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Save Energy Now  
Energy Saving  
Assessments

AFS Canton Chapter  
November 1, 2007

# Overview

- Outline of Save Energy Now
- Process Heating In Industry
- Energy Savings Assessments
  - Overview
  - Implementation

# National Energy Situation

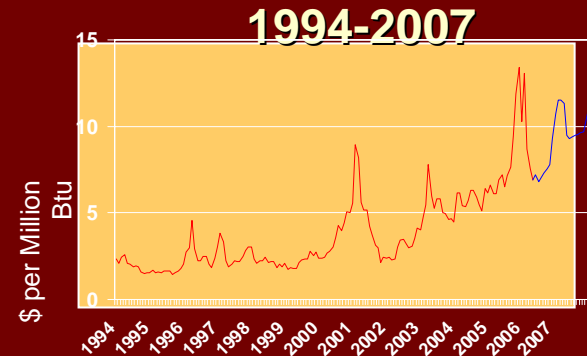
## ■ National Energy Security:

Global oil and gas reserves are in unstable areas and flexible alternatives are not readily available

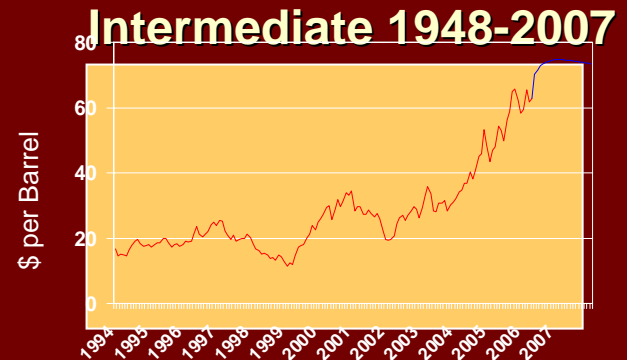
## ■ Economic Security:

Rising prices hurt America's ability to remain competitive in the global market place

### Natural Gas Prices, Henry Hub



### Oil Prices, West TX



# DOE "Easy Ways to Save Energy"

- Four Activities were Started in 2006 to Respond to Supply Shortages and Skyrocketing Natural Gas Prices:
  - Energy Hog Campaign –PSA's
  - Energy Savers Tips to Homeowners
  - Federal Energy Management Program (FEMP) Energy Saving Teams
  - Industrial Technologies Program (ITP)  
"Save Energy Now"

# Save Energy Now (SEN)

## ■ Goals:

- Encourage industry to voluntarily reduce its energy usage in a period of tight supplies by working with America's largest energy-intensive plants
- Create momentum to significantly improve energy efficiency practices throughout the manufacturing sector

# SEN Resources

- Suite of respected software tools for assessing plant systems
- Established training programs
  - Process Heating
  - Air Compressor Systems
  - Fans
  - Steam Systems
  - Pumping Systems
  - Motors
- Cadre of Qualified Specialists in various assessment tools/systems
- Network of Industrial Assessment Centers (IACs)
- In-depth experience in conducting plant energy assessments
- Strong partnerships and high credibility with influential companies in the manufacturing sector

