



TAMA / SP
3rd Quarter Membership Meeting

***Panel of Federal Government Liaisons:
Resources Available for Manufacturers and
Developing Relationships***

September 8, 2011



Panel of Federal Government Liaisons

- **Tom Murray**, Chief, Prevention Analysis Branch, U.S. EPA
- **Andre de Fontaine**, Partnership Development & Deployment, DOE – Industrial Technologies Program
- **Ben Vickery**, Senior Technical Analyst, Department of Commerce, National Institute of Standards & Technology (NIST), Manufacturing Extension Partnership Program

EPA programs and Tools

Environmental Assistance Programs &
Resources for Automotive OEMs and Suppliers
Spring Hill, Tennessee
September 8, 2011



Learning to see “Green”

Traditional “Lean” Eliminates...

- **D**efects
- **O**verproduction
- **W**aiting
- **N**on-utilized resources
- **T**ransportation
- **I**nventory
- **M**otion
- **E**xtra processing



MEP • MANUFACTURING
EXTENSION PARTNERSHIP

“Clean” adds...

- **F**ull use of Raw Material
- **E**nergy Efficiency
- **W**ater conservation
- **E**liminating Toxic Material
- **R**eduction of:
 - Packaging Wastes
 - Emissions to Air and Water
 - Solid & Hazardous Wastes
 - Regulatory obligations and risks





Learning to see “Green”

Traditional “Lean” Eliminates...

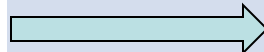
- Defects
- Overproduction
- Waiting
- Non-utilized resources
- Transportation
- Inventory
- Motion
- Extra processing

“Clean” adds...

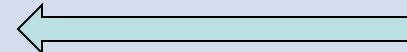
- Full use of Raw Material
- Energy Efficiency
- Water conservation
- Eliminating Toxic Material
- Reduction of:
 - Packaging Wastes
 - Emissions to Air and Water
 - Solid & Hazardous Wastes
 - Regulatory obligations and risks



MEP • MANUFACTURING
EXTENSION PARTNERSHIP



GREEN SUPPLIERS
NETWORK





The Value of Lean AND Clean

Cost Savings from Environmental Impact Opportunities	<u>\$35,979,115/yr</u>
Energy Conservation (MM Btu)	2,956,765
Water Conservation (gallons)	98,600,949
Water Pollution Reduction (lbs)	21,301,320
Air Emissions Reduction (lbs)	7,224,261
Solid Waste Reduction (lbs)	31,090,186
Cost Savings from Lean Opportunities	<u>\$41,055,373/yr</u>
Cost Savings from Other Opportunities	\$2,300,000/yr
Total Potential Cost Savings	\$79,334,488/yr

Results for 166 reviews



NIST MEP





Contact Us

- About E3
- E3 on the Ground
- Put E3 in Action
- Accomplishments
- More on Sustainability

Welcome to **E3: Economy, Energy and the Environment**—an initiative designed to help you thrive in a new business era focused on sustainability and, working together, to promote sustainable manufacturing and economic growth throughout the United States.

Working together within the E3 framework, we can:

- BOOST** local economies
- DRIVE** innovation
- INCREASE** manufacturing productivity
- FOSTER** development
- REDUCE** environmental impacts
- CONSERVE** energy and resources

- Project Framework 
- Frequently Asked Questions 
- Leveraging Resources 
- Tools and Materials 
- Tell Me More! 

Sustainable Manufacturing in the News | Milwaukee Small Business Times (blog) - [Green is the new gold for Wisconsin manufacturers](#)

