# U.S. Council for Energy Efficient Manufacturing (U.S. CEEM)

#### Presented by

**Fred Fendt,** Energy Efficiency & Conservation Global Manager, Advanced Materials Division, The Dow Chemical Company, US CEEM Member

email: <u>FFendt@dow.com</u>

April 25, 2012

ANSI Exploratory Meeting: Energy Efficiency Standards Panel

#### Who We Are

Voluntary partnership with a mission to enable U.S. industry to achieve global leadership in energy efficiency while maintaining competitiveness and reducing greenhouse gas emissions

#### How do we reach this goal?

- Encouraging participation, increasing effectiveness of energy-efficiency programs
- Working to identify gaps in programs and identifying resources to close these gaps

Current members represent a broad cross-section of energy-intensive industries including: chemical, steel, petroleum, and auto manufacturing



























#### Our non-manufacturing partners include:













#### Relationship among members and partners

#### **Industry Members:**

Defining Industry Needs, Goals, Objectives

# Working Groups & Outreach

Other Energy Efficiency Stakeholders:

Research, Standards Development, Program Implementation Federal Agencies:

Logistical and Financial Support

# What is Superior Energy Performance?

A market-based, ANSI/ANAB-accredited certification program that provides industrial and commercial facilities with a roadmap for achieving continual improvement in energy efficiency while boosting competitiveness.

#### Goals:

- Drive continual improvement in energy performance
- Develop a transparent system to validate energy performance improvements and management practices
- Encourage broad participation throughout industry
- Support and build the energy efficiency market and workforce





Superior Energy Performance for industry will be launched nationwide in 2012.

www.superiorenergyperformance.net

## Superior Energy Performance Strategy

- Foster a corporate culture of continual improvement in energy efficiency
- Use ISO 50001 standard as foundational tool for energy management
- Establish a tiered program that provides an entry point for companies at all levels of experience with energy management
- Create a verified record of energy performance improvement.
- Potentially create value for corporate energy savings and carbon reductions in utility, state, regional, national, and international trading markets





#### **Our Structure**

Members and Partners participate in an Executive Committee and in two working groups

#### Executive Committee

- Oversees U.S. CEEM's mission, goals, by-laws, and operating procedures
- Defines scope of working groups
- Guides the work of the support staff

#### SEP/Technical Committee (working group)

Reviews and comments on industrial energy efficiency programs, tools and resources

#### Outreach and Communications Committee (working group)

Develops outreach strategies and external communication materials, recruits new members, and identifies strategic partnerships

### **Our Strategies**

- Provide strategic guidance for SEP during and after its launch to ensure that it meets industry needs
- Review and assess existing government and utility energy efficiency programs, decision tools, and resources to assess their value to U.S. industry
- Facilitate the development of standards and best practices to enable effective energy management within the U.S. manufacturing sector
- Raise awareness about issues related to industrial energy efficiency to elected officials and policy makers

#### **Our Activities**

- Supported the development of the ISO 50001 Energy Management Standard. U.S. CEEM will promote this standard, which serves as the foundational tool for SEP
- Guiding the launch of SEP, an energy-efficiency certification program for industrial and large commercial facilities
- Supported the development of the ASME system assessment standards and guidance documents that provide a common framework for assessing major, crosscutting industrial systems

#### **Our Activities**

- Establishing approved methodologies to assist companies in measuring energy intensity baselines, quantifying energy savings and documenting energy efficiency improvements
- Leading the development of measurement and verification protocols for certifying industrial plants for energy efficiency
- Supporting the development of Certified Practitioners to help plants assess energy efficiency measures and verify performance improvements

#### **Our Future**

U.S. CEEM will strive to become a trusted resource for the industrial sector; articulating industry's unique characteristics, providing insights to the policy/program development community into development of tools, materials, standards and news related to industrial energy efficiency.

This will include guiding the final development of SEP as well as identifying other technical resources and programs that will be of value to the industrial sector.

