



**MEP • MANUFACTURING  
EXTENSION PARTNERSHIP**



**GREEN SUPPLIERS  
NETWORK**



**ECONOMY  
ENERGY  
ENVIRONMENT**



# Manufacturing Extension Partnership

- An initiative of the Department of Commerce (DOC), National Institute of Standards and Technology (NIST)
- Technical specialists help small businesses grow and profit
- In FY 2007 alone, MEP helped create over \$5 billion in new sales for partner businesses
- 59 Centers, 1,600 Field staff in 440 service locations
- MEP brings years of experience in cost reduction, business growth, lean manufacturing, and innovation.



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# Texas Manufacturing Assistance Center

## Environment



## TMAC GREEN TRAINING OFFERINGS:

### Green Generalist Training 301

[One-Day Workshop-7 hrs / Appropriate for the entire workforce](#)

Learn green concepts, key environmental issues facing manufacturers, and the components of sustainability during a one-day interactive workshop.

### Green Waste Stream Mapping 302

[One-Day Workshop-7 hrs / Appropriate for engineers, green team participants and environmental managers](#)

Learn how to enable visualization of how processes create waste and where opportunities exist to reduce or eliminate waste, thereby helping the environment.

### Green Specialist Certificate Series 305

[One-Day Workshop-7 hrs / Appropriate for engineers, green team participants and environmental managers](#)

**Dumpster Dive, Sustainability into Practice, Energy Management & H2O Conserve, Green Chemistry, Pollution Solutions, Green Building Best Practices**

# Green Suppliers Network

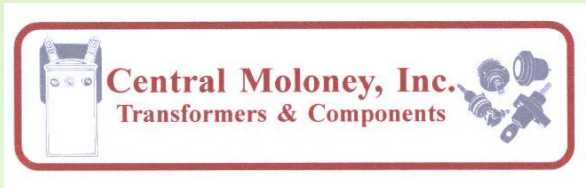
## A joint program between EPA and MEP that

- Provides *Lean and Clean* assessments to small- and medium-sized enterprises
- Has helped over 100 small businesses identify more than **\$60 million** in *Lean and Clean* opportunities
- Works with the automobile, aerospace, healthcare, office furniture, and utility industries, among others



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# Green Suppliers Network



Annual kWh Electricity Reductions	% Non Value Operations	Water Saved (gallons)	Dollars Saved	Tons of Solid Waste Reduced
1,424,394	99.9%	250,000	\$200,110	31



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# Manufacturing Extension Partnership

## Latex Balloon Manufacturing

- Reducing water consumption by 8,374,400 gallons/year
- Reducing % of heavy metals with reformulation
- Fish bone filtration



Supporting Manufacturing Leadership Through Sustainability

# E3: Economy, Energy, and Environment





# Benefits for Manufacturers

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## Cost Savings

- Significant cost savings result from 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

