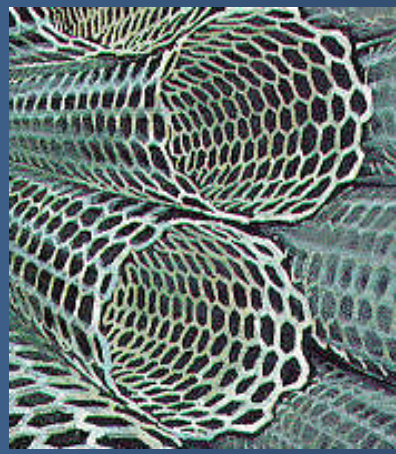
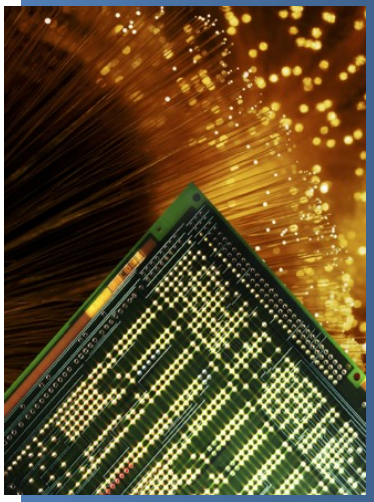
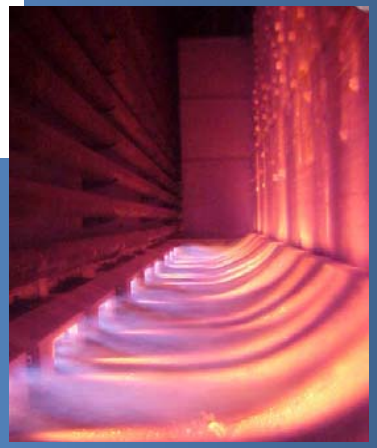
U.S. Department of Energy
Energy Efficiency and Renewable Energy
Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable

Save ENERGY Now Webcast Series

QuickPEP Tool Demonstration

Presented by Bill Orthwein
and Riyaz Papar
October 30, 2008




What Is the Industrial Technologies Program ?

The Industrial Technologies Program (ITP) is the lead federal agency responsible for improving energy efficiency in the largest energy-using sector of the country.

Together with our industry partners, we strive to:

- Accelerate adoption of the many energy-efficient technologies and practices available today
- Conduct vigorous technology innovation to radically improve future energy diversity, resource efficiency, and carbon mitigation
- Promote a corporate culture of energy efficiency and carbon management

Industrial Sector National Initiative

Goal:

Drive a 25% reduction in industrial energy intensity by 2017.

Save ENERGY Now

Agenda

- ❑ Introduction
- ❑ Plant Energy Profiling
- ❑ QuickPEP Demonstration
- ❑ New features in Quick 2.0
- ❑ Wrap Up
- ❑ Q&A

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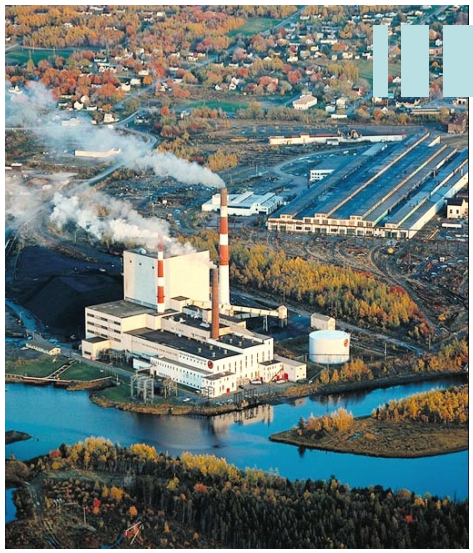
Plant Energy Profiling



10,000 ft level – Overall Plant

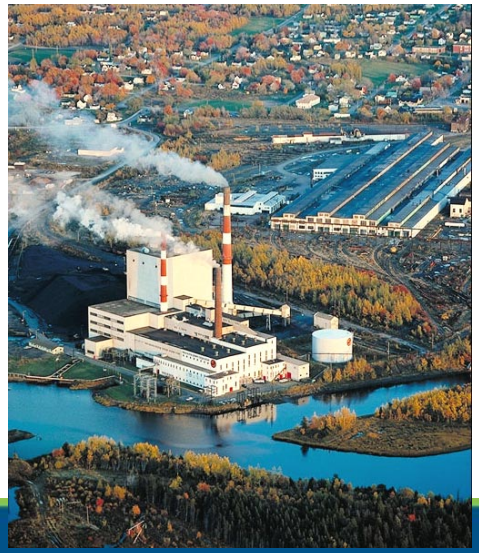
- Phone interview
- 1-day plant walkthrough
- ***Using QuickPEP***

1,000 ft level – System level

- Gap Analysis (Qualitative only)
- 1-day plant walkthrough
- 3-day plant Energy Savings Assessments (ESA)
- Using US DOE BestPractices System Tools