12)

# To this end, U.S. CEEM seeks to continue to build relationships with:

- Manufacturing and industrial trade associations
- •The SEP program administrator
- U.S. DOE (SEP and Better Buildings/Better Plants)
- •The U.S. EPA (ENERGY STAR® for Industry Program)
- The U.S. DOC (NIST and MEP)
- Regional energy efficiency organizations
- NGO-led groups
- Utilities and utility organizations
- Technical resource developers
- Stds Developers, Conformity Assessment Bodies, and ANSI

# More information on U.S. CEEM available at <a href="https://www.usceem.org">www.usceem.org</a>

# Superior Energy Performance<sup>cm</sup>:

A Roadmap for Achieving Continual Improvements in Energy Performance

**Background and Details** 

# Getting Superior Energy Performance Certified

#### **Certification Requirements:**

An ANSI/ANAB-accredited Verification Body will conduct a third-party audit to verify that the facility meets the following requirements:

AIVAB

- Conformance to ISO 50001 Energy Management Standard
- 2. Energy Performance Improvement

## Superior Energy Performance

Facility-level conformance to ISO 50001 with validated energy performance improvement

ISO 50001 is a foundational tool that any organization can use to manage energy.

#### ISO 50001

Components in place:

- Baseline
- Policy
- Plan
- Team/Leader



# ISO 50001 - Energy Management Standard

ISO 50001 energy management standard establishes a framework for industrial and commercial facilities and organizations to manage energy.

Uptake of ISO 50001 will be driven by companies seeking an internationally recognized response to:

- Corporate sustainability programs
- Energy cost reduction initiatives
- Demand created along the manufacturing supply chain
- Future national cap and trade programs; carbon or energy taxes; increasing market value of "green manufacturing" / reduced carbon footprint
- International climate agreements



#### Status of ISO 50001

- Published on June 15, 2011
- Available for purchase from ANSI
- Developed by ISO Project Committee 242; United States and Brazil led effort with the United Kingdom and China
- 59 countries participated,
   14 of which observed

# ISO 50001 - Energy Management Standard

- Requires an organization to establish, implement, maintain, and improve an energy management system, enabling systematic achievement of continual improvement in energy performance, energy efficiency, and energy conservation.
- Imposes requirements on energy supply and consumption:
  - Measurement
  - Documentation and reporting
  - Design and procurement practices for energy-using equipment and systems
  - Processes and personnel
- Applies to all factors that can be monitored and influenced by the organization to affect energy use.
- Does not prescribe specific performance criteria with respect to energy.
- Designed to be used independently, yet can be aligned or integrated with other management systems (e.g., ISO 9001 and ISO 14001). Applicable to all organizations that use energy.



# Key Elements of ISO 50001

- 1. Energy policy: top management's official statement of the organization's commitment to managing energy
- 2. Cross-divisional management team led by a representative who reports directly to management and is responsible for overseeing the implementation of the energy management system (EnMS)
- **3. An energy planning process** to assess energy uses, energy sources, and consumption and identify opportunities for improvement
- **4. Baseline** of the organization's energy use
- 5. Identification of energy performance indicators (EnPIs) that are unique to the company and are tracked to measure progress
- **Energy objectives and targets** for energy performance improvement at relevant functions, levels, processes or facilities within an organization
- **7. Action plans** to meet those targets and objectives
- **8. Operating controls and procedures** to address all aspects of energy purchase, use, and disposal.
- **9. Measurement, management, and documentation** for continuous improvement for energy efficiency
- **10. Internal audits and periodic reporting of progress** to management based on these measurements

## Roles within Superior Energy Performance

#### **Industry**

- Drives strategy through U.S.
   Council for Energy Efficient
   Manufacturing
- Pilots elements of Superior Energy Performance prior to program launch
- Adopts the Superior Energy
   Performance program by getting
   plants certified to ANSI/ANAB accredited Superior Energy
   Performance program

#### Government

- Facilitates industry collaboration to develop Superior Energy Performance program: fund program development activities, e.g., standards development, pilot projects
- Cost-shares Superior Energy
   Performance program start-up
- Leverages Superior Energy
   Performance program to deploy
   federal energy programs, e.g., Save
   Energy Now LEADER

## Benefits to Companies

#### Recognition

- Publicly recognized as leader in sustainable use of energy resources (local and financial community)
- Customers may grant preferred supplier status

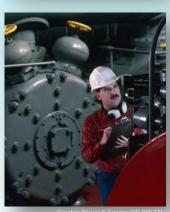
#### External financial incentives

- Potential energy efficiency credits (electric utility & others)
- Potential carbon credits (state, region, and national)

