

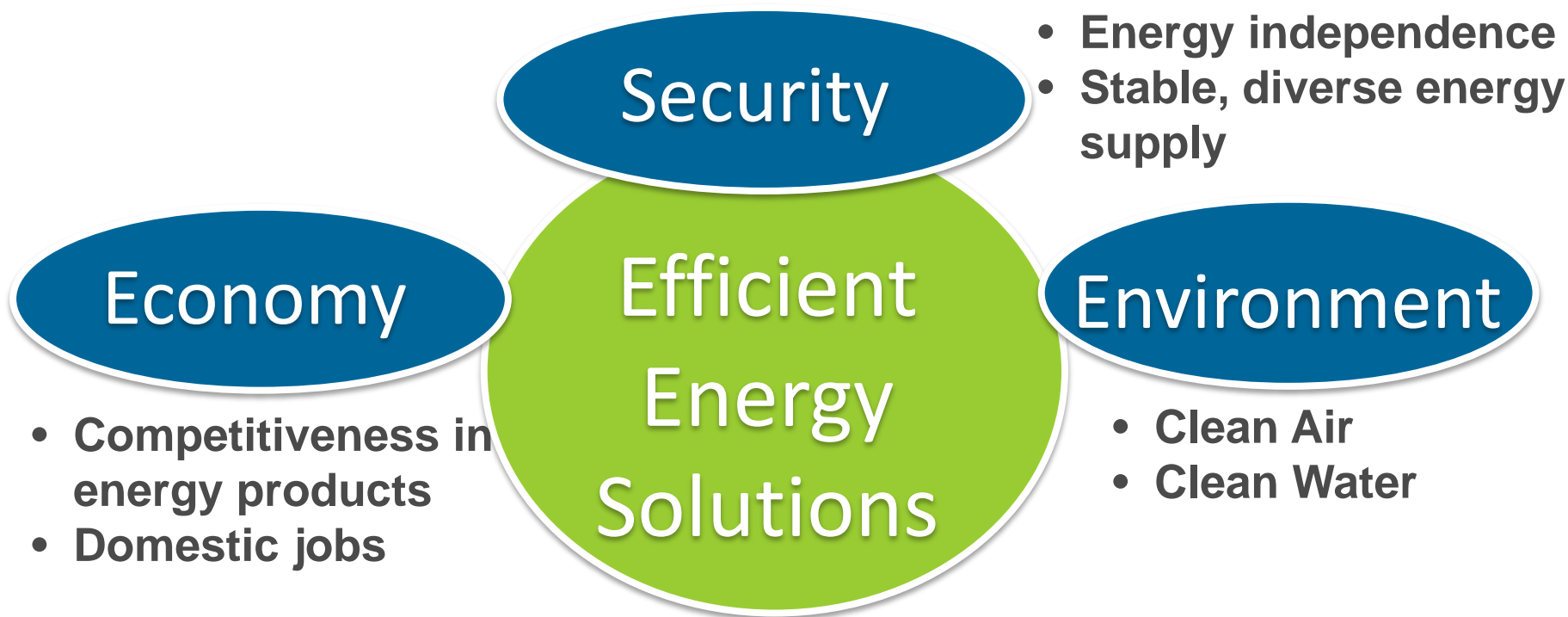


## Introductions Technical Assistance Overview

June 2017

Jay Wrobel

# Energy and Manufacturing: Nexus of Opportunities



- Develop a robust U.S. energy systems economy where products are developed here and manufactured here
- Make the entire U.S. manufacturing sector more competitive by making it more energy productive

# AMO: Three complimentary Approaches

## Technical Assistance: Engagement with Industry

Driving a corporate culture of continuous improvement and wide scale adoption of proven technologies, such as CHP, to reduce energy use in the industrial sector

## R&D Consortia: Public-Private R&D Partnerships

Shared R&D Facilities offer affordable access to physical and virtual tools, and expertise, to foster innovation and adoption of promising technologies

## R&D Projects: Bridging technology innovation gaps

Research and Development Projects to support innovative manufacturing processes and next-generation materials

# Technical Partnerships Goals

---

- Public-Private Partnerships to support voluntary private action
- Field Validation of Energy Savings Opportunities
- Research and Develop the ‘Profession’ of Energy Nationally
- Develop Resources for Enhanced Energy Security and Independence

