

# **Practical Next Steps When the CEO Is Finally Ready for Energy Management**

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## **ABSTRACT**

The state of Wisconsin's Focus on Energy program is a public benefits program that educates businesses on how they can reduce their energy use and costs. The program is attempting to impact energy saving projects and provide sustainable market changes. As a part of this effort the Industrial program has been offering the One-2-Five program to some of its larger customers. This program benchmarks and points out critical paths toward enhancements in ten different areas such as leadership, planning, maintenance and monitoring. One of the key results of this program is that it inspires upper management to make an initial commitment to enhance their energy management efforts.

But if this commitment is not followed up with concrete actions that result in cost reductions, the inspiration and commitment may quickly fade. It is important to "strike while the iron is hot" with a quick focused plan to meet the direct energy management needs of the industrial company. This plan should serve two critical objectives. First, it needs to provide immediate results with actual project installations. Second, it should address the development of a long-term energy management program that includes continuous improvement components.

One type of plan or approach is the package of energy management tools that the Focus on Energy Industrial program has developed called the Practical Energy Management (PEM) approach. The PEM approach includes a binder and CD designed to provide tools to reduce the time required for a company to implement an energy management program or enhance their existing program. The approach helps a range of company motivations from those looking to just use a basic system for energy management to those companies that want to integrate energy management into an ISO 14000 program. Through this process the Focus on Energy program is attempting to provide a sustainable increase in the market demand for energy efficiency.

## **Introduction**

It is common knowledge among industrial energy efficiency programs that one of the most important steps to persuade industrial companies to implement an energy management strategy is to convince the upper management and the CEO that energy management is a good business strategy. Once they buy-in, then getting actual energy efficiency projects to follow is much more likely.

But motivating the CEO is only half of the story. The other half is for them and their staff to find an effective, and relatively easy way, to make it happen. If this does not occur any motivation achieved will be wasted. There are just too many demands on the time of industrial customers. They will easily fall back into "managing energy" by just paying the

bills and addressing efficiency projects only after other "higher priority" or more manageable tasks are completed. In other words, projects usually never are addressed.

So what are the practical next steps when the CEO is finally ready for energy management? Wisconsin's Focus on Energy Industrial program set out to provide a solution that includes motivating the CEO's and then providing them with a ready made approach for energy management that they could drop in place called Practical Energy Management.

## **Background**

Wisconsin's Focus on Energy program is a public benefits program that has a mission to educate businesses on how they can reduce their energy use and costs. The program has dual goals of impacting energy saving projects and providing sustainable market impact. To meet these goals the Focus on Energy Industrial program has a directive to integrate energy management into a company's on-going business practices and strategic initiatives to reduce their energy costs per unit produced.

Some of the most critical barriers to this effort include:

- Lack of motivation of CEO's
- Limited time available for staff
- Inability to identifying all good opportunities
- Inability to impact process energy use

We will discuss below how we have attempted to design a cost effective approach to overcome many of these barriers through the Focus on Energy industrial program.

A market assessment survey that was completed for the industrial market by Focus emphasized the need for some system to help facilities manage their energy. Of the 48 large-to medium-sized industrial companies surveyed only 2 had a formal energy management plan and another 10 companies had an informal plan. This indicates that about 75% of the companies did not have any plan. From the point-of-view of the industrial program, the customers that implement an energy management strategy require less program time or money per project and energy saved. Therefore, convincing customers to implement energy management should allow the program budget to have a greater impact on project savings and on market demand.

As a part of this effort, the Focus program has been supporting the offering of the One-2-Five program to some of its larger customers. The One-2-Five program requires that upper management and others from diverse functional areas such as finance, engineering, operations and facility maintenance all come to the table. Once gathered together this program helps them benchmark their company with regards to energy management and points out critical paths toward enhancements in ten different areas such as leadership, planning, maintenance and monitoring. Within the Focus on Energy program one of the key results of this program is that it has served to inspire upper management to make an initial commitment to enhance their energy management efforts.

But if this commitment is not followed up with concrete actions that result in cost reductions, the inspiration and commitment can quickly fade. It is important to "strike while the iron is hot" and implement an energy management plan to meet the needs of the industrial company. The Focus program provides this plan through the Practical Energy Management (PEM) approach to cement this motivation into energy efficiency results and continual improvement.

