Industrial Technical Assistance

Supports the increase in productivity and deployment of energy efficient manufacturing technologies and practices, including strategic energy management and combined heat and power, across American industry.

The Opportunity

The industrial sector has an annual energy bill of more than $200 billion.[i] However, there are significant cost savings available in the industrial sector through cost-effective investment in energy efficiency and combined heat and power (CHP), i.e., the concurrent production of electrical power and useful thermal energy from a single fuel source. Many facilities can save 15% or more annually through projects with payback periods of less than 3 years.[ii]

The industrial sector has the potential to invest more than $100 billion in cost-effective, energy efficiency technologies by 2020 which would result in total energy savings of 5 quadrillion Btu and annual cost savings of almost $50 billion.[iii] A host of market and non-market barriers, such as awareness, financial, policy, organizational, often prevent industrial companies from investing in greater energy efficiency.

Industrial Technical Assistance Goals[iv]

- Support the deployment of 40 GW of new, cost-effective CHP by 2020.
- Support the reduction of manufacturing energy intensity by 25% over 20 years.
- Promote effective energy management across U.S. industry.

Better Buildings, Better Plants Program & Challenge

The Better Building, Better Plants Program (Better Plants) program is a voluntary recognition program to support a 25% improvement in industrial energy intensity over 10 years. Partners implement cost-effective, energy efficiency improvements that save money, create jobs, promote energy security, and strengthen the competitiveness of the U.S. manufacturing sector. Any company in the U.S. manufacturing sector may become a Better Plants Partner, regardless of size or level of energy management expertise. Currently, Better Plants represents more than 2,300 plants and close to 11% of the total U.S. manufacturing energy footprint. As of August 2014, Partners have saved about $1.7 billion cumulatively.[v]

CHP system at Frito Lay facility in Killingly, Connecticut.
Photo courtesy of Energy Solutions Center.

The U.S. Department of Energy (DOE) offers manufacturers and other energy intense industries two opportunities to engage in Better Plants based on their level of commitment (either as a Program Partner or Challenge Partner). All Partners receive certain benefits such as national recognition for their efforts and technical support from DOE.

For more information, visit *energy.gov/betterplants*.

Superior Energy Performance

Superior Energy Performance® (SEP™) is a certification program that provides facilities with a transparent, globally accepted system for verifying energy performance improvements and management practices. A central element of SEP is implementation of the global energy management standard, ISO 50001, with a verification protocol to prove energy performance improvements. Almost 30 facilities have achieved SEP certification. Nine of these facilities have shown an average energy performance improvement between 6% to 25% over three years, with an average payback of 1.7 years.[vi]

For more information, visit *energy.gov/isosep*.

Industrial SEP Accelerator

DOE has launched the Superior Energy Performance Accelerator to demonstrate SEP as a practical and cost-effective energy efficiency program offering. Partners in this Accelerator represent two aspects of SEP. The first are corporations agreeing to bring SEP to facilities across their enterprise. The second are utilities and energy efficiency program administrators that agree to deploy SEP to a set of customers across their service territories.

For more information, visit *eere.energy.gov/buildings/betterbuildings/accelerators*.

Combined Heat and Power Deployment

AMO's CHP Deployment Program provides facilities and stakeholders with resources necessary to identify CHP market opportunities and supports installation of CHP systems in industrial, commercial, institutional, and other applications. Site specific technical assistance is provided through seven regional CHP Technical Assistance Partnerships (CHP TAPs), previously called CEACs. Between 2009 and 2012, the CHP TAPs provided technical support to more than 440 CHP projects. The CHP TAPs promote cost-effective CHP, waste heat to power, and district energy with CHP. Services include market assessments for CHP; education and outreach to provide information on the benefits and applications of CHP to state and local policy makers, regulators, energy end-users, trade associations, and others; and technical assistance, such as project screenings and feasibility analyses, for energy end-users and others to help them consider CHP.

For more information, visit *energy.gov/CHP*.

Industrial Assessment Centers

DOE has partnered with 28 engineering schools around the country to offer small- and medium-sized manufacturers no-cost energy and water assessments. These Industrial Assessment Centers (IACs) conduct energy audits to identify opportunities to improve productivity, reduce waste, and save water and energy. On average, each manufacturer identifies about $140,000 in potential annual energy savings and implements more than one-third of these savings within the first year of the assessment. When accounting for some persistence of savings, almost 19,000 IAC assessments have resulted in close to $5.9 billion in energy savings and 30 million metric tons in CO_2 emissions reductions.

In addition, the program provides upper class and graduate engineering students unique, hands-on assessment training and knowledge of industrial process systems, plant systems, and energy systems—making them highly attractive to employers. More than 60% of IAC graduates pursue energy-related careers. The IAC program provides industry with a workforce of energy engineers with real-world training who will contribute to improving industrial efficiency throughout their careers.

For more information, visit *energy.gov/iac*

Software Tools & Training

Energy System Tools

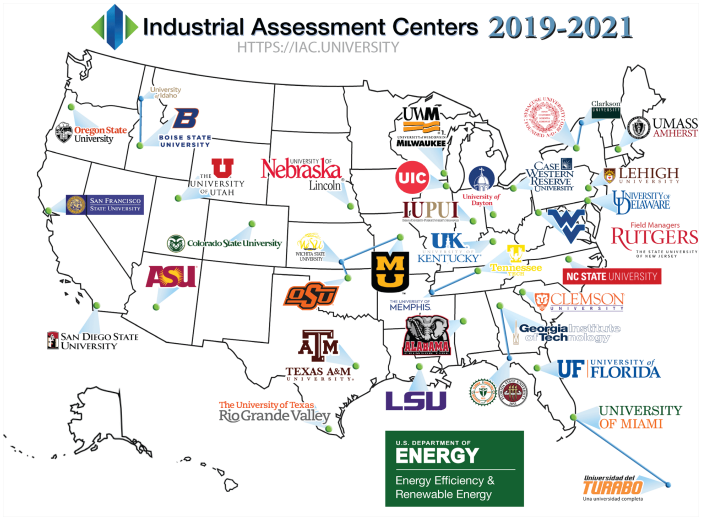
To accelerate the widespread adoption of energy efficient technologies and practices, AMO provides a range of software tools and training to help facilities manage and optimize energy use of critical equipment such as steam and boiler systems, process heating, compressed air, motors, pumps, and fans.

For more information, visit *energy.gov/eere/amo/software-tools*.

eGuide Energy Management Tool

Implementing some form of an energy management program is a key step to saving energy, cutting costs, and staying competitive for organizations of all sizes. The eGuide is designed to help organizations from all sectors (industrial, commercial, government, institutional, etc.) establish an energy management program that systematically improves organizational energy performance. The eGuide gives users step-by-step guidance for energy management program implementation, customized to an organization's level of familiarity with energy management.

For more information, visit *energy.gov/eere/amo/articles/doe-eguide*.



i U.S. Energy Information Administration, Annual Energy Outlook 2012.

ii Data analysis using information from the IAC database. http://iac.rutgers.edu/database/

iii McKinsey & Co., Unlocking Energy Efficiency in the U.S. Economy, July 2009, Page 75.

iv Department of Energy FY 14 Congressional Budget Request.

v Data analysis using information from Better Plants Partner reported savings.

vi http://industrial-energy.lbl.gov/files/industrial-energy/active/0/LBNL-6349E.pdf.

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