# AMO Energy System Software Tools

- Provide low-cost access to industrial end-users / plant personnel to understand facility energy use and identify opportunities to optimize energy use
- Designed to reach a wide audience
- Consistently valued by end-use partners
- On-going foundation of many AMO Technical Assistance activities
- Working to modernize and improve

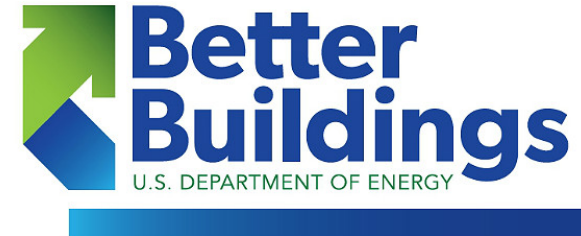
## Energy Systems Analysis

- **Motors**
- **Pumps**
- **Fans**
- **Compressed Air**
- **Steam**
- **Process Heating**



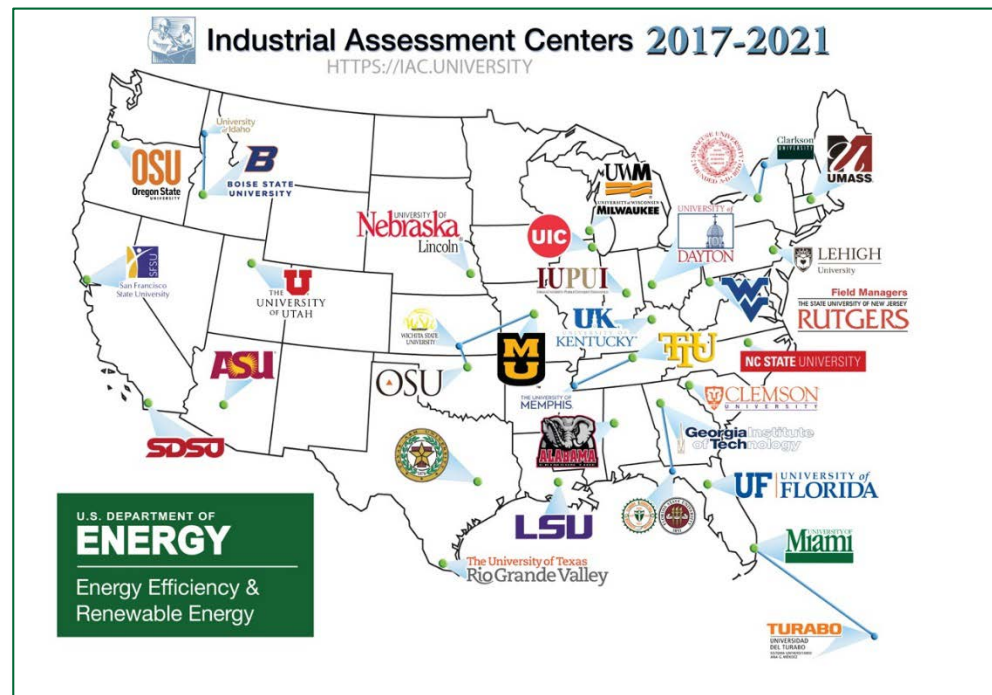
# Better Buildings, Better Plants

- Through Better Plants:
  - Organizations set long-term goals (25% energy intensity improvement over 10 years)
  - Receive technical assistance, national recognition & networking opportunities
  - Gain DOE recognition for success
- DOE will assign an expert Technical Account Manager to leverage DOE's energy-saving resources
- Manufacturers have two options to engage in Better Plants:
  1. Broader-based *Program* level
  2. Higher-leadership *Challenge*



# IAC Administration

- 28 Centers
- DOE funds current Centers at \$300K - \$350K per year
- Universities provide approximately 20 percent additional cost-share
- Center Directors are tenured engineering faculty members with an interest in practical engineering applications