## **Practical Energy Management (PEM) Overview**

The Practical Energy Management approach uses a binder and CD developed by Wisconsin's Focus on Energy Industrial program that provides a systematic approach to energy management. PEM is not a "How-to" do energy management guide, it is the approach that can be used to DO energy management. It contains a package of energy management tools that are designed to reduce the time and effort required for a company to implement an energy management program or enhance their existing program.

Elements of the PEM approach include samples for establishing an energy policy, energy goals, and project tracking. It provides calculation tools for a facility to benchmark their use of energy use per units of production and to estimate the energy use of equipment. A major tool is a section on best practices for typical end-use systems to provide a first-cut estimate of possible savings and practical tips for implementation. With these tools companies can quickly prioritize projects to develop a long-range plan for energy projects and develop a continuous improvement approach.

This practical approach helps a range of CEO motivations from those looking to just create a basic system for energy management to those who want to integrate energy management into an ISO 14000 program. Through this process the Focus on Energy program is attempting to provide a long-term increase in the market demand for energy efficiency.

## **Practical Energy Management (PEM) Details**

To make it clear what the PEM approach is all about an analogy may be useful. We all know that exercising is good, but many of us just don't have the time. Because of this understanding a successful market has developed for home-based exercise equipment, even ones that fit under your bed. The PEM approach is very similar. Motivated CEO's know the potential benefits of a systematic energy management approach, but their staff just doesn't have the time. PEM can minimize this time required because many of the elements needed are already developed. They do not have to reinvent the wheel (and it also fits under the bed!).

The basic sections and tools of PEM include:

1. **Energy Policy:** Establishes an energy policy that communicates the fundamental principles governing the organization's energy use and identifies the appropriate people to implement the program. Sample energy policies are included to make it easier.
2. **Goals and Targets:** Based on identified best practice opportunities, establishes goals and targets that are measurable achievements to be accomplished within a defined time period. Sample goals and targets are provided to clarify this section.

3. **Energy Management Projects:** Prioritizes and develops a three-year action plan for energy management projects that will help them meet the goals and targets and that support their energy policy. Spreadsheets are included if the customer needs a project prioritization or tracking tool.
4. **Energy Purchasing:** Understanding their utility's rate structure and facility's energy use patterns helps reduce their energy costs by matching energy use to the appropriate rate offered by their utility. Tips are included on managing energy purchasing.
5. **Facility Profile:** Uses monthly utility bills to develop an energy profile for their facility. Determines their energy cost per unit of production and compares it to previous years energy use. Spreadsheets for analyzing facility energy use data are provided.
6. **Equipment & Process Profile:** Determines the energy used by major equipment and processes. Ideally, the estimated combined energy use of their major systems should be within 10 percent of their overall energy use identified in the facility profile. Spreadsheets for analyzing equipment energy use are provided.
7. **Best Practices:** Best practices are techniques or technologies generally recognized as being economical and more energy-efficient than common or typical practices. Reviews best practices in comparison to their equipment profiles to identify opportunities for energy efficiency improvement. Simple spreadsheets to calculate savings from best practices are included to give a quick understanding of where the best opportunities may be available.
8. **Continual Improvement:** Supports maintaining an effective energy management program which requires management commitment, ongoing project planning and implementation, measurement and verification of energy projects, assessment and improvement of the program itself, communication of program and project results. Samples are included of documents to use for continual improvement tasks.
9. **Standards and Guides:** This section provides a place to put additional references pertinent to energy management. Presently this section contains the web address to obtain the Management System for Energy 2000 developed by Georgia Tech Economic Development Institute. It also contains a Buyer's guide to purchasing energy efficient equipment.
10. **Program Administration:** A variety of procedures and documents are needed to maintain a comprehensive, effective energy management program. To the extent possible, this section integrates the administration of their energy management program with existing programs and includes samples of possible useful documents.