#### Systematic framework for continual improvement

- Consistent with ISO 50001 energy management and ASME system assessment standards
- Provides tools and resources to assist implementation and validation of sustained energy performance improvement





# Benefits in the Industrial and Commercial Energy Efficiency Market

#### Utilities

- Empowers a facility-wide, systems-oriented approach
- Helps justify industrial and commercial energy efficiency program investments, including permanent operational changes, to public utility commissions

#### State Agencies

Build local energy management expertise

#### ESCOs

 Builds greater credibility with industrial and commercial customers and a stronger business case for providing third-party energy efficiency services and off-balance sheet capital investments

#### Supply Chains

 Provides a proactive turn-key program for major OEMs and retailers to request their suppliers to meet the program requirements

# Superior Energy Performance Program Design

# Superior Energy Performance Program Design

#### PREPARE FACILITIES FOR SUPERIOR ENERGY PERFORMANCE CERTIFICATION

#### DOE ITP Energy Management System (EnMS) Implementation Self-Paced Module

Seven-step module provides guidance for implementing an energy management system based on ISO 50001

#### **End-User Training**

Four-part webinar training series that provides an overview of ISO 50001, Superior Energy Performance, and benefits of implementation

#### ISO 50001

Facilities pursuing certification must conform to the international energy management system standard

#### **System Assessment Standards**

Use of these standards can help facilities meet required energy performance improvement

#### Certified Practitioners In Energy Management Systems

Assist facilities in conforming to ISO 50001

#### Certified Practitioners In [System Type]

Assist facilities in assessing energy efficiency opportunities

#### U.S. DOE, U.S. CEEM , Advisory Group for Buildings (TBD)

Advise SEP Program Administrator and provide program guidance

#### **SEP Program Administrator**

Manage and operate program, process applications, assign auditors, issue certificates, and communicate with organizations involved

#### **Industrial and Commercial Facilities**

Apply through SEP Program
Administrator

To earn Superior Energy Performance certification, applicants must:

- Conform to ISO 50001
- Demonstrate energy performance improvement

#### **VERIFY APPLICANTS PURSUING SUPERIOR ENERGY PERFORMANCE CERTIFICATION**

#### Measurement & Verification (M&V) Protocol

Methodology to verify energy performance improvement and conformance to Superior Energy Performance. [Separate for industry and commercial buildings.]

#### Certified Practitioners SEP Lead Auditors and SEP Performance Verifiers

Perform third-party audit in facilities applying to become Certified Partners;
use M&V Protocol

#### **Verification Bodies**

Perform third-party audit or assign SEP Lead Auditors and SEP Performance Verifiers for facilities applying to become Certified Partners: use M&V Protocol

# Superior Energy Performance Program Design

#### The two-tiered approach accommodates:

- Maturity of facility's energy management program
- Level of external validation desired
- Business climate/cycle



#### **Two Program Tiers:**

#### **Partner**

#### **Self Declaration**

#### Criteria

- Conformance to ISO 50001
- Measure and audit energy performance improvement

#### **Performance Levels**

Energy performance improvement required

#### **Method of Verifying Results**

Self Declaration

#### **Certified Partner**

#### ANSI/ANAB-accredited certification

#### Criteria

- Conformance to ISO 50001
- Measure, verify, and certify energy performance improvement

#### **Performance Levels**

- Energy performance improvement required, minimum requirements set by program
- Two pathways available: Energy Performance or Mature Energy