# SEN Supporting Resources

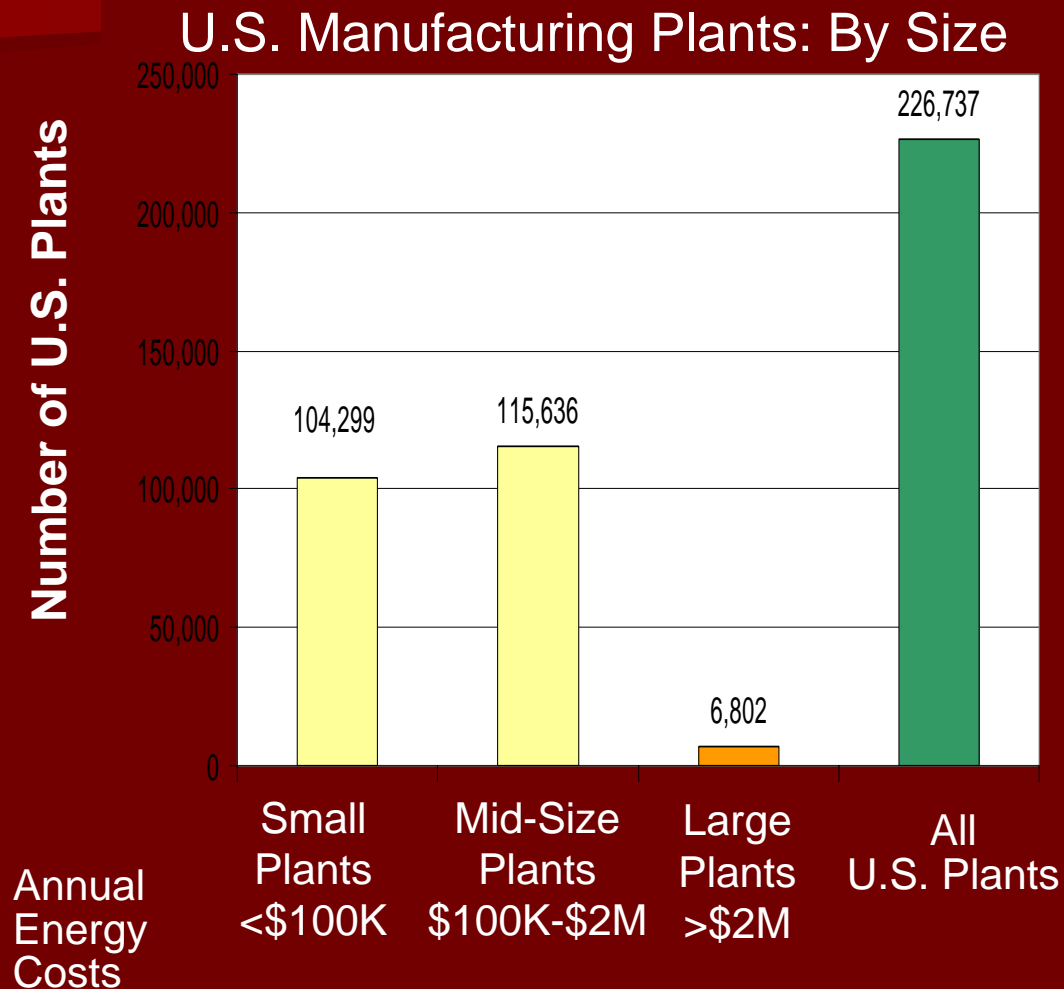
- ITP and BestPractices Websites
  - Communications Tools
    - Energy Matters
    - ITP E-Bulletin
    - EERE Info Center
- 877-337-3463



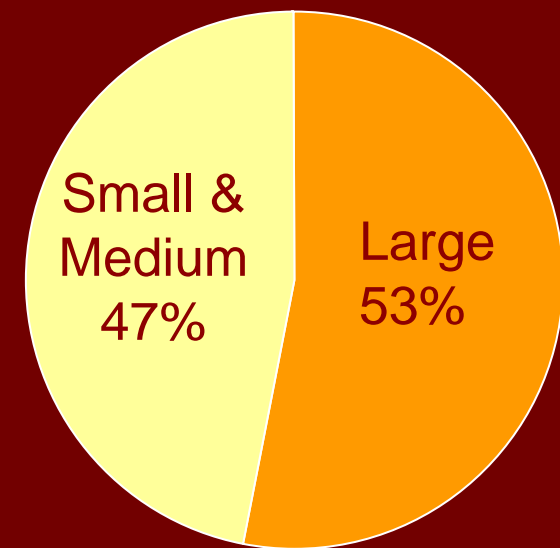
# Process Heating

- Critical to Industry
  - Heat drives almost all manufacturing
- The largest energy consuming system
- Complex energy consuming system
  - From baking cookies to Melting glass
- Fired heaters account for 37% of U.S. manufacturing energy end use
- The total energy end use in fired heaters is over 6 quadrillion Btu (excluding offsite and in-plant distribution losses)

# Few Plants Use the Most Energy



Percent of Total Industrial Energy



1998 EIA MECS

# Targeted Assessments



- Teams Composed of DOE Qualified Energy Experts and Plant Personnel
- Teams will focus on (depending on plant):
  - steam generation
  - process heating
  - compressed air
  - pumps or fans
- Plant personnel will be trained on DOE efficiency tools

# Preliminary Data / Information

- Plant Participants / Lead
- Plant Safety Rules, Procedures
- Utility Information
- Process Flows, Cycle Times, Etc.
- Equipment Drawings, Specifications
- Equipment Access Issues

