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STEAMING AHEAD

Energy-Efficiency News for Steam Plant Managers

Published by the Alliance to Save Energy and the U.S. Department of Energy

Read this Newsletter online at: <http://www.steamingahead.org/>

FINAL EDITION

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For the Steaming Ahead events calendar, visit:
www.steamingahead.org/calendars/

Steaming Ahead ends with this edition.

Over the past five years, we have had the pleasure of serving thousands of readers that we met at conferences and workshops sponsored by the U.S. Department of Energy's BestPractices Steam program. The Alliance to Save Energy's Industrial Sector staff wish to thank Bob Gemmer, Program Manager at DOE; Dr. Tony Wright at Oak Ridge National Labs; and the now-retired Fred Hart and Peter Salmon-Cox for their support and guidance over the past few years. We also thank the members of the BestPractices Steam Steering Committee—they are listed on the last page. The www.steamingahead.org website will remain accessible. In the future, you can expect to receive **E-Bulletin** <<http://www.eere.energy.gov/industry/resources/ebulletin>>, a monthly electronic newsletter with a broad technical agenda, directly from the U.S. Department of Energy's Industrial Technologies Program.

There is still work to be done. Over half of industry's fossil fuel consumption is devoted to combustion processes. Of those total fuel purchases, 40 percent is lost, and much of that loss is economically avoidable. Wasted energy is wasted money, pure and simple.

Questions? Please contact me at crussell@ase.org. Thank you, and keep up the good work.



Steaming Ahead: <http://www.steamingahead.org>
DOE BestPractices Steam: <http://www.eere.gov/industry/bestpractices/>
Alliance to Save Energy: <http://www.ase.org/>



“Save Energy Now” Identifies \$220 Million in Annual Energy Savings So Far

As of July 7, Energy Savings Teams from the Department of Energy (DOE) have completed 76 Energy Savings Assessments (ESA) of “Save Energy Now,” part of DOE’s “Easy Ways to Save Energy” campaign. Working with plant staff, the teams have identified 24 trillion Btu/year in energy savings, translating to a potential cost savings of over \$220 million/year. Throughout the remainder of 2006, Process Heating and Steam ESA Experts will continue to work with qualifying plants to identify energy savings opportunities. Many facilities are moving ahead with projects, and preliminary reports from nine plants indicate over \$1 million in immediate savings through projects implemented in the first 30 days following the assessment.

In addition to offering comprehensive energy assessments, each DOE Energy Expert conducts software-oriented training sessions for assessing systems and identifying immediate opportunities for energy-efficiency savings. The energy assessments focus primarily on steam and process heating systems, which consume the largest portion of all energy used in U.S. industry today. A complete list of participating plants can be found at http://www.eere.energy.gov/industry/saveenergynow/partners/selected_plants.cfm.

A written report is being prepared for each assessment. As these reports become available, they are posted at <http://www.eere.energy.gov/industry/saveenergynow/partners/results.cfm>

The another round of ESAs is in the planning stages for 2007. Companies that missed out in 2006 will have an opportunity to apply for an ESA in 2007. For additional information about the “Save Energy Now” campaign, please visit <http://www.eere.energy.gov/industry/saveenergynow/>

Energy Savings Assessment at Sterling Chemical Plant Identifies \$1,895,000 in Annual Savings

An Energy Savings Team visited the Sterling Chemical plant in Texas City, TX and identified four opportunities among the plant’s four boilers and distribution system with a total potential savings of about \$1,895,000/year in energy cost savings. Opportunities include improved boiler efficiency through oxygen control, additional piping insulation, and more responsive steam trap and steam line leak repair. In addition, Sterling Chemical personnel formed an Energy Management Team to ensure a sustained commitment to the efficient, cost effective use of energy.

A summary of this Energy Savings Assessment can be found at http://www.eere.doe.gov/industry/saveenergynow/partners/pdfs/esa-074_final_public.pdf.

New DOE Report Highlights Energy Research & Development Successes

DOE’s new Energy Technology Solutions: Public-Private Partnerships Transforming Industry report (June 2006) highlights research and development (R&D) projects co-funded by DOE’s Industrial Technologies Program and industry. The *Technologies for Today* section features technologies that have successfully completed R&D and are currently available in the marketplace. The *Technologies for Tomorrow* section reviews R&D activities that are expected to result in commercialized products or processes within the next three years. Both sections are organized by industry (such as chemical or forest products) and include “cross-cutting” technologies such as combustion and sensors & controls.