powered by Google™

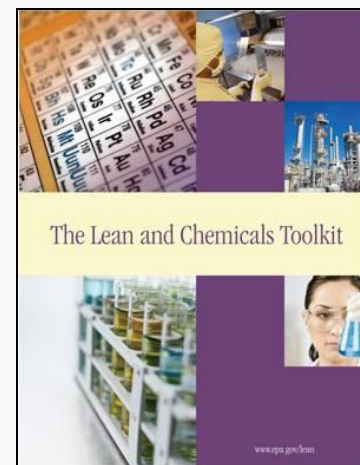
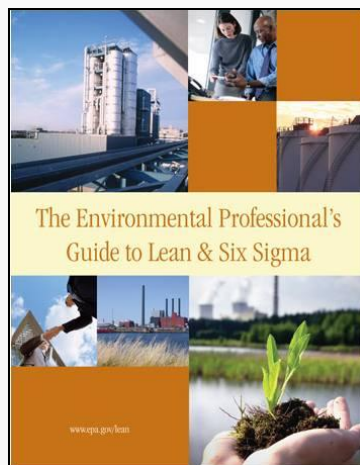
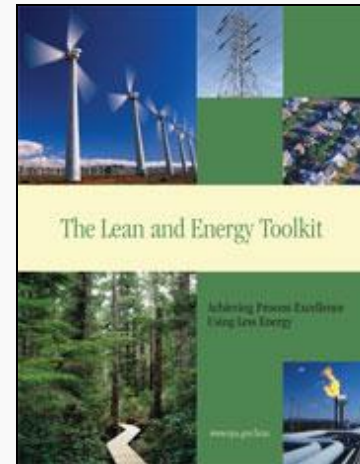
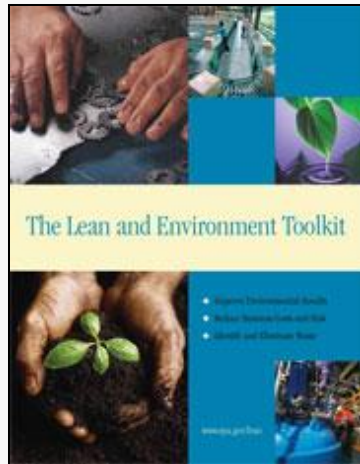


EPA Climate Leaders Tools

Climate Leaders Tool	Description	Projected Dates
Annual GHG Inventory Summary and Goal Tracking Form	Easy to use spreadsheet that helps track GHG inventory values and goal progress	2011
Inventory Management Plan (IMP) Template and Checklist	Instructional document that helps inform users of critical elements for GHG inventory development and management	2011
EPA eGRID Emissions Factor zip code tool	Simple, time-saving tool that allows users with many facilities to quickly populate eGRID factors into inventory	2011
Consolidated Emissions Factor "Hub"	A "one-stop shop" for emissions factors	2011
Enhanced EPA Simplified GHG Calculator	A revised, simple and free "turbo-tax" GHG calculator for business of all sizes	2011
GHG Goal Setting Model and Guidance	An easy-to-use, publicly available benchmarking model that allows companies across the U.S. economy to set a GHG goal that goes beyond business as usual for their sector	2011



EPA's Lean & Environment Toolkits





State Pollution Prevention Programs

- Intern Programs
- Retired Engineer Programs
- Pollution Prevention Technical Assistance
- Pollution Prevention Grants
- <http://www.p2rx.org/>



Industrial Technologies Program: Energy Saving Tools & Resources for Manufacturers



Andre de Fontaine
SP & TAMA 3rd Quarter Membership Meeting
September 8, 2011

Industrial Technologies Program
Energy Efficiency & Renewable Energy
U.S. Department of Energy

There are significant cost-effective energy efficiency opportunities in manufacturing.

Sector	Primary energy savings	Payback time	Investment required* (2009 \$)	Savings achieved (2009 \$)	Scope of potential opportunity
Manufacturing and Other Industrial	5,030 Tbtu/yr	2.4 years	\$113 billion	\$442 billion	330,000 establishments

Sources: *Energy Efficiency in the U.S. Economy*, McKinsey & Company, July 2009.

Notes: Savings achieved are net present value (NPV) positive for the 10-year period of 2010-2020.

* Not incremental; does not include maintenance costs

** Includes existing buildings and excludes new construction

ITP's Technology Deployment program is designed to establish and facilitate a robust, self-sustaining energy management services industry in the United States.