10,000 ft approach - The Big Picture in your Plant

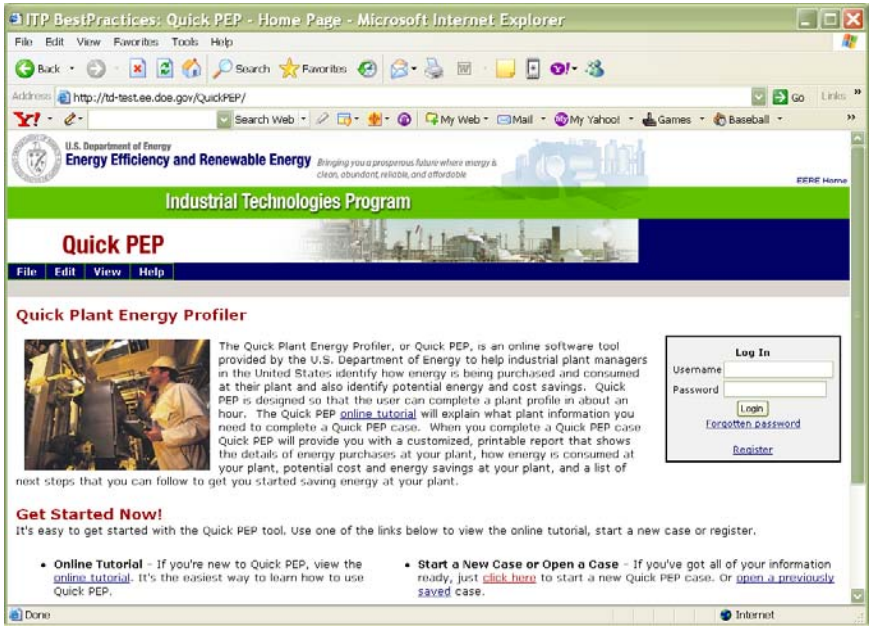
- Looking at the forest first
  - Understanding your plant from an energy supply & demand perspective
  - Different supply streams
  - Different energy consumption (conversion) systems
  - Puts everything down on one piece of paper
- Limited resources
  - Time – major constraint
  - Available information



10,000 ft Approach

INPUTS

- Plant description
- Utility supply data – electricity, fuel & steam
- Energy consuming system information
- Scorecard responses



OUTPUTS

- Overall picture of plant energy use
- Summary of energy cost distributions
- Preliminary assessment & comparison
- Areas for energy efficiency improvement
- Energy cost reduction potential

US Department of Energy's

QuickPEP 2.0 Tool

Quick Plant Energy Profiler Tool

Is available ONLINE ONLY

http://www1.eere.energy.gov/industry/bestpractices/software.html

Industrial Sectors

Industry	*NAICS No.*
Chemicals	325
Forest Products	321, 322
Petroleum Refining	324110
Integrated Steel	33111
Food and Beverage	311, 312
Coal, Metal Ore, etc.	212
Aluminum and Alumina	3313
Transportation Equipment	336
Fabricated Metals	332
Computer Electronics and Applications	334, 335
Plastics and Rubber Products	326
EAF Steel	
Textiles	313, 314, 315, 316
Cement	327130
Heavy Machinery	333
Glass and Glass Products	3272
Foundries	3315

Input Data Options

- Supply information
  - Average utility information
  - Actual utility bill information (worksheet)
- Energy consuming systems
  - Typical systems for that industry selected
  - User checked only
- Energy consumption (Demand) information
  - Average distributions for that industry selected
  - User can change the distributions
  - User can input actual energy consumption information, if available

Input Data Options

- Energy consuming system assessment for potential energy savings opportunities
  - Radio-button selection
  - User can complete a detailed score-card for a system

Output Data

- Case information
- Annual energy purchases: Graphical & Tabulated
- Annual energy consumption: Graphical & Tabulated
- Annual potential energy savings: Graphical & Tabulated
- Suggested next steps w/hyperlinks for each energy system

Output Data Options

- Formats
  - On screen display
  - “pdf” file
  - “qpep” file
- Tabulated results in energy (MMBtu) and cost ($)
- Graphical results can be displayed in either energy or cost units

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Added Features to QuickPEP 2.0

QuickPEP 2.0 Has Enhanced Base Lining Capability

- Multiple units of production within one or more plants
- Applicable to both 25 in 10 pledge and non-pledge end users

QuickPEP 2.0 Also Has a Carbon Footprint Calculator

- Based on up to 24 energy sources
- Tracks absolute changes of annual energy use
- Tracks absolute changes in annual CO2 emissions

http://www1.eere.energy.gov/industry/bestpractices/software.html

QuickPEP Tool Results

QuickPEP Tool

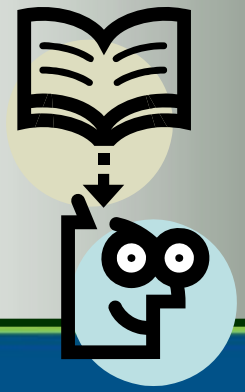
Establish Baselines

Identify Energy Savings

Opportunities By System

- SSST/SSAT
- 3E+
- N_XEAT
- PHAST
- PSAT
- FSAT
- CHP Tool
- AirMaster+
- MotorMaster+
- CWSAT

Help/References



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QuickPEP - Summary & Conclusions

- Use a top-down approach at your plant with QuickPEP as a starting point to:
  - Understand energy flow
  - Identify cost impacts
  - Identify potential energy cost reduction project areas
  - Benchmark plants at a corporate level
  - Benchmark individual systems at the plant level
  - Monitor performance over a period of time

Summary & Conclusions

- Prioritize different energy systems based on energy savings potential and undertake an ESA on each of those systems
- Continue further due diligence to implement energy savings and performance improvement projects

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Links and Resources

Register for future ITP webcasts by clicking the links below:

November 6, 2008: Energy Assessments: What are the Benefits to Small and Medium Facilities?

November 13, 2008: Assessing Data Center Energy Use

November 20, 2008: Super Boiler Technology

Learn More

To learn more about the Save Energy Now program, including information about no-cost energy assessments, software tools, and additional resources, training, tip-sheets, and sourcebooks, please visit ITP's Save Energy Now Web site: http://www1.eere.energy.gov/industry/saveenergynow/.

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