#### **Method of Verifying Results**

ANSI/ANAB-accredited certification with on-site review

# SEP Performance Criteria for Certification Levels

Performance Characteristics		Silver	Gold	Platinum
Energy Performance Pathway	Energy Performance Improvement	Meets <b>5%</b> energy performance improvement threshold over the last 3 years after the baseline period	Meets <b>10%</b> energy performance improvement threshold over the last 3 years after the baseline period	Meets <b>15%</b> energy performance improvement threshold over the last 3 years after the baseline period
Mature Energy Pathway	Energy Performance Improvement	Demonstrates an energy performance improvement of <b>15%</b> or more over the last <b>10</b> years after the baseline period	Demonstrates an energy performance improvement of <b>15%</b> or more over the last <b>10</b> years after the baseline period	Demonstrates an energy performance improvement of <b>15%</b> or more over the last <b>10</b> years after the baseline period
	Score on Superior Energy Performance Industrial Facility Best Practice Scorecard Includes credits for energy management best practices and energy performance improvements beyond 15% over the last 10 years after the baseline was developed.	<ul> <li>Meets a score of at least 35 out of 100 total points for Superior Energy Performance Industrial Facility Best Practice Scorecard</li> <li>Minimum of 30 points required for the energy management best practices.</li> </ul>	<ul> <li>Meets a score of at least 61 out of 100 total points for Best Practice Scorecard</li> <li>Minimum of 40 points required for the energy management best practices and 10 for energy performance.</li> </ul>	<ul> <li>Meets a score of at least 81 out of 100 total points for Best Practice Scorecard</li> <li>Minimum of 40 points required for the energy management best practices and 10 for energy performance.</li> </ul>

# Criteria for Demonstrating Performance Levels in Shorter Time Periods

To qualify for the Energy Performance pathway, the energy performance improvement may be demonstrated over a period of 1 or 2 years rather than 3 years if one or more of the following reduced timeframe justifications is true:

- Changes have occurred in operations and product such that a meaningful baseline cannot be constructed from the earlier year(s) requiring a shorter period of analysis.
- Data are not available from earlier years to allow construction of normalized consumption.
- The facility began its Energy Management System (EnMS) program less than 3 years ago, and wishes to use the year immediately prior to its EnMS start as the baseline.

To qualify for the Mature Energy pathway, the energy performance improvement may be demonstrated over a period of 5 to 9 years rather than 10 years if one or more of the following is true:

- Changes have occurred in operations and product such that a meaningful baseline cannot be constructed from the earlier year(s) requiring a shorter period of analysis.
- Data are not available from earlier years to allow construction of normalized consumption.
- The facility began its EnMS less than 10 years ago, and wishes to use the year immediately prior to its EnMS start as the baseline.

Source: Superior Energy Performance Measurement and Verification Protocol for Industry, Section 3.5.2. November 9, 2011.

### **Best Practice Scorecard**

- The Best Practice Scorecard<sup>1</sup>
   provides facilities on the Mature
   Energy Pathway with:
  - Framework to earn credits to qualify for silver, gold, or platinum designation
  - Approaches that can be implemented to earn the credits
- A tool will be available to help users apply the scorecard.

#### **Credits are awarded in seven major categories:**

#### **Energy Management Credits<sup>2</sup>:**

- 1. Energy data, monitoring, and measurement
- 2. Management of significant energy uses
- 3. Energy supply management
- 4. Management of energy projects
- 5. System sustainability

#### **Energy Performance Credits**:

- 6. Energy performance improvement
- 7. Innovation in energy performance

<sup>&</sup>lt;sup>1</sup> The Best Practice Scorecard is undergoing revisions and is not yet final.

<sup>&</sup>lt;sup>2</sup> Activities, processes, or procedures that exceed the requirements of ISO 50001

# ISO 50001: Get Started Today

DOE and EPA resources are available to help your facility today. Visit DOE's new ISO 50001 website to learn more.

Action	Resources to Help		
Secure support from top management	<ul> <li>"Guidelines for Energy Management" discusses how to form an energy team and set corporate energy policy</li> </ul>		
Collect, track, and analyze energy data	<ul> <li>ePEP tool diagnoses how energy is used at a facility</li> <li>Technical publications increase knowledge about facility energy use</li> </ul>		
Identify key energy uses	<ul> <li>ePEP identifies major energy-consuming systems</li> </ul>		
Establish a baseline	<ul> <li>ePEP baselines current energy use; Superior Energy Performance baseline tools &amp; training coming</li> </ul>		
Identify energy-saving opportunities	<ul> <li>Tools to evaluate common energy systems</li> <li>ASME Energy System Assessment Standards</li> <li>Case studies on how others saved energy</li> </ul>		
Prioritize opportunities	<ul> <li>ePEP identifies potential energy and cost savings by energy system and prioritizes projects</li> </ul>		

# Overall Energy Management Toolkit

Track, Prioritize and Follow-up on Energy Saving Opportunities

#### **Corporate Analysis Tools**

- Corporate Baseline Creation
- Annual Report Generator

#### **Facility Analysis Tools**

- Facility Baseline
- Recommendations Portfolio
- Project Prioritization Tool
- Project Tracker Tool

