

Plant Energy Profiler Tool for the Chemicals Industry (ChemPEP Tool)

Plant-wide energy assessments can generate savings opportunities from 10-15% with reasonable payback times, even for plants that already have an energy management program.

Tool Features

The ChemPEP Tool provides plant energy information in a clear graphical manner that can be very useful to managers. Outputs from the tool include:

- Energy summary reports
- Energy maps (electricity, fuel, steam)
- Energy distribution graphs
- Potential savings charts
- System assessments
 - Key system performance parameters
 - Energy savings potential

Resources

To download the ChemPEP Tool and other free software tools and learn more about DOE Qualified Specialists and training opportunities, visit the ITP Web site, www.eere.energy.gov/industry/bestpractices.

Additionally, you can contact the EERE Information Center at 1-877-EERE-INF (1-877-337-3463), or via the Web at www.eere.energy.gov/informationcenter.

Do you know which systems in your chemical plant consume the most energy?

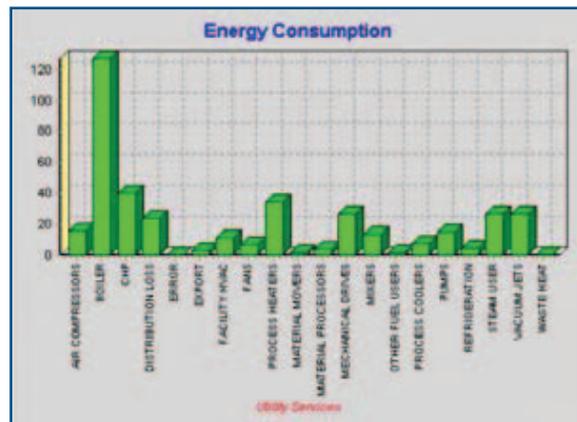
How does your plant's energy consumption compare to similar plants in the chemicals industry?

What energy management tools and techniques are available to help you reduce your plant's energy use and lower production costs?

The U.S. Department of Energy's Plant Energy Profiler for the chemicals industry (ChemPEP Tool) is available at no charge to help you answer these questions. The ChemPEP Tool is a software tool designed to help chemical plants assess their plant-wide energy consumption. It tool not only profiles energy use but also enables chemical plants to identify energy savings opportunities with reasonable payback times.

With the ChemPEP Tool users can compare their plant-wide operating practices against recognized chemical best practices; generate maps for energy flows throughout the plant; identify energy-intensive equipment and systems; and quantify and pinpoint potential energy savings throughout the plant.

Energy Consumption (%) by Services (All)



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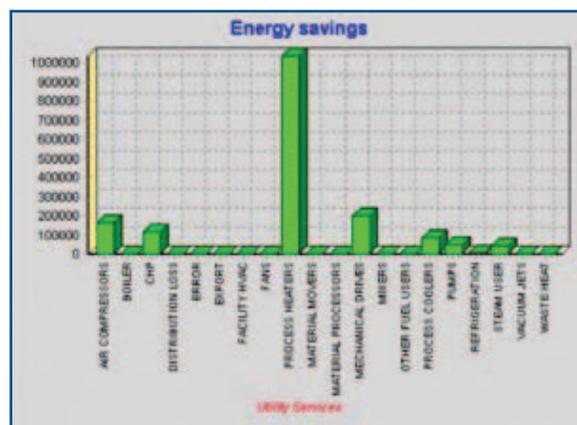


Figure 1: Sample ChemPEP Tool reports showing energy consumption and savings by system.



The ChemPEP Tool makes recommendations for the use of available energy management tools, such as those that target pump and steam system optimization, to help reduce energy consumption. The tool also contains a library of energy efficiency and management resources to help chemical plants improve their energy management program.

Tool Description

The ChemPEP Tool uses a qualitative assessment targeting specific systems (e.g., pumps, compressors, steam, power generators) to help identify the energy savings potential (high, medium, low) associated with individual equipment. Users are then directed to other tools and energy-saving ideas compatible with their specific plant characteristics. The ChemPEP Tool also allows for internal energy use benchmarking and provides an individualized scorecard of plant energy performance.

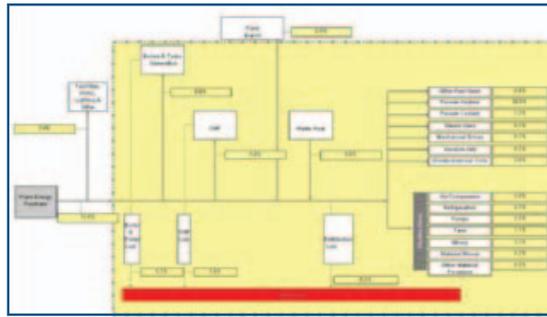


Figure 2: Example of an Integrated Energy Map.

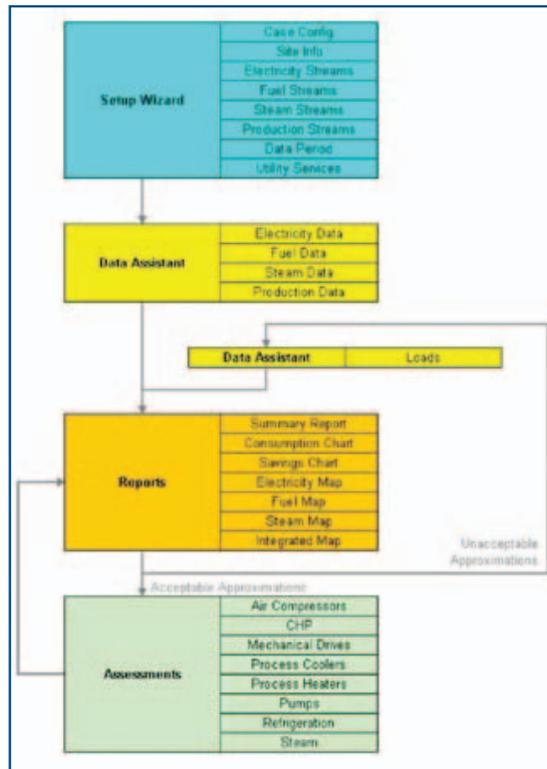


Figure 3: Schematic of the ChemPEP Tool sequence. User inputs plant data into the setup wizard and the data assistant, and runs system assessments to generate energy and savings potential reports.

The ChemPEP Tool was developed for the U.S. Department of Energy, under contract with the American Institute of Chemical Engineers, by Veritech, Inc.

Project participants also include: BASF Corp., Celanese Chemicals, The Dow Chemical Company, DuPont Company, Electric Power Research Institute, Millennium Chemicals, ICI/National Starch & Chemical Co., Reilly Industries, Rohm and Haas Company.

A Strong Energy Portfolio for a Strong America

Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

For More Information, please contact:

Industrial Technologies Program (ITP)
www.industry.energy.gov

EERE Information Center
 1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov/informationcenter

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ITP provides U.S. industries with software assessment tools, training, technical information, and assistance. These resources and energy management practices help plants improve the energy efficiency of their process heating, steam, pumps, compressed air, and other systems; reduce operating costs; and improve their bottom line.