# In-Plant Portion

## ■ Day 1

- Safety briefing, tour plant
- Agree on potential energy efficiency opportunities to investigate
- Initiate Data Collection For Potential Opportunities

## ■ Day 2

- Continue data collection
- Apply DOE tool to quantify potential opportunities
- Plant lead & expert agree on opportunity results
- Review DOE Tool with plant personnel

## ■ Day 3

- Wrap up tool analyses
- Plant lead & expert ensure they agree on opportunity results
- Closeout meeting in p.m. to review results

# 2006 Assessment Results

- 200 assessments completed
  - Natural gas savings = 52 trillion Btu/yr
    - Equivalent to >725,000 U.S. Homes
  - Identified opportunity = \$494,000,000
    - Carbon dioxide avoided = 3.3 MMT/yr

# Current Assessment Qualifications

- 0.1 to 0.3 Trillion btu/yr Energy Use
  - Approximately \$1,000,000/yr Energy Costs
  - L.T. 0.1 T btu Qualified for IAC Assessment
- No Group Registrations – All Single Plant
- No Closure Date on Solicitation
  - Rolling Acceptance
  - Plan to Continue into 2009.

# Application for Assessment

Step 1: Enter your corporate contact information

Step 2: Enter your plant energy use information

Step 3: Review and edit your plant energy use information

The screenshot shows a web browser window displaying the 'Energy Savings Assessment Application User Agreement' page. The page header includes the U.S. Department of Energy logo and the text 'Energy Efficiency and Renewable Energy' with the tagline 'Bringing you a prosperous future where energy is clean, abundant, reliable, and affordable'. The main heading is 'Industrial Technologies Program' in a green banner, followed by 'Energy Savings Assessment Application User Agreement' in red. The agreement text states: 'In order to be considered for an Energy Savings Assessment the applicant agrees to:'. It lists six conditions: 1. Work with plant managers on energy saving opportunities consistent with corporate policies. 2. Attend DOE end-user training on steam or process heating systems before or after the assessment. 3. Allow a DOE expert to identify energy savings opportunities. 4. Allow the DOE expert to report on identified opportunities. 5. Provide progress information on implementing savings six, twelve, and twenty-four months after the assessment. 6. Provide information on replication of findings at other plants six, twelve, and twenty-four months after the assessment. Below the list, it states: 'Agreement to these six conditions will complete your application. No further changes can be made.' At the bottom, there are three buttons: 'Previous', 'I Agree', and 'I Disagree'. A footer contains contact information: 'Questions about the Energy Savings Assessment program? Click Here or call 1-877-EERE-INF (1-877-337-3463) Experiencing technical difficulties? Click Here'. The browser's address bar shows 'http://eereweb.ee.doe.gov - Department of Energy - Energy Saving Assessment Application - Microsoft Intern...'. The status bar at the bottom indicates 'Internet'.

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

## Industrial Technologies Program

### Energy Savings Assessment Application User Agreement

In order to be considered for an Energy Savings Assessment the applicant agrees to:

1. Work with the plant managers that participate in the Energy Saving Assessment to consider investing in the energy saving opportunities that the assessment identifies, consistent with corporate financial policies.
2. Have staff from the applying plants attend a DOE end-user training on steam or process heating systems either before the Energy Savings Assessment or as soon after as possible. Training schedules are available at [www.eere.energy.gov/industry/bestpractices/calendar.html](http://www.eere.energy.gov/industry/bestpractices/calendar.html)
3. Allow a DOE expert to work with their staff to identify energy savings opportunities
4. Allow the DOE expert to report on the energy savings opportunities identified
5. Provide information to DOE on progress toward implementing the identified savings six, twelve and twenty-four months after the assessment.
6. Provide information to DOE on replication of the ESA findings at other company plants six, twelve and twenty-four months after the assessment.

Agreement to these six conditions will complete your application. No further changes can be made.

Previous | I Agree | I Disagree

Questions about the Energy Savings Assessment program? [Click Here](#) or call 1-877-EERE-INF (1-877-337-3463)  
Experiencing technical difficulties? [Click Here](#)

Internet

# Your Opportunity

- Targeting 250 per Year in 2007-08
- Typical Plant Saves 10 to 15% of their Process Heating Costs

# Contact Information

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- Presentation on Web Site

[www.energyinohio.com](http://www.energyinohio.com)