

State of Michigan Regional Delivery of the DOE Save Energy Now Program

Industry is a vital part of Michigan's economy. The state's major industrial sectors—which include primary metals, automotive, chemicals, paper and wood products, metal casting, and petroleum refining—are extremely energy-intensive and face increased global competition.

The Michigan Energy Office has devised a plan to help industrial manufacturers lower their operating costs and retain their competitiveness in the global market by improving the energy efficiency of manufacturing facilities. Together with a robust team of academia, state offices, and energy efficiency organizations, the team has established the *Michigan Industrial Energy Center* (MIEC). MIEC is helping Michigan industry through energy efficiency education and certification, energy assessments, technology deployment, and comprehensive outreach.

MIEC has developed a comprehensive integrated energy savings program to serve as a significant resource to industry, utilities, the State of Michigan, and the U.S. Department of Energy in meeting the goals of the Energy Policy Act (2005), Energy Independence and Security Act (2007), and Michigan's Public Act 295 of 2008. The overall project objectives of MIEC are as follows:

1. Offer a comprehensive energy education and certification program for current and future industrial energy managers

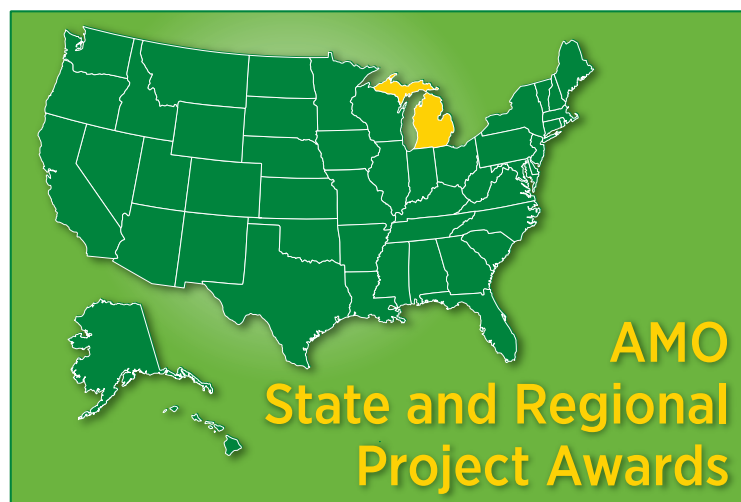
The training and certification program has both a long-term and multiplier effect by empowering individuals directly responsible for tracking and reducing energy costs (e.g. energy managers, plant managers, engineers, etc.) at numerous industrial facilities with the knowledge and credentials to identify energy efficiency opportunities and quantify their impacts for implementation approval.

2. Assist energy intensive industries in the region by identifying, recommending, and helping them implement specific measures to save energy

The 25 *Save Energy Now* energy assessments and follow-up implementation assistance will provide direct technical assistance to energy intensive facilities in order to rapidly identify and quickly act upon significant opportunities to save energy.

3. Help energy-intensive industries to deploy new energy efficient technology

Innovative waste heat recovery technology is anticipated to achieve a 20% reduction in combustion furnace fuel usage with a minimal capital requirement and highly



Project Description

Funding Amount: \$760,550

Funding Source: U.S. Department of Energy, Advanced Manufacturing Office

Program Period: 9/30/2009 to 9/29/2012

Project Success Highlights

- Recruited more than 200 members to participate in the MIEC network.
- Held one DOE Specialist Qualification training and two DOE End User trainings in the third quarter of 2011.
- Launched the MIEC website (<http://www.miec.engin.umich.edu/>) with an opt-in email network.
- Developed 12 lectures for the Fundamentals and Economics of Industrial Energy Efficiency short course training program.
- Completed the design and installation of a waste heat recovery system for the pilot demonstration at the University of Michigan.

Primary Investigator

Energy Office, Michigan Department of Labor and Economic Growth, Lansing, MI

Project Partners

DTE Energy, Detroit, MI

Renewable Energy Systems, Ann Arbor, MI

Shepherd Advisors, Lansing, MI

University of Michigan College of Engineering, Ann Arbor, MI

Western Michigan University, Kalamazoo, MI

favorable financial payback. The successful development and commercialization of the technology could result in dramatic long-term energy savings in the industrial sector. The team anticipates that five companies will adopt the technology during the first three years of the project, achieving a total natural gas usage reduction of 3 million Btu.

Progress and Milestones

Activity Description	Goal	Completed to Date
Assessments	25	0
Identified Energy Savings (Trillion Btu)	-	-
Implemented Energy Savings (Trillion Btu)	-	0
Trainings	12	4
Individuals Trained	-	30
Pilots / Demonstrations	0	1
Plants Impacted	-	-

(As of June 2011)

After a January 2011 project start, MIEC successfully launched its website (<http://www.miec.engin.umich.edu/>) and created an opt-in email network, achieving two of its key milestones within the first quarter of the project. There are 160 members in the MIEC network, and the team has a goal of achieving 200 members by the end of year two.

The team also is off to a strong start in developing and scheduling training events. It has completed 12 lectures for the Fundamentals and Economics of Industrial Energy Efficiency short course training program. Four of these lectures have been recorded to enable remote learning opportunities. The team also has conducted two DOE Specialist Qualification trainings, with the first taking place in March 2011, and additional trainings were scheduled at a rate of one per month through June 2011.

The MIEC is developing a Waste Heat Recovery system at the University of Michigan which will be used as a demonstration tool for energy managers. The design and installation for the initial pilot demonstration has been completed at the university. Testing has been initiated in preparation for the launch of the pilot demonstration.

For Additional Information:

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Benefits

- The MIEC helps Michigan manufacturers identify and implement energy efficiency measures through resources, including free energy trainings and comprehensive energy assessments for facilities.
- Reduction in energy intensity and carbon emissions in industrial plants in Michigan.
- An increase in the deployment of energy efficient technologies, such as CHP.
- Implementation of improved and more comprehensive energy education and certification for new and experienced industrial managers.

Applications in Our Nation's Industry

This project will establish a partnership among academia, state offices, and energy efficiency organizations that will continue to help reduce the energy intensity of industrial manufacturers in Michigan. At the end of the project period, the team's efforts are estimated to result in at least a 7.5% overall reduction of industrial energy intensity in the state.

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.

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