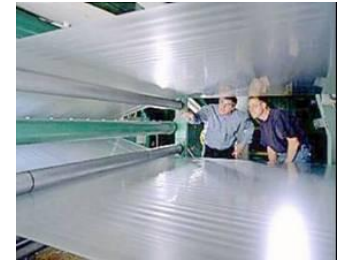
- *Support* manufacturers' continuous energy management improvement with tools, training and technical assistance
- *Recognize* manufacturers' significant, verified energy savings and achievements in energy efficiency

Foundations for continuous energy improvement

- ISO 50001 Energy Management Standard



Leverage state, utility, and local resources to help manufacturers reduce energy use and carbon emissions today—and **create a corporate culture** that fosters continuous improvement.



Energy Management

- Superior Energy Performance (SEP)
- ISO 50001
- Assessment standards, protocols and metrics



Tools

- Energy and Carbon Baselineing
- Software Tools
- Self-paced energy management modules

Training

- Industrial Assessment Centers
- Qualified Specialists

Industrial Technologies Program

Industrial Technologies Program
SEARCH
Search Help ▶

HOME ABOUT RESEARCH & DEVELOPMENT **TECHNICAL ASSISTANCE** INDUSTRIES & TECHNOLOGIES **INFORMATION RESOURCES** FINANCIAL OPPORTUNITIES NEWS EVENTS

EERE » [Industrial Technologies Program](#) » [Technical Assistance](#)

Site Map Printable Version SHARE

NEWS

DOE to Help Train Next Generation of Industrial Energy Efficiency Experts
June 22, 2011

Elevate Energy Management in Your Company with the ISO 50001 Standard
June 21, 2011

Information and Communication Technology Portfolio Brochure Highlights Innovative Projects
March 17, 2011

More News ▶
Subscribe to News Updates ▶

EVENTS

All-States Summit (*Invite-Only*)
April 12-13, 2011

Tuesday Webcast for Industry: A Discussion of New ITP Tools and Resources for Industry
July 12, 2011

Tuesday Webcast for Industry: Establishing and Maintaining a Strategic Partnership with the Chief Financial Officer
August 9, 2011

More Events ▶

FEATURES

Technical Assistance

The Industrial Technologies Program (ITP) helps manufacturers chart a path to continuously improve energy efficiency and adopt state-of-the-art technology and energy management practices. ITP offers:

- Proven tools, training, assessments and other resources to help companies identify the most cost-effective options for saving energy—regardless of their level of energy management expertise
- Lessons learned from other companies in our case studies, databases, and success stories
- Recognition for setting ambitious and measurable energy goals and for embracing a corporate culture that values energy management

State and local stakeholders, utilities, universities, trade associations, non-profits, and others are working individually and collectively to:

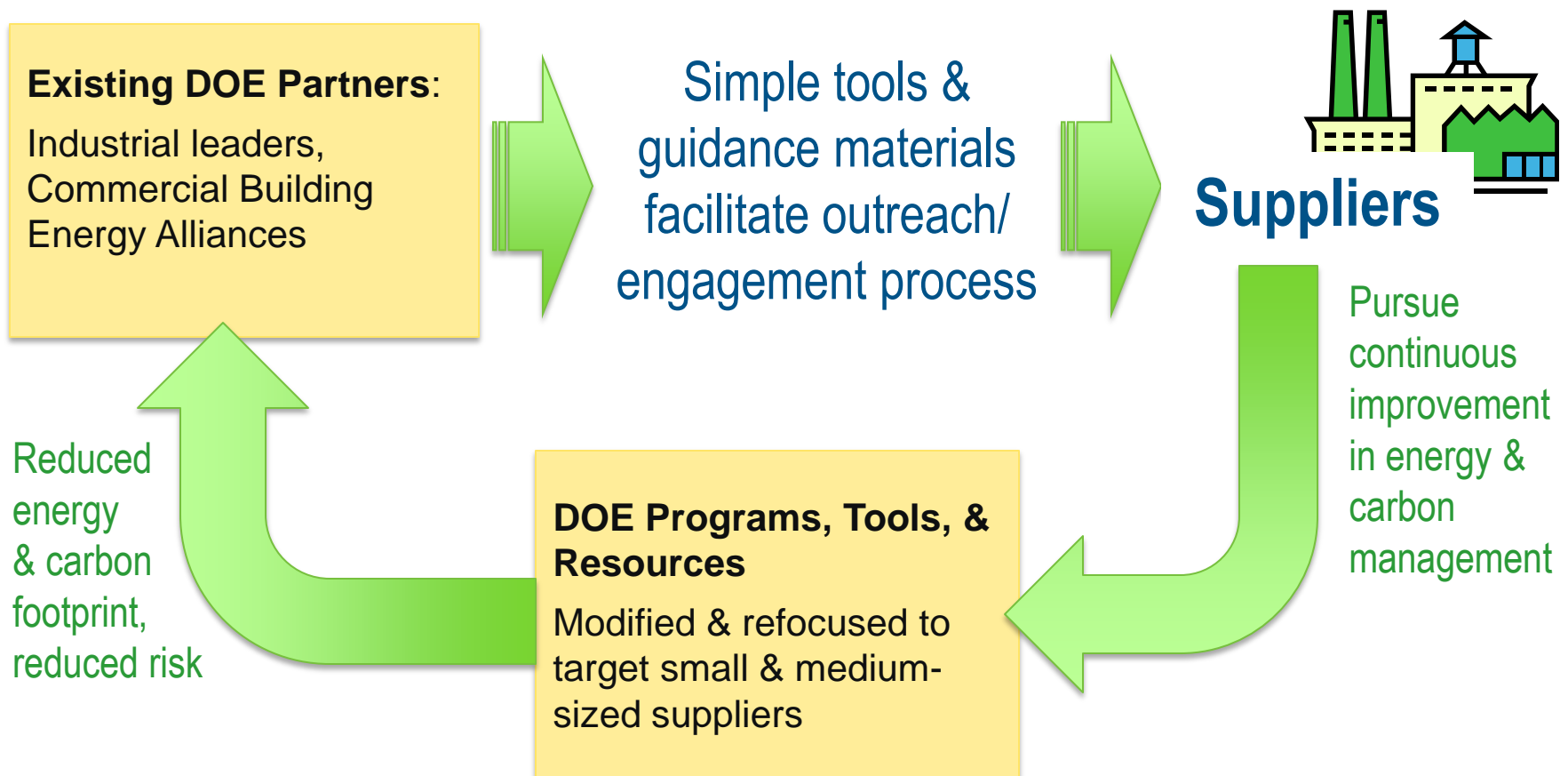
- Develop a robust private-sector market with the expertise and technical capacity to help companies save energy
- Train the next-generation workforce to meet the local needs of industry
- Remove market barriers to the use of more energy-efficient technology

Learn more about technical assistance resources and activities:

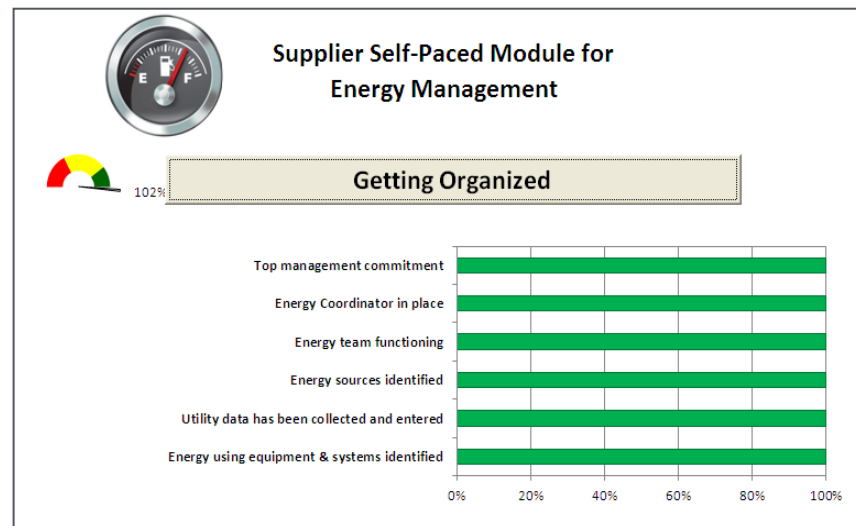
- [Training and Webcasts](#)
- [Software Tools](#)
- [Case Studies](#)
- [Qualified Specialists](#)
- [Plant Assessments](#)
- [Recommendations from Assessments](#)
- [Industrial Assessment Centers](#)
- [Incentives & Resources Database](#)
- [ISO 50001 Energy Management Standard](#)
- [LEADER Companies](#)
- [Superior Energy Performance](#)
- [Supply Chain](#)
- [State and Utility Partnerships](#)
- [EERE Information Center](#)

