



Green Manufacturing Initiative

Western Michigan University
Manufacturing Research Center
Dr. John Patten, Director

WESTERN MICHIGAN UNIVERSITY

College of Engineering and Applied Sciences
Manufacturing Research Center



Welcome

- Introductions (round robin)
- Update-Status since last meeting (Dec. 2010)
 - Budgets
 - Projects
 - Companies
 - Faculty and Students
 - Web site
- Going Forward-Future



Budgets