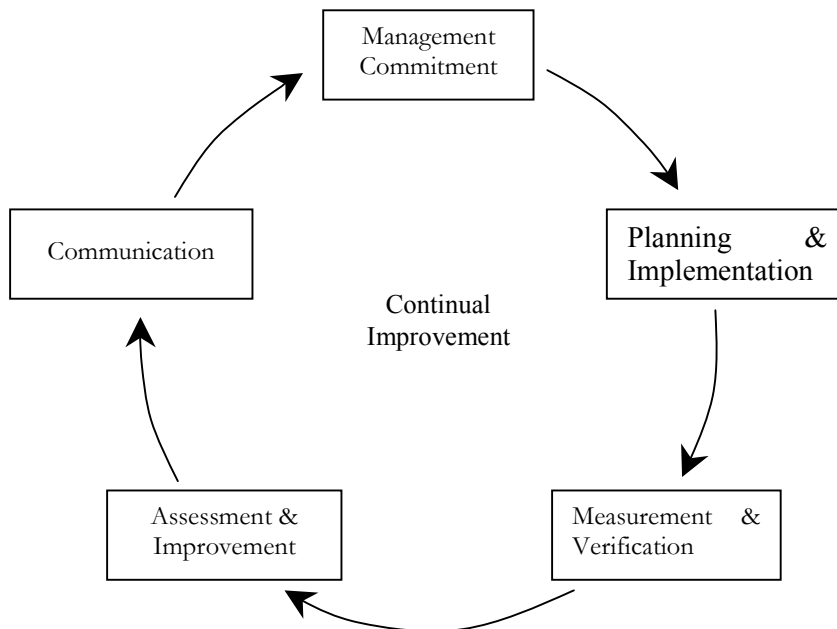
These sections and tools are available as electronic files (either Word or Excel) on the CD included. Also included is a Best Practices Reference CD. The Best Practices Reference CD is a collection of articles and fact sheets that provide additional depth on many of the best practices.

Of all of the sections, the one that is usually of most interest to plant engineers is the Best Practices section. At the time of this writing there are eight systems and their best practices that are included. Nine additional systems will be added soon. The present eight systems are:

- Compressed Air
- Lighting
- Motors
- Pumps
- Refrigeration
- Steam
- Ventilation
- Wastewater

Each system has five to a dozen best practices listed. Many of the best practices have a one page spreadsheet that describes the practice and provides a "first-cut savings estimate". The idea is to give the energy manager a quick understanding of the magnitude of any opportunities that they may have in their facility. From these first-cut estimates they can begin to prioritize the projects, establish goals/targets and develop a long-term energy management plan.

After the initial best practice opportunities are identified, the next most critical section is the continuous improvement section. The degree of attention to this section can be the difference between success in achieving long term and continual energy reductions throughout the coming years. This section highlights the basic continual improvement process.



Along with describing the process of continual improvement and the steps needed. This section includes many sample documents that can be used to facilitate the continual improvement process. These are:

- Energy Management Responsibility Matrix
- Energy Management Team Meeting Agenda
- Energy Management Team Meeting Minutes
- Energy Management Review Agenda
- Energy Management Review Meeting Minutes
- Energy Management Program Audits
- Sample Audit Plan
- Sample Audit Record
- Corrective & Preventive Action Inventory
- Corrective & Preventive Action Notice
- Communication & Involvement
- Measurement & Verification

The idea in this section, as with others, is for the user to keep the materials that they want to keep, but to modify them with their own information. The sections are also meant to be used to keep track of other project materials like supplier quotes and measurements for various projects.

## Conclusions

Part of the intent of PEM was to overcome basic barriers that the Focus program has observed in the industrial market. In summary, these barriers are addressed using One-2-Five and PEM as follows:

- **Lack of motivation from CEO** - One-2-Five and PEM benchmark a company to provide motivation.
- **Limited time available from staff** - PEM provides an approach that is easy to implement
- **Inability to identifying all good opportunities** - With the PEM facility profiles, equipment profiles and best practices an energy manager can systematically identify opportunities. Through the continual improvement section they can develop additional opportunities.
- **Inability to impact process energy use** - The continual improvement approach outlined in PEM requires a team building approach that ties in people responsible for process optimization. For most facilities the process is the largest energy user, but is usually too complex to impact if the team approach is not used.

PEM has been available for about three months at the time of this writing. The Focus program has completed four half-day trainings to present the approach. All four trainings were full (about 200 attendees total) and very positive feedback has been obtained from energy managers who attended. The training was so successful that four additional training days were added to be completed in April of 2003. We have produced an additional 100

PEM binders for other facilities that were interested in pursuing this approach, but did not attend the training. Some companies that have multiple facilities have asked for additional copies to use across their entire company. We have also had significant interest from businesses that provide energy services to companies to use the PEM approach with their customers. If these companies adopt PEM as a standard to use with their customers it would provide a significant market effect on the supply side of the energy efficiency market.

The Practical Energy Management approach is an ongoing endeavor. The Focus program is continuing to improve the approach to develop the best system. It is our intent to make it as easy as possible for ALL the good opportunities within a company to be identified, analyzed and implemented on a continual basis. It is one answer to the question: What are the practical steps when the CEO is finally ready for energy management?