www.eere.energy.gov/industry/tech_assist/index.html

Develop a turnkey solution that helps businesses transfer energy management skills, goals, and practices to suppliers

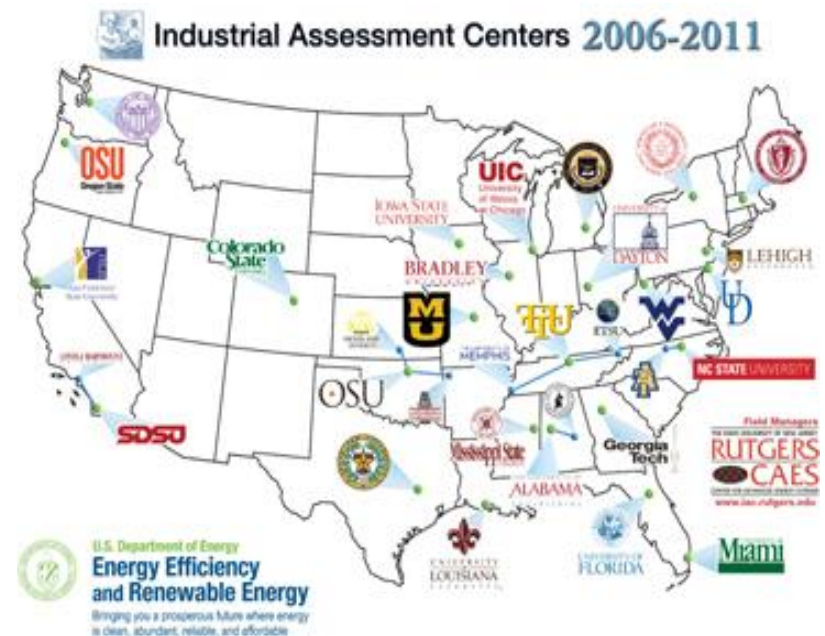


- Simple tool designed for companies with little to no energy management experience to develop an energy management plan and documents
- Dashboard feature allows users to view their progress in each section



DOE's 26 University-based Industrial Assessment Centers (IACs)

- Provides assessments to small and medium-size plants (energy costs below \$3 million per year)
 - Identifies \$175,000 to \$200,000 in potential annual energy savings per plant, with an average implementation rate of 35 to 45%
- Trains engineering students for careers in industrial energy efficiency
- Helps university professors stay connected to the technical needs in manufacturing
- Maintains database of recommendations to help other facilities identify opportunities.





Thank You!



