost reduction or environmental impact

Will I be successful?

- Management commitment and how serious are they?
- Resources needed (people, \$)

To what extent?

- Specific target
- Ongoing
- What will success look like?

Getting Started (Planning)

Where Do I Start?

- Identify and prioritize opportunities:
 - Focus on processes, technologies, and behaviors

- Establish Objectives and Targets:
 - Baseline year
 - Actual or indexing
 - (MMBTU, Total \$) or (MMBTU or \$/Lb)
 - Benchmark or not
 - Accurate data
 - Timelines and reporting expectations

Implementing (Doing)

People:

- Key personnel assigned to lead projects, champion initiatives, promote awareness, lead teams...
- Form teams (3-5 EE's)
- Knowledge, skills, and passion

Awareness:

- Routinely discussed (team calls, group discussions...)
- Posters and performance charts
- Team meetings
- Meters read routinely (daily)
- Performance compared against internal and industry results, charted, and communicated to the organization
- Website postings
- Accountabilities and responsibilities defined

Implementing (Doing)

Annual Plans:

- Energy or Resource Efficiency plans
- Environmental Management Programs (EMP's)
- Assignment of resources and accountabilities

Implement projects:

- Easy low hanging fruit – little cost
- More complex projects – higher cost

Monitor results and progress:

- Project completion
- Meters read; results recorded and communicated – Daily
- Compared against previous year's usage (not yr end results) – Daily?
- Included in the daily production review process
- Shared responsibility
- Celebrate successes and have fun

Measures (Check)

Inspections:

- Focusing on conditions and practices (behaviors)
- Specific equipment or general practices
- Daily, weekly, monthly...

Audits:

- Focusing on processes
- Harder to identify findings or opportunities
- Quarterly, annually...

Operations/Budget reviews

- Opty to provide status report and establish expectations

Performance reviews:

- Establish accountabilities
- Compare results against established objectives and targets
- Consider organizational knowledge and skills

Adjustments (Act)

Address opportunities from inspections and audits:

- Focus on root causes and fixes
 - Ex: Equipment running when not needed
- Address Management System Control Failures

Accountabilities Defined:

- Established performance expectations?
- Correct R+ to be successful?

Benchmark with others:

- Call in expertise (utility, consultants, vendors...)

Resource Efficiency Plan

*Cargill Value Added Meats – Retail
(location) Resource Efficiency Plan*

Commitment to the Environment:

- We will comply with all applicable environmental requirements, prevent pollution, and continually improve performance on criteria relevant to our businesses and operations.*

Location Team's Mission:

- The team will meet at least monthly to ensure the necessary people, process, and technology solutions are in place to ensure resource efficiency initiatives are lead/managed proactively, promote continual improvement, and achieve established goals.*

Resource Efficiency Plan

Deliverables:

1. Document and maintain meeting minutes, and action registers.
2. Ensure accurate and timely RE results are reported.
3. EMP's to address energy, fresh water, green house gas, renewable energy, and solid waste.
4. RE plan is in place, updated annually, and is effective in leading continual improvement results.
5. EE's have the knowledge to understand how their job and behaviors impact RE performance (i.e., they must understand how they fit and why they matter in regard to E, water, GHG and waste reduction).
6. Accountabilities, measurements, and KRA's are in place for appropriate personnel (operations, sanitation...) to ensure continual improvement.
7. Maintain a current history log of improvement projects or initiatives.
8. Maintain a listing of highest energy, water, waste generation equipment/processes and plans to reduce usage for each.
9. Annual energy audits are performed as well as periodic system checks to ensure processes, practices, and behaviors are supporting continual improvement.
10. Establish at least a monthly water inspection process.

Resource Efficiency Plan

	Units	Base Yr	Baseline Efficiency	2009 Projection	2010 Projection	2010 Target
Energy	GJ/MT	2001	5.145			
Water	M3/MT	2006	10.33			
GHG	CO2e/ MT	2006	0.333			
Waste	Lb/MT	2007	0.123			

Project Examples

Improvement Requiring Significant Cost:

- Energy efficient motors
- Peak shave generators
- Boilers and Boiler stack economizers
- Hot gas recovery
- Direct contact water heaters
- High speed curtain doors

Improvements Involving Minimal Cost:

- Inspection checklists
- SOP's, and PM plans
- Boiler tune ups (frequency and specifications?)
- Reduction in entry points to coolers/freezers
- Water reduction initiatives
- Compressed air, IR, and steam leak surveys
- Buildings made as tight as possible, curtains maintained and closed

Summary

People: (knowledge and competency)

- Competency to lead the energy initiative
- EE awareness and training
- Key personnel certifications

Processes:

- Written plan
 - Annual or future projects/process improvements
- Procedures
 - Equipment SOP's
 - Preventive maintenance
 - Measurements protocols
 - Inspection and audit protocols

Equals Performance!