



## INDUSTRIAL TECHNOLOGIES PROGRAM

### Supporting Texas Manufacturing to “Save Energy Now”

The industrial sector in Texas is very energy intensive, with approximately 53 percent of all energy consumed in the state occurring in industrial plants, or 8 percent of all energy consumed in the United States. Further, industrial manufacturers in Texas released 211.9 million metric tons of carbon emissions in 2004—19.8 percent of all carbon emissions of industry in the United States that year. Texas industrials, therefore, have a great opportunity to reduce their energy intensity and related carbon emissions.

#### Project Description

The Texas team has two main objectives in its industrial energy savings program. First, the team plans to reduce industrial energy intensity in the state by 2.5 percent annually, in accordance with the *Energy Policy Act of 2005*. The

The Texas team, led by Texas Industries of the Future, has devised an innovative approach to lowering industrial energy intensity in the state by 7.5 percent over the period of performance. The approach will incorporate energy assessments and project implementation assistance (including at data centers), training, and execution of an American National Standards Institute-accredited (ANSI) plant certification program. This program will deliver tools and resources from the largest energy-intensive plants to the small- and medium-sized facilities.

team’s second objective is to do this through collaboration with a variety of stakeholders, including local, state, and regional partners. The Texas team aims to meet both objectives through the following approach:



#### Benefits

- Reduction in industrial energy intensity by 2.5 percent each year of the project period, or 7.5 percent overall
- Forging of a regional collaboration to improve industrial energy efficiency and technologies throughout the state
- Training of engineers, managers, and other stakeholders to help identify energy saving opportunities
- Assessments to identify energy savings opportunities for Texas manufacturers
- Projected energy savings of 1.8 trillion Btu over the life of the project
- Energy efficiency implementation support for small and medium manufacturers.

#### Applications in Our Nation’s Industry

This project will establish a partnership among energy service providers, providing them with the correct tools and knowledge so they can continue to help reduce the energy intensity of Texas manufacturers. In addition, this project will provide Texas manufacturers with energy efficiency project implement support.



- The team will conduct data center benchmarking to provide the U.S. Department of Energy (DOE) with accurate information regarding data center energy consumption in Texas utilizing DC PRO, one of the tools offered in DOE's BestPractices suite. The team will also train engineers and data center managers on proper operation of DC PRO to help them identify potential energy savings in their data center.
- In order to have the greatest reach to large industrial plants, the Texas team will develop a comprehensive outreach program to make them aware of DOE's programs, services, and resources; this includes training. The team will also formally recognize Texas industrial plants that have taken great strides toward reducing their energy intensity.
- The team will conduct an energy assessment each year that will focus on cooling, chillers, and refrigeration in a large industrial facility to identify energy saving opportunities.
- The Texas team will revise its existing energy assessment calculator and conduct training to ensure that engineers and manufacturers are aware of the updates and know how to properly use the tool.
- Energy assessments and project implementation assistance will be provided by the team to interested small- and medium-sized industrial manufacturers.
- Finally, the Texas team will recruit plants to become certified under the current ANSI standard for plant energy management.

## Progress and Milestones

The project's planned tasks include:

- Compiling benchmarking sites for 19 datacenters and holding 2 benchmark training workshops with 20 people each
- Holding six forums on DOE tools and resources, four BestPractices trainings, one session on energy management, and three recognition events in support of the outreach task
- Conducting three process cooling, chiller, and refrigeration assessments and providing a summary report of savings at the end of the performance period
- Revising the Texas-size Energy Savings! calculator, holding four training sessions on how to use the tool, and authoring one report on savings identified by the tool and implemented by participating plants
- Conducting energy assessments at 18 plants, providing implementation assistance to those plants, authoring technical reports on those facilities, and issuing a summary report during the final year of performance
- Training five plants and four Texas Manufacturing Assistance Center engineers on ISO energy management and issuing a summary report based on results from plants that have adopted the energy management standard.

## Primary Investigator

Texas State Energy Conservation Office,  
Austin, TX  
Texas Industries of the Future, Austin,  
TX

## Project Partners

American Institute of Chemical  
Engineers, South Texas Section,  
Houston, TX  
Combined Heat and Power Regional  
Application Center at HARC,  
The Woodlands, TX  
Georgia Institute of Technology, Atlanta,  
GA  
Hudson Technologies, Pearl River, NY  
Texas A&M, College Station, TX  
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