**MEP • MANUFACTURING
EXTENSION PARTNERSHIP**

NATIONAL INSTITUTE OF
STANDARDS AND TECHNOLOGY

SP/TAMA Third Quarter Meeting Spring Hill, Tennessee

Ben Vickery
Senior Technical Analyst
NIST MEP
September 8, 2011

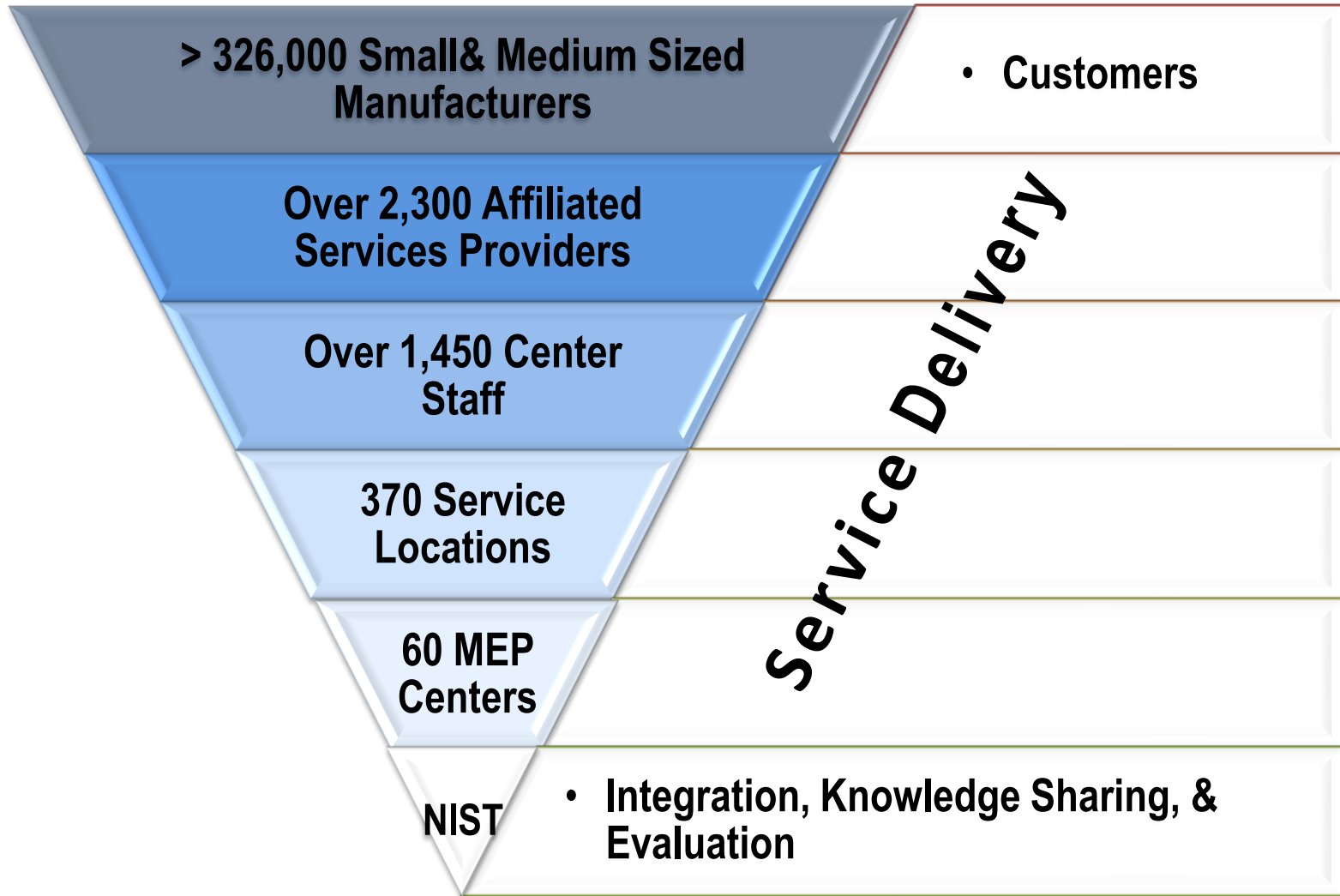
Vision

MEP is a catalyst for strengthening American manufacturing – accelerating its ongoing transformation into a more efficient and powerful engine of innovation driving economic growth and job creation.