To view and download this report, go to http://www1.eere.energy.gov/industry/bestpractices/pdfs/itp_successes.pdf.

Spread the Word: DOE Case Studies Prove That Energy Efficiency Pays

For the past several years, DOE’s Industrial Technologies Program has assembled many case studies documenting energy savings at industrial facilities throughout the country. These case studies cover a broad range of industries, and include a variety of energy savings technologies and methodologies. A common theme among the case studies is that energy savings projects usually have solid returns on investment, while having corollary benefits such as improved productivity and reduced maintenance costs.

Many of the DOE case studies, such as the study highlighted below, relate to steam systems. See http://www.eere.doe.gov/industry/saveenergynow/case_studies.html and <http://www.eere.doe.gov/industry/bestpractices/>.



Steaming Ahead: <http://www.steamingahead.org>

DOE BestPractices Steam: <http://www.eere.gov/industry/bestpractices/>

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Case Study Example: Energy Savings at J.R. Simplot Food Processing Plant

The J.R. Simplot Company potato processing plant in Caldwell, ID is saving 52,000 MMBtu and 526,000 kWh per year. Their steam system improvements were recommended by a Qualified Steam Systems Specialist using DOE's Steam System Assessment Tool (SSAT). The project is saving the company \$329,000/year in energy and maintenance costs, and had a simple payback of 14 months. Savings were realized through the installation of new burners equipped with parallel positioning controls, and adding a flue gas oxygen trim system to reduce the amount of excess air needed for quality combustion. The project has improved the boiler efficiencies to the point that J.R. Simplot has shut down one of its three boilers, thus creating the electrical savings by allowing the third boiler's draft fan and condensate pumps to be turned off.

This project is documented in a DOE case study available at <http://www1.eere.energy.gov/industry/bestpractices/pdfs/simplot.pdf>.

The Business Impacts of Energy Efficiency – Four New Reports

Industry's business leaders and their technical staff will benefit from four reports related to industrial energy efficiency published recently by the Alliance to Save Energy. Following are overviews and links to these reports.

[World Class Energy Assessments](http://www.ase.org/content/article/detail/3173) provides the insight of 80 energy users and industry experts on ways to overhaul the approach to industrial energy assessments and to improve significantly the implementation rate of assessment recommendations. See <http://www.ase.org/content/article/detail/3173>.

[Executive Reactions to Energy Efficiency](http://www.ase.org/content/article/detail/3174) reflects on the opportunities and challenges in fully achieving energy efficiency. The discussion addresses the managerial concerns of industry as well as public programs that attempt to serve industry. Because technologies and projects are well described elsewhere, this report purposely focuses on organizational and people issues that shape energy management results. See <http://www.ase.org/content/article/detail/3174>.

[Executives for Energy Efficiency: Final Report](http://www.ase.org/content/article/detail/3176). The New York State Energy Research and Development Authority and the U.S. Department of Energy co-sponsored the development of a strategy to promote energy efficiency to business leaders. The report provides valuable insight into corporate decision-making, and complements the [Executive Reactions to Energy Efficiency](http://www.ase.org/content/article/detail/3174) report mentioned above. See <http://www.ase.org/content/article/detail/3176>.

[2005 Survey of Steam Workshop Attendees](http://www.ase.org/content/article/detail/3175) provides feedback from 50 people who attended the DOE *Optimizing Steam System Performance* workshops during 2005. This report describes: 1) the workshop's influence on attendees' steam efficiency efforts; 2) areas for improving the workshop; and 3) recommendations for future promotion of energy efficiency. See <http://www.ase.org/content/article/detail/3175>.

For an overview of other industrial energy efficiency activities at the Alliance to Save Energy, please see <http://www.ase.org/section/topic/industry/>.

DOE Research and Development Leads to Super Boiler

A research and development project initiated in 2000 by DOE's Industrial Technologies Program with support from the Gas Research Institute and many other industrial partners has produced a commercial prototype that is currently being field-tested. The Super Boiler is a fire tube design with innovations such as a transport membrane condenser and compact humidifying air heater to extract sensible and latent heat from flue gas. The boiler delivers ultra-high efficiency (over 94%), very low emissions, and a compact footprint that should encourage modularization.