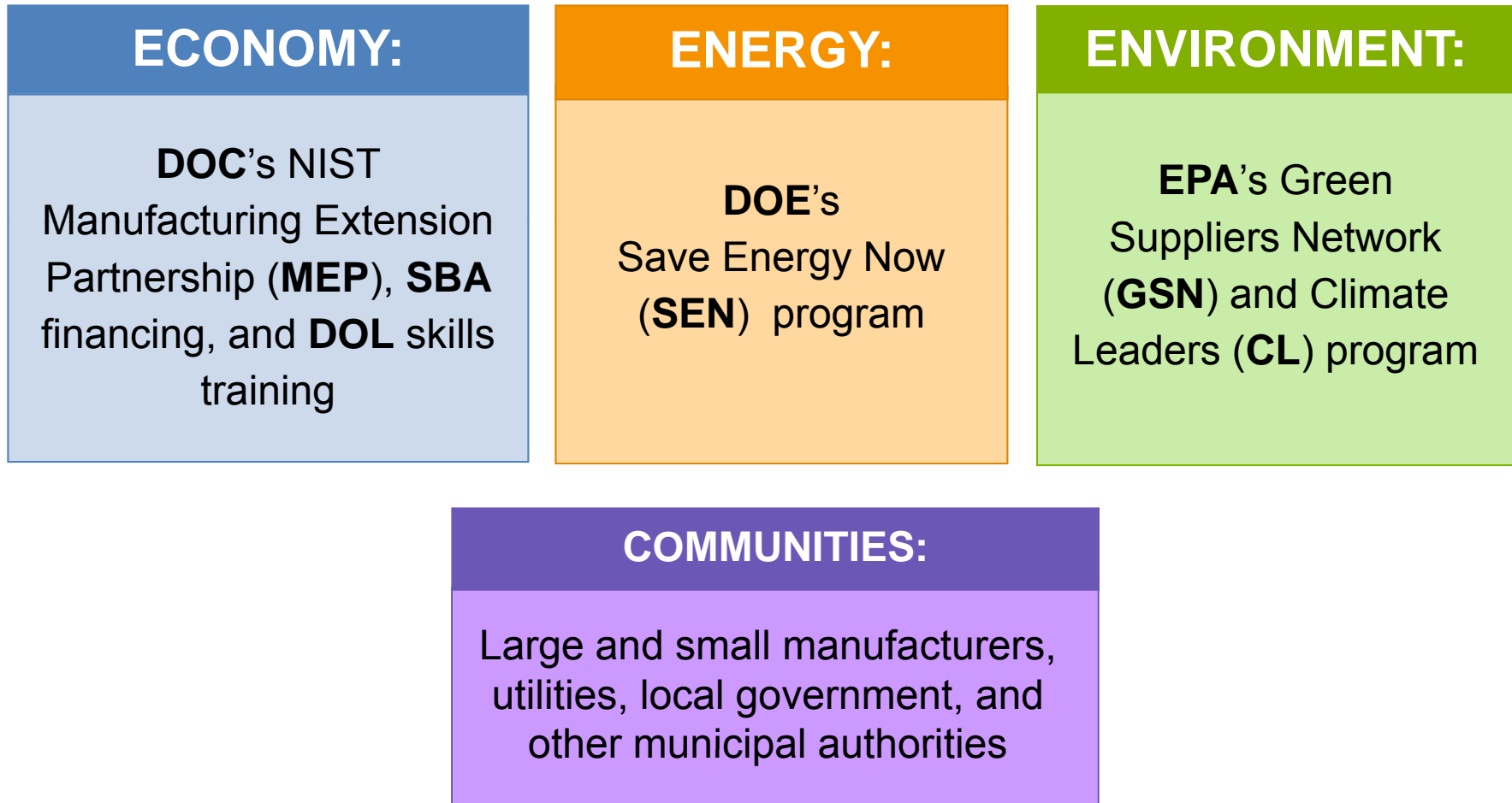


## Access to Technical and Financial Resources

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

# Who is involved in E3?

## E3 MODEL: Federal Programs Working Together with Local Communities



# Who is involved in E3?

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- **MEP** brings years of experience in cost reduction, business growth, lean manufacturing, and innovation to the E3 team
- **SBA** can provide implementation financing through loans and Small Business Development Centers (SBDCs)
- **DOL** provides green job training grants and energy-focused workforce development grants
- **DOE's *Save Energy Now*** program provides energy audits and other energy efficiency assistance
- **EPA's Green Supplier's Network** provides *Lean and Clean* assessments to small- and medium-sized manufacturers
- **EPA's Climate Leaders** program provides greenhouse gas (GHG) assessments and sets aggressive GHG reduction goals



# Technical Assessment

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A **Lean Review** which leads to increased productivity and reduced costs

An **Energy Audit** which provides tools and insight to reduce energy demand and costs

A **Greenhouse Gas (GHG) Evaluation** that teaches manufacturers how to calculate GHG emissions and evaluate reduction strategies

A **Clean Review** which results in water and energy conservation, reduced emissions, and additional cost savings

**Post-Assessment Recommendations** that guide each facility toward improvements in overall efficiency, reduced waste, more efficient use of resources including energy and water, and cost savings

# E3 Metrics

## Economic Metrics:

- Environmental savings identified
- Lean savings identified
- Other cost savings
- One time potential cost savings identified
- Individuals trained
- Jobs created
- Jobs retained
- Total annual potential impact identified
- Number of small businesses engaged
- Percentage of small businesses engaged
- Number and value of SBA loans granted
- Capital infusion dollars invested
- Hours of counseling provided

## Energy Metrics:

- Energy conserved (MM BTU/kWh)
- Energy intensity per unit of production
- Carbon reductions (tons)
- Carbon intensity per unit of production

## Environment Metrics:

- Air emissions reduced (lbs)
- Solid waste reduced (lbs)
- Material intensity per unit of production
- Hazardous waste reduced (lbs)
- Hazardous materials reduced (lbs)
- Water pollution reduced (lbs)
- Water used/conserved (gal)
- Water intensity per unit of production





## What is TIP?

TIP is a cost-shared, federal funding program that focuses on **high-risk, high-reward research** that is expected to transform the nation's capacity to deal with major societal challenges that are not being addressed.

### Funding

- \$69.9 million for FY 2010, including management of ongoing TIP and Advanced Technology Program awards



# TIP is Part of NIST

## TIP benefits from NIST scientific and technical expertise

- Help identify and select areas of critical national need and societal challenge for TIP funding
- Evaluate proposals



## NIST benefits from collaborating with TIP

- Apply understandings of critical national needs to NIST research programs
- Enhance knowledge, skills, abilities through TIP program development and proposal review



## TIP's Purpose

- Assist United States businesses and institutions of higher education or other organizations, such as national laboratories and nonprofit research institutions
- Support, promote, and accelerate innovation in the United States through high-risk, high-reward research
- In areas of *critical national need*

*America COMPETES Act, (PL 110-69)  
August 9, 2007*



# Expectations for 2010

## ■ TIP is seeking white papers

- See [http://www.nist.gov/tip/call\\_for\\_white\\_papers\\_sept09.pdf](http://www.nist.gov/tip/call_for_white_papers_sept09.pdf)
- Upcoming due dates: May 10, and July 12.

## ■ Stakeholder comments on TIP developed white papers

- See [http://www.nist.gov/tip/wp\\_cmts/index.html](http://www.nist.gov/tip/wp_cmts/index.html)
- 4 papers: civil infrastructure, manufacturing, healthcare, energy

## ■ Upcoming Competition

- Announcements expected 1<sup>st</sup> half of 2010
- Proposers' Conferences - Gaithersburg plus targeted groups/settings TBD
- Webinars
- **Topic(s) – stay tuned to [www.nist.gov/tip](http://www.nist.gov/tip)**
  - o Based on critical national needs
  - o May build upon past topics
  - o May include new topics



## For further information...

- TIP website: [www.nist.gov/tip](http://www.nist.gov/tip)
- Toll-free: 1-888-TIP-NIST (1-888-847-6478)

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# GSN/E3 Contacts

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