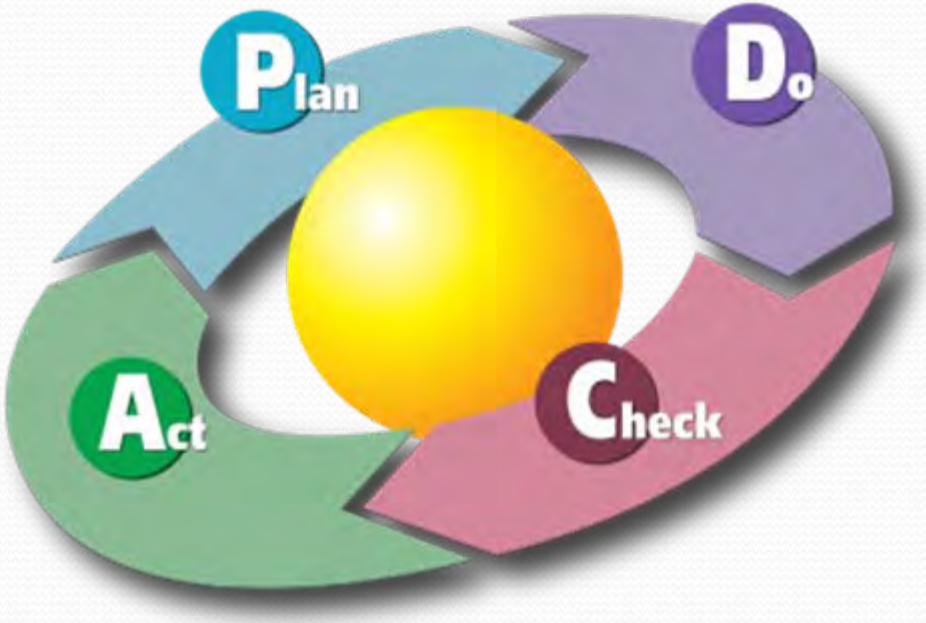
Energy Management Guide

Check & Act



Maintaining and Continuing Energy Improvements

- Guidebook
  - **Session 6:** Monitoring and Measuring Your EIMP, pg 71
  - **Session 7:** Maintaining Your EIMP, pg 72

An EIMP is the Vehicle to Reach Your Objectives and Targets

Assumes All are Onboard – Requires Culture Change, e.g. Garage Cans

Performance Indicators

- Exactly what will we measure?

e.g., $$, kWh, GHG metric tons,

or kWh/gallon, $ per kWh/gallon, reduce ratepayer fees, number of staff, reduced gpd per customer

Goal, Target, Performance Indicator, Measures

GOAL	TARGET	PERF. INDICATOR	SOURCE FREQUENCY
Reduce Energy use	Reduce overall energy use by 10% by Jan 2012	kWh	Baseline: Annual kWh 2010 Energy Bill = Annual kWh 2011 Energy Bill Monitor Monthly Energy Bills

Why Metrics Matter

- How well are you doing?
- How do you know how well you are doing?
- How can you demonstrate to others how well you are doing?

What gets measured gets managed; …and…
What gets managed gets *DONE*.

Good Project Management

Replace Pump #1 with a more efficient one
CFLs
Motion Sensors

TASKS	WHO	WHEN	$$
Determine optimal pump size	Jones	10/31/10	($60 K)
Research pump manufacturer Etc……	Smith	11/15/10	

Target to be completed by January 2012
Installation January 2011
10% reduction measured from annual 2010 energy bill and annual 2011 energy bill in kWhs

Monitor and Reassess Compliance Status

Energy targets can involve changes to equipment and operations—repeat evaluation of compliance with legal and other requirements at regular intervals.