Please visit the Industrial Technologies Program's July issue of its E-Bulletin at <http://www.eere.energy.gov/industry/resources/ebulletin/> for an article on the Super Boiler. A fact sheet is also available at <http://www.eere.energy.gov/industry/combustion/pdfs/superboiler.pdf>.

DOE Industrial Technologies Program Solicitations

The DOE-ITP provides cost-shared funding for qualified research and development projects. Awards are based on a competitive process open to collaborative teams that may include academia, suppliers, universities, national labs, and others. There is one solicitation currently open:

[Collaborative Energy Efficiency Research in Iron-Making and Steel-Making](http://www.eere.energy.gov/industry/financial/solicitations_active.html) is open through October 3, 2006. Please see http://www.eere.energy.gov/industry/financial/solicitations_active.html for details.



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DOE BestPractices Steam: <http://www.eere.gov/industry/bestpractices/>

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Future solicitations will be listed on the DOE-ITP "Solicitations" Web page:
<http://www.eere.energy.gov/industry/financial/solicitations.html>.

Note: Official notices of solicitations can be found at <http://www.fedbizopps.gov> or in the Federal Register. This list is for information only—it may not be inclusive of all solicitations. Funding amounts and schedule dates are subject to change.

Upcoming Steam Events and Training

If your organization is interested in hosting a U.S. DOE Steam Training session, please contact Ann Deming of Project Performance Corporation at 703-748-7096.

U.S. Department of Energy Steam System Specialist Qualification Training

The DOE BestPractices Steam Specialist Qualification Training program is a two-and-a-half day course teaching the effective use of DOE BestPractices Steam software tools. The DOE recognizes participants who pass the final exam as Qualified Specialists in the use of the BestPractices Steam Software Tools.

No courses are currently scheduled.

For a full course description, visit: http://www1.eere.energy.gov/industry/bestpractices/steam_tool.html#Find

U.S. Department of Energy Steam System Assessment Workshop

This one-day workshop covers operations of typical steam systems and presents methods for improving system efficiency. The workshop will help steam system staff to better identify opportunities for saving energy.

For a full listing of courses and course descriptions, visit the DOE BestPractices Training Calendar:
http://www1.eere.energy.gov/industry/bestpractices/events_calendar.asp

- July 13, 2006: Vega Baja, Puerto Rico
Marty Brown: 908-901-8817, martin.brown2@pfizer.com
- July 27, 2006: Calumet, Indiana
Nona Schaler: 765-494-2756
- September 20, 2006: West Chester, Pennsylvania
Gail Fellows: 610-436-3333, gfellows@wcupa.edu

BestPractices Steam Steering Committee: Thank you!

- Fred Fendt, Rohm & Haas Company (Chair)
- Debbie Bloom, Nalco (Vice Chair)
- Bob Bessette, Council of Industrial Boiler Owners
- Victor Bogosian, National Board of Boiler and Pressure Vessel Inspectors
- Charles Cottrell, North American Insulation Manufacturers Association
- Tim Ellis, ITT Technologies
- Beverly J. France, Industrial Interactions, Inc.
- Bob Griffin, Enbridge Gas Distribution
- Glenn Hahn, Spirax-Sarco
- William Haman, Iowa Energy Center
- Tom Henry, Armstrong International
- Ronald A. Holt, Swagelok
- Walter E. Johnston, Association of Energy Engineers
- Michele Jones, National Insulation Association
- Mike MacDonald, R.F. MacDonald Company
- Anthony Martocci, Retired – Bethlehem Steel Company
- Jim McDermott, Yarway Corporation
- Kelly Paffel, Plant Support & Evaluations, Inc.
- Miriam Pye, New York State Energy Research & Development Authority
- Randall Rawson, American Boiler Manufacturers Association
- Michael A. Rutkowski, Veritech
- Michael Sanders, Sunoco Refining
- Dale Smith, CEC Consultants, Inc.
- Gary Wendorf, Gateway Technical College/National Association of Power Engineers
- Richard Wennen, 3M

Before We Go...

"In preparing for battle, I have always found that plans are useless, but planning is indispensable." -- General Dwight D. Eisenhower



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