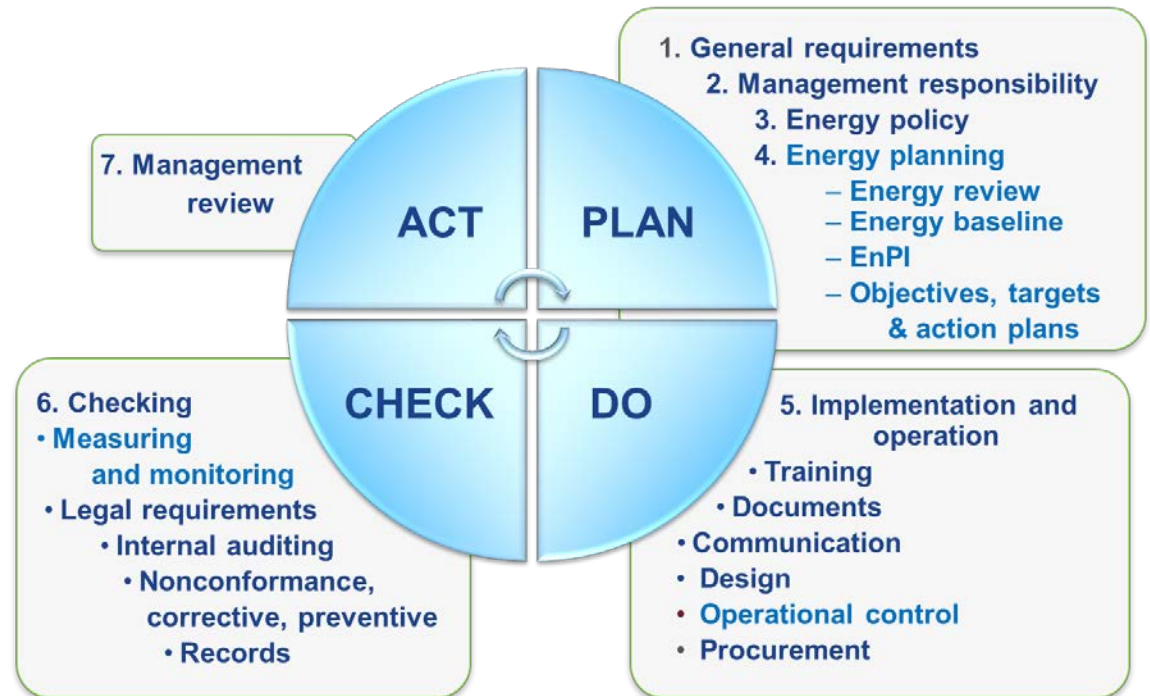
- Assessments are a teaching tool and represent the backbone of the IAC experience
- Report preparation (60 days) and implementation follow-up (9 – 12 months)

# ISO 50001 – Energy Management Systems (EnMS)

International standard that draws from best practices around the world. Developed with input from 56 countries, many countries now adopting it as a national standard.

**ISO 50001 specifies guidelines for establishing, implementing, maintaining and improving an EnMS**

***It does not prescribe specific energy performance improvement criteria***

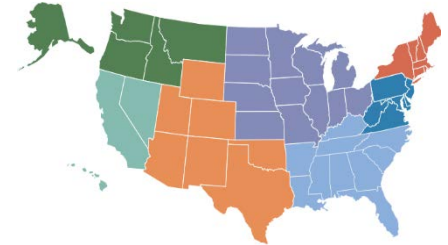


*Light blue text represents new data-driven sections in ISO 50001 that are not in ISO 9001 & ISO 14001*



# U.S. DOE CHP Deployment Program

- **Market Analysis and Tracking** – Supporting analyses of CHP market opportunities in diverse markets including industrial, federal, institutional, and commercial sectors by creating analyses of current CHP installations as well as markets where potential for CHP to be energy savings, security, economic development solution
- **Technical Assistance through DOE's CHP Technical Assistance Partnerships (CHP TAPs)** – Promote and assist in transforming the market for CHP, waste heat to power, and district energy with CHP throughout the United States by providing direct project development assistance
- **Combined Heat and Power (CHP) for Resiliency and Security** Collaborating with Partners to support consideration of CHP and other distributed generation solutions for critical infrastructure resiliency planning at the state, local, and utility levels to heighten economic development and create jobs
- **Packaged CHP System Challenge (in concept)** - Increase CHP deployment in underdeveloped markets by reducing risks and installed cost with standardized, packaged CHP systems driven by strong end-user engagement via Market Mover Partners, such as cities, states, and utilities



[www.energy.gov/chp](http://www.energy.gov/chp)



# Questions & Discussion