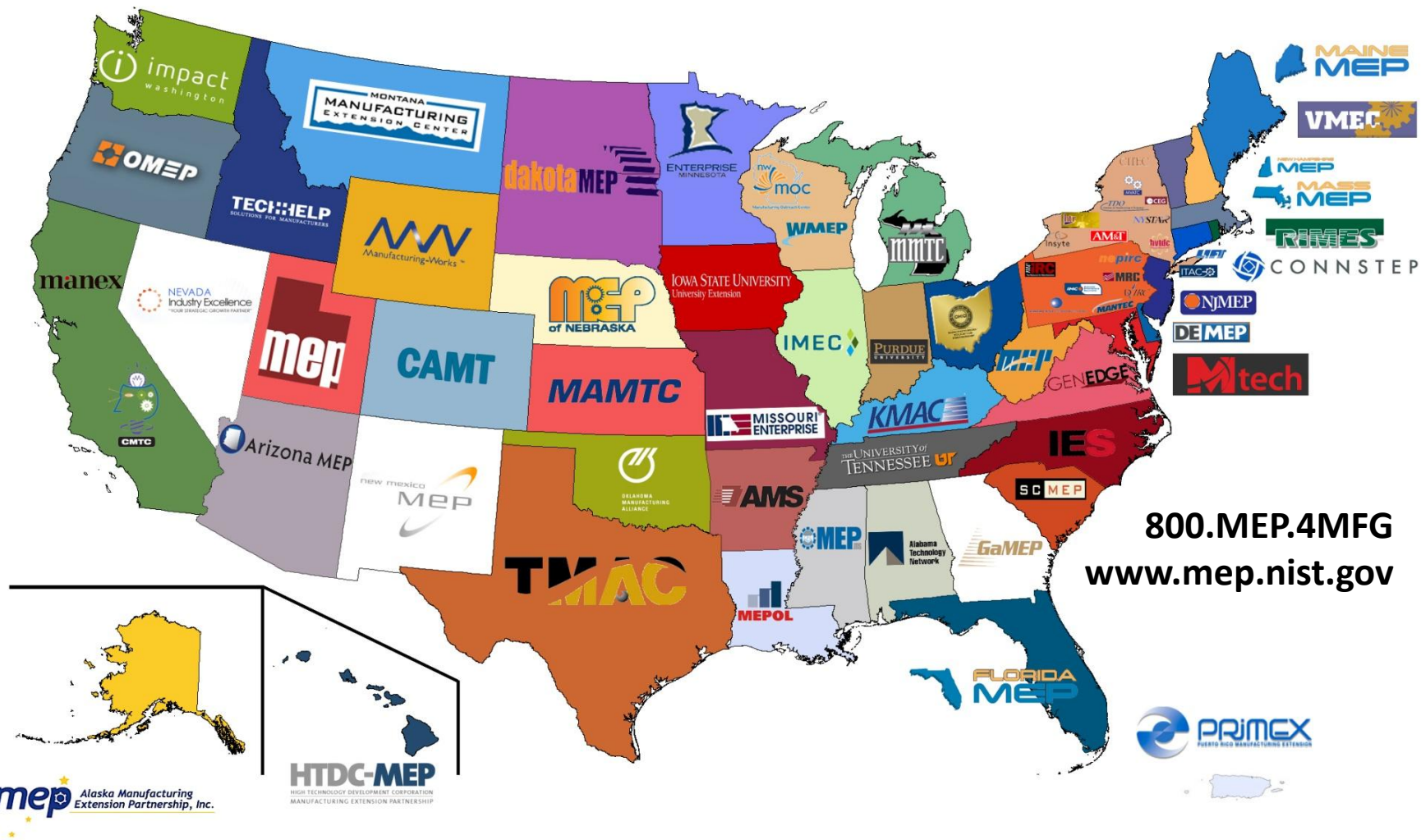
Mission

To act as a strategic advisor to promote business growth and connect manufacturers to public and private resources essential for increased competitiveness and profitability.

Partnering to Drive a National Program



MEP Centers Across the U.S.



800.MEP.4MFG
www.mep.nist.gov

How Centers Work With Manufacturers

- **Initial contact** – group sessions, referral
 - **Assessment** – informal walk-through, detailed company analysis
 - **Identify** potential issues, define proposed project and approach for solving it
 - **Negotiate** with company and sign project contract with fee paid to center
 - **Project execution** – center staff, partner organization, and/or third party consultants
 - After completion, project follow-up by center to assure customer satisfaction and explore further project opportunities
-
- Project impact data collected by contractor for NIST approximately 6 months after project completion