#### **Project Analysis Tools**

- Prioritize projects
- Follow-up tool

### Structure

Energy Management
System Implementation
Self-Paced Module
(Based on ISO 50001)

- <u>Step 1</u>: Getting started
- Step 2: Profile Your Energy Situation
- Step 3: Develop
   Opportunities, Objectives,
   and Resources
- Step 4: Reality Check: Stop! Look! Can I Go?
- <u>Step 5</u>: Manage Current State & Improvements
- Step 6: Check the system
- Step 7: Sustain & Improve the System

# Technical System Area Tools, Calculators, & Scorecards

(Each system area will include software tools and simple calculators/scorecards)

- Industrial Buildings & Facilities
- Data Centers
- Motors
- Process Heating
- Compressed Air
- Fans
- Plant Energy Profiler
- Pumps
- Steam



## System Assessment Standards

Assessment standards for specific energy systems provide immediate opportunity for energy performance improvement in many facilities.

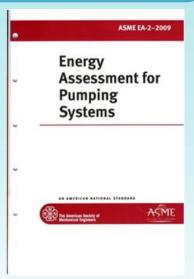
Use of the standards is <u>not</u> required for certification but will help plants define a pathway for achieving energy savings.

#### **Standards address:**

- Organizing an assessment
- Conducting an assessment
- Analyzing the data collected and developing efficiency recommendations
- Reporting and documentation

#### **Initial Four Standards:**

- Compressed Air
- Pumping
- Process Heating
- Steam



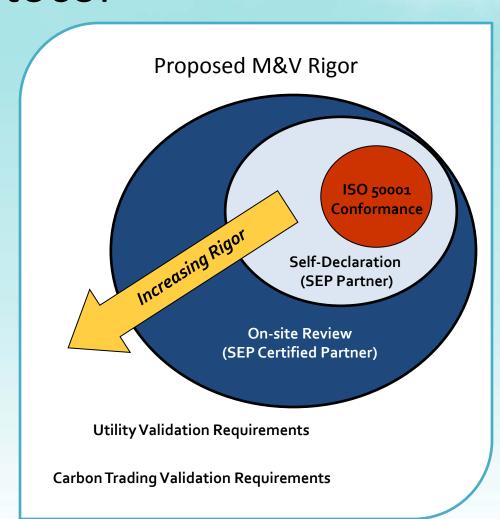
#### Purchase standards and guidance documents (print or digital) for \$35:

http://www.asme.org/search.aspx?searchText=EA&#page=1,category=STANDARD

# Measurement and Verification (M&V) Protocol

The SEP Industrial Measurement and Verification (M&V) Protocol is a methodology to:

- Verify results and impact from implementation of energy management.
- 2. Track energy performance changes over time for the overall facility.
- 3. Document energy performance normalized to production.



## **Certified Practitioners**

Training and skill are required for appropriate application of the energy management standard, system assessment standards, and the M&V Protocol. Superior Energy Performance will help to build this workforce.

- Certified Practitioners in Energy
   Management Systems: Help facilities
   implement the ISO 50001 and prepare
   for SEP certification
- Certified Practitioner in [Type] System:
   Perform compressed air, process
   heating, pumping, or steam system
   assessments using ASME system
   assessment standards to help facilities
   meet energy performance improvement
   requirement
- SEP Lead Auditors and SEP
   Performance Verifiers:
   Perform third-party audits to verify that a facility meets Superior
   Energy Performance requirements
  - Spring 2012: First class for Certified Practitioners in Energy Management Systems
  - Sign up to receive updates on Superior Energy Performance website.

# Superior Energy Performance Program Infrastructure

## **ANSI-ANAB SEP Certification Process**

(for Certified Partner)

6.

**SEP Program Administrator notifies** applicant of certification status, and records and manages SEP recertification process.

**5**.

**Verification Body** conducts an on-site audit using certified audit personnel who apply the SEP **Certification Protocol** and its requirements to determine certification status.

Verification

**Bodies** 

Applicant contracts with an **ANSI/ANAB** accredited **Verification Body to conduct** an on-site audit.

**SEP Program Administrator** 

**SEP Applicant** 

**SEP Certification Protocol** 

> See next slide

Applicant prepares for certification, DOE and SEP resources available e.g., DOE **Energy Management Portal, Certified** Practitioners, system assessment standards, etc.

