Economy, Energy & Environment:

Sustaining the Path for Manufacturing toward Continuous Environmental Improvement in Michigan

Laura Rauwerda, Michigan DEQ
Office of Environmental Assistance
Great Lakes Regional Pollution Prevention Roundtable, Spring Update
May 12, 2011
Supporting Manufacturing Leadership Through Sustainability

E3: Economy, Energy, and Environment
Interest in E3 is Growing

Current as of October 26, 2010
E3 Package

1. Technical Assessment
2. Implementation Support
3. Training and Continuous Improvement
## Costs & Resources for E3 Assessments

### Cost per Assessment
- Lean & Clean --$10K
- Energy Audit ---$ 9K
- State P2 ------ no cost
- SBA ---no initial cost
- DOL ------no initial cost

### Resource Base
- DOE Block grants
- State Energy Funds
- Utilities
- Foundations
- Small fee to manufacturer
- EPA & SRA grants
- DOL Grants

**There is no formal appropriation for E3 at this point in time**
Michigan GSN-E3 Partner Companies

Apex Spring and Stamping
Auto Cast
BAE
Byrne Electrical
Chemico- Birmingham
Chemico-Chesterfield
Compatico Inc.
Detail Technologies
DeWys Manufacturing
Elm Plating
Falcon Foam
Gallant North America
Grand Rapids Controls
Grand Rapids Foam Technologies
H&L Advantage
Irwin Seating
IVC Industrial Coatings
JD Plating
Knape & Vogt
Light Corporation
Master Finish Co.
Metal Components LLC
Metal Standard Corp
Metal Works
Michigan Extruded Aluminum
Miller Tool and Dye
Nuvar Inc.
Precision Mold & Engineering
Progressive Technologies, Inc.
Rapid-Line, Inc.
Renosol
Techno-Coat, Inc.
TPI Powder Metallurgy, Inc.
Trimline Tool
Valley City Plating
Wright Coating Company, Inc.
Landscapeforms, Inc.
General Oil Company
Burkard Industries, Inc.
Durcon, Inc.
Eclipse Mold, Inc.
Rhethet
Percent Added Dollar Value Identified in Environmental Assessments

Source: West Michigan MMTC, 2010
The Business Case for Energy Efficiency Implementation at 1 Company

- Lighting: Office Lighting Modification resulting in $1060/yr. savings
- Lighting: Shop Floor Modification resulting in $11,909/yr. savings
- Compressed Air Modification resulting in $4,180/yr. savings
- Infrared Oven Modification by monitoring production, $17,142/yr.
- Infrared Oven Modification by shutting off unused IR coils $17,414/yr.
- TOTAL Annual Savings: $51,705
Implementation and Follow-up

E3 - Assessment recommendations are prioritized and acted upon by the company through MMTC-Value Stream Mapping Process
Leveraging Resources & Coordinating Services
Additional Collaborations

University of Michigan
Michigan Industrial Energy Center
Training for Environmental Metrics & Improvement

- EPA Region 5 PPIS Grant 2011- *Michigan E3 Sustainable Supply Chain Alliance*
- $276,594 total project cost
- Pass-through grant recipient, Michigan Manufacturing Technology Center-Plymouth
- Facilitate diffusion through MMTC locations in the State
- Measure Environmental Outputs and Greenhouse Gas emissions
- Associate Cost Savings, Data Analysis and Aggregation

“The most important figures needed for management of any organization are unknown and unknowable. Eliminate management by objective. Eliminate management by numbers, numerical goals. Substitute leadership.”

*W. Edwards Deming, Out of Crisis, 1982*
Partners - Detroit

PRIVATE
• Detroit Edison (DTE)
• Consumers Energy
• Detroit New Economy Initiative (NEI)
• Comprehensive list of 49 companies developed
• 10 companies recommended by DTE
• Currently 5 contracts for E3 assessment process

PUBLIC
• MDEQ, EPA & NIST
• MMTC-Plymouth
• Detroit Regional Chamber of Commerce
• SBA, LARA, U of M MIEC, SBTDC, DOL, DOE
Partners – West Michigan

PRIVATE
• Steelcase
• Herman Miller
• 32 suppliers to the office furniture industry in West Michigan
• BIFMA- International, Business and Institutional Furniture Manufacturing Association
• Consumers Energy
• Great Lakes Energy
• Food Processors

PUBLIC
• MDEQ, EPA & NIST
• MMTC-West, The Right Place, Inc.
• West Michigan Strategic Alliance
• SBA, LARA, U of M MIEC, SBTDC, DOL, DOE
Thank You!

For additional information contact:

Laura Rauwerda
Michigan DEQ
616-356-0034
rauwerdal@michigan.gov
or
visit the Great Lakes Sustainable Suppliers Environmental Network web site:
http://www.michigan.gov/deq/0,1607,7-135-3585_57802_40313---,00.html