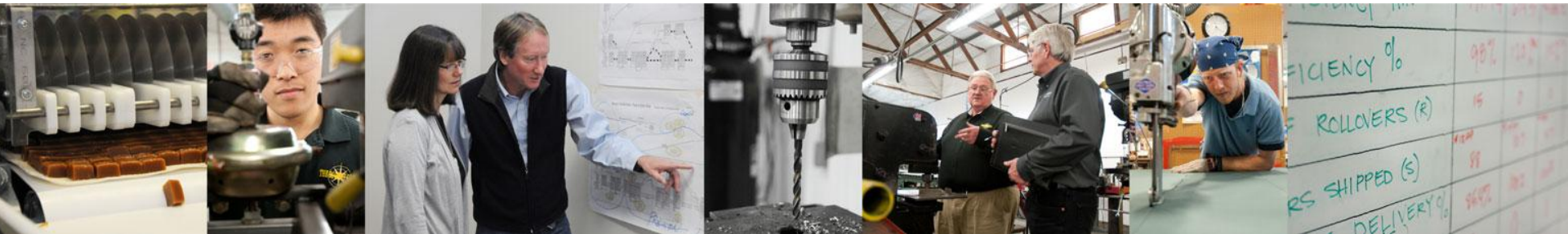
What MEP Does

- Focus on meeting manufacturer's short term needs, but in context of overall company strategy
- MEP Center areas of common strength
 - Engineering Services for products and processes
 - Growth Services – new or expanded market opportunities
 - Lean Manufacturing
 - Quality Systems
 - Sustainability
 - Workforce Development
- Reach over 34,000 manufacturing firms and complete over 10,000 projects per year*

*Based on FY2009 MEP Center reported performance data.

Client Impacts Resulting from MEP Services – FY2009

- **New Sales** **\$3.5 Billion**
- **Retained Sales** **\$4.9 Billion**
- **Capital Investment** **\$1.9 Billion**
- **Cost Savings** **\$1.3 Billion**
- **Jobs Created and Retained** **72,075 Jobs**



SUSTAINABILITY

Helping manufacturers gain a competitive edge, maintain profitability and job creating growth while increasing energy efficiency and reducing environmental impacts



NEXT GENERATION STRATEGY

Sustainability

- Merging environmental, societal, and economic concerns
- Requires continual improvement in all 3 areas to secure the future of companies, nations, and the environment

MEP's focus

- Sustainability is a key business growth strategy to improve US manufacturing competitiveness
- Companies that commit to implementing eco-friendly changes find themselves with lower operating costs, access to new markets, and a more profitable enterprise

MEP Sustainability

Current Efforts

- Environmental Protection Agency and MEP Green Suppliers Network
- Department of Energy, Industrial Assessment Centers
- EPA/DOE/MEP/Society of Manufacturing Engineers collaborate to introduce an Environmental and Energy Efficiency (E³) Certification Program
- Energy and Sustainability Projects with manufacturers
- Lean & Sustainable Product Development
- Green Jobs - Implementing green technologies requires a trained workforce ready to meet manufacturers' new production demands.

MEP Partnering to Support Manufacturing through Sustainability

GSN: Green Suppliers Network

E3: Economy, Energy, and Environment



What are GSN and E3?

Innovative models for collaboration among manufacturers, utilities, local government, and federal resources to enhance sustainability and competitiveness in local and regional economies as well as supply chains and to spur job growth and innovation.

Partners

The joint collaboration has expanded to include five U.S. federal agencies: DOC, SBA, DOL, DOE, and EPA. These federal partners work directly with local utilities, local government, and small- and medium-sized manufacturers.

Benefits for Manufacturers & Communities

Cost Savings

- Increased process efficiencies and reduced waste
- Profitable sustainability practices

Increased Competitiveness

- State-of-the-art sustainable business practices
- Technical support to drive entry into new markets
- Job creation and retention

Access to Technical and Financial Resources

- Additional funding through federal and state programs
- Enhanced skills and capabilities for workers

Economic Growth

- Improved competitiveness of existing manufacturers
- Enhanced ability to attract new business
- Increased manufacturing jobs or job retention
- Trained workforce with skills for a sustainable economy



TAMA / SP
3rd Quarter Membership Meeting

***Panel of Federal Government Liaisons:
Resources Available for Manufacturers and
Developing Relationships***

September 8, 2011