**Applicant registers** with the SEP **Program** Administrator, who manages their application and provides guidance.

3.

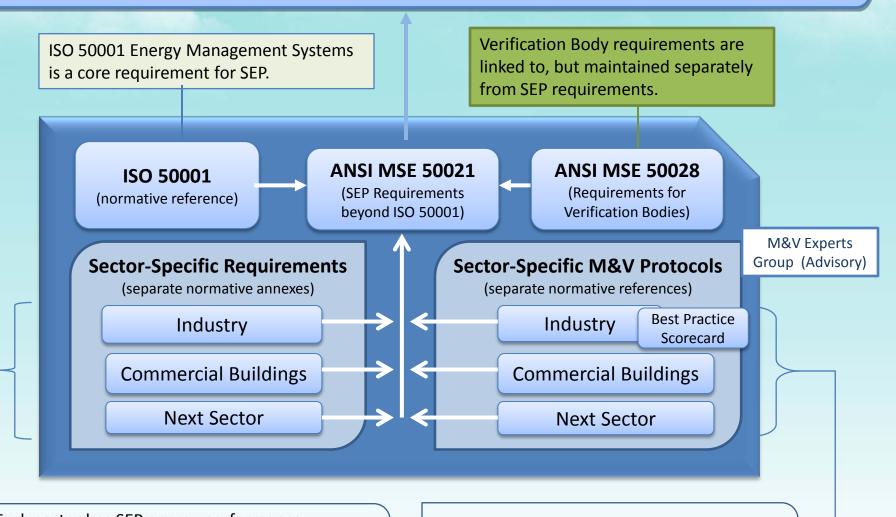
**SEP** 

**Application** 

Applicant prepares an application using the SEP Protocol, to demonstrate conformance to ISO 50001 and other SEP program requirements.

#### **SEP Certification Protocol**

(Program requirements)



Each sector has SEP energy performance requirements detailed in *normative annexes*, allowing sector-specific requirements to be amended easily and independently of each other.

Each sector has individual M&V protocols detailed in *normative references* allowing sector-specific protocols or amendments to be added without modifying standards.

# Behind the Scenes: Accreditation and Certification

## U.S. DOE, U.S. CEEM, Advisory Group for Buildings

Oversee SEP Program Administrator and provide program guidance

#### **SEP Program Administrator**

Manage and operate program, process applications, assign auditors, issue certificates, and communicate with organizations involved.

#### DOE

Provide training license and training.

### Personnel Training Organizations

(Use training license from U.S. DOE)

Deliver training courses for

credentialing exam

#### **ANSI**

Accredit Personnel Certification Bodies in accord with ANSI/ISO/IEC 17024 and SEP Program Requirements

#### **Personnel Certification Bodies**

(ANSI-accredited)

Deliver exams and issue personnel certifications

#### **ANSI/ANAB**

Accredit Verification Bodies in accord with MSE 50028

#### **Verification Bodies**

(ANSI/ANAB-accredited)

Assign SEP Lead Auditor and SEP
Performance Verifier for Certified Partners,
perform third-party audit

#### **Certified Practitioners**

(ANSI-accredited)

#### In Energy Management System

Assist plants in conforming to ISO 50001 and SEP requirements

#### In System Types

Assist plants in assessing energy efficiency opportunities in various types of energy systems

#### Certified SEP Lead Auditor and SEP Performance Verifier

(ANSI-accredited)

Perform third-party audit of conformance to ISO 50001 and SEP program requirements for Certified Partners

# SEP Verification Bodies & Certified Personnel

Verification Bodies will be accredited by ANSI/ANAB, based on requirements of the ANSI MSE 50028 standard

Accredited Verification Bodies, under agreement with the SEP Program Administrator, will contract with applicants to conduct SEP audits using *Certified SEP Auditors* and *Performance Verifiers*.