For instance…

Did installing new pumps, automated lighting, or utilizing renewable energy affect your compliance requirements? Ask these questions:

- How has compliance been affected by your energy conservation measures?
- Have any regulations been affected? Which ones?
- Is the regulation up to date?
- Are we still in compliance according to all pertinent agencies?
- Do we expect to remain in compliance?
- Are there opportunities to go beyond compliance?

What Does It Take to Implement and Maintain Energy Improvements?

- Roles and responsibilities
  - Do you have the right people?
  - Are they aware, committed, competent, and available?
- Training
- Managing, controlling documents and records - Database
  - Operational controls – i.e. Lighting
  - Set up and Monitor – Stickers, quarterly check if stickers are still up and lights in rooms are turned off
  - Maintenance/corrective action – replace stickers, if lights are left on develop new approach

How to Measure Your Progress

- Develop a plan for regular, periodic reviews of your EIMP
- Implement actions to adjust or correct when energy goals are not progressing
- Monitor/Reassess Compliance Status

Develop a Plan For Regular Reviews of Your EIMP

In developing your review plan, consider the following:

- When is the review conducted, how much time is needed, who is involved?
- How frequently will reviews occur?
- How is progress measured (short and long term)?
- Who is responsible for the review? Are they sufficiently trained?
- What will be done with the outcome of the review?

Sample review

Six Month √ EIMP implementation

- Assess your energy targets using the performance indicators you developed for each task in the EIMP
- Have each staff member with a specific task in the EIMP report the status and progress of their project
- Use the outcome of the review as a scorecard:
  - Progress of each target
  - Status of operational controls
  - Next steps
  - Corrective actions needed
  - Communicate success, celebrate milestones

Use Energy Audits as a Status Check of Your EIMP

- Compare periodically with initial baseline energy audit
- Important if installing a number of new systems or changing operational procedures.
- Did you achieve or exceed the energy savings you set out to accomplish?
- More frequent self audits , but full scale audits should be regular part of long-term assessment

Helpful Questions to Identify Why Targets Were Not Met

- Was the target realistic?
- Were the identified tasks sufficient to achieve the target?
- Were some tasks not completed?
- Did anything change?
- Was LOE insufficient to achieve target?
- KISS missing?
- Did LOE to accomplishing individual tasks results missed targets?

Appropriate responses

Organize Team Meetings to Review Targets and Concerns

- Reassess Targets
- **Modify task list**
- Provide additional resources

Remember to applaud efforts where targets have been met and consider setting more ambitious targets for next phase.

Lessons will be learned throughout this process.

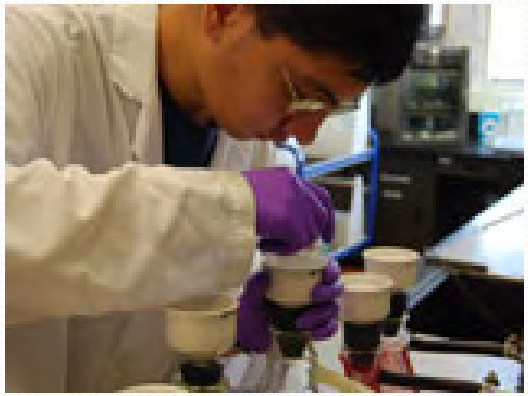
Listen to your Energy Team as difficulties are discussed, brainstorm solutions

Identify Reasons for Unmet Energy Targets

Ambitious targets may not have been met by the time of review for several reasons:

- Weather patterns
- Electricity markets
- Contractor schedules
- Budget cycles, competing priorities
- Unforeseen requirements or limitations
- Errors in estimating level of effort or budget
- Change in personnel, misunderstanding, O&M requirements
- **Round Robin Exercise: Reasons Goals Not Met**
  - **10 minute table discussion/**
  - **2-3 report out by table of top five reasons/lessons learned**

- Communication (inside and outside)
- Monitoring and measuring
- Apply lessons learned



Finding Opportunities for Better Energy Management

Ensuring a sustainable future requires a commitment to continuous improvement

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