#### **ANSI MSE 50028**

(Requirements for Verification Bodies)

#### ANSI/ANAB Accreditation includes:

- Off-site review of the VB candidate's documented management system
- Observations of the candidate's audit team
- Assessment of the recordkeeping and competence of candidate's office personnel
- Annual verification of continued conformance

All Certified Personnel must meet

ANSI/ISO/IEC 17024 accredited

certification requirements,
including education, experience, and
standardized exam



# ANSI/ISO/IEC 17024 accredited certification

#### ANSI ISO/IEC 17024 Accreditation:

 Scientifically developed exam and strict controls on conflict of interest provides greater assurance that individuals will have the necessary knowledge and skills to be competent

#### Elements:

- Certification Scheme
- Scope and Job Task Analysis (Blueprint)
- Both training and professional exam are based on the Scope and Blueprint
- ANSI requires a fire wall between training and professional qualification exams

- Personnel Certification Body (PCB):
   An organization that develops and manages professional qualifications and associated exams.
- Personnel Training Organization (PTO): An organization that provides training.

# **Program Status and Moving Forward**

## Texas SEP (Alpha) Pilot Project, 2008-2010

DOE worked with the **University of Texas at Austin** to pilot Superior Energy
Performance in Texas facilities:

- Field tested elements of Superior Energy Performance
- Implemented energy management systems using ANSI MSE 2000:2008, which is consistent with ISO 50001
- Conducted audits and tested SEP measurement and verification
- Established the first ANSI/ANABaccredited Verification Body for Superior Energy Performance
- Certified the first plants to Superior Energy Performance



First Facilities Certified to Superior Energy Performance	Superior Energy Performance Certification	Energy Performance Improvement
Cook Composites and Polymers Houston, TX	Gold	14.9%
Freescale Semiconductor, Inc. West Austin, TX	Silver	6.5%
Owens Corning Waxahachie, TX	Silver	9.6%
Dow Chemical Company Texas City, TX (manufacturing facility)	Platinum	17.1%
Dow Chemical Company Texas City, TX (energy systems facility)	Silver	8.1%

## Superior Energy Performance Demonstrations

States, regions, and utilities are partnering with U.S. DOE to further **test Superior Energy Performance** and to **build energy management expertise**.



#### **Industrial Participants:**

- 3M
- Alcoa
- Allsteel
- Amcor PET
- Bentley Prince Street
- Bridgestone Tire
- Coca-Cola
- Cook Composites & Polymers
- Cooper Tire

- Cummins
- Didion Milling, Inc
- Dixie Chemical
- Dow Chemical
- Eaton
- General Dynamics
- Harbec Plastics
- Haynes International

- Holcim
- JR Simplot
- Kenworth Trucks
- Lockheed Martin
- MedImmune
- Neenah Foundry Company
- Nissan

- OLAM Spices
- Schneider Electric
- Sherwin-Williams
- Spirax Sarco
- Traco
- UTC/Sikorsky
- United States Mint
- Volvo
- World Kitchen

## **Demonstration Approach**

- The state or region identifies an appropriate demonstration plant based on provided guidelines
- 2. Three face-to-face trainings for the facility and consultants
- 3. Monthly training for the consultants (15-month implementation schedule)
- 4. Consultants coach facility to implement energy management system in conformance with ISO 50001
- Facility and consultants hold quarterly review with facility management and Energy Management Demo team lead
- 6. Facility applies for Superior Energy Performance as early as 18 months after initial training

#### **Southeast Region**



**Mid-Atlantic** 



**Midwest** 



California



# Global Superior Energy Performance (GSEP)

- GSEP is conceived as an international network of national government agencies, national-level certification programs, and other public/private sector organizations that will catalyze continual energy performance improvements in commercial buildings and industrial facilities of all performance levels.
- The GSEP partnership includes Canada, Denmark, the European Commission, Finland, France, India, Japan, Korea, Mexico, Russia, South Africa, Sweden, and the United States, and observers Australia, Brazil, and Hungary.
- GSEP was announced in July 2010 at the Clean Energy Ministerial, which convened 25 energy ministers from 20 countries and the European Commission.
- The Clean Energy Ministerial provides a forum for likeminded countries to take specific steps forward to promote clean energy technologies.



### For More Information

ISO 50001:

www.eere.energy.gov/energymanagement

**Superior Energy Performance:** 

www.superiorenergyperformance.net/

**Superior Energy Performance Demonstrations:** 

www.eere.energy.gov/industry/energymanagementdemonstrations/

Texas Pilot Program, Superior Energy Performance Case Studies:

www.superiorenergyperformance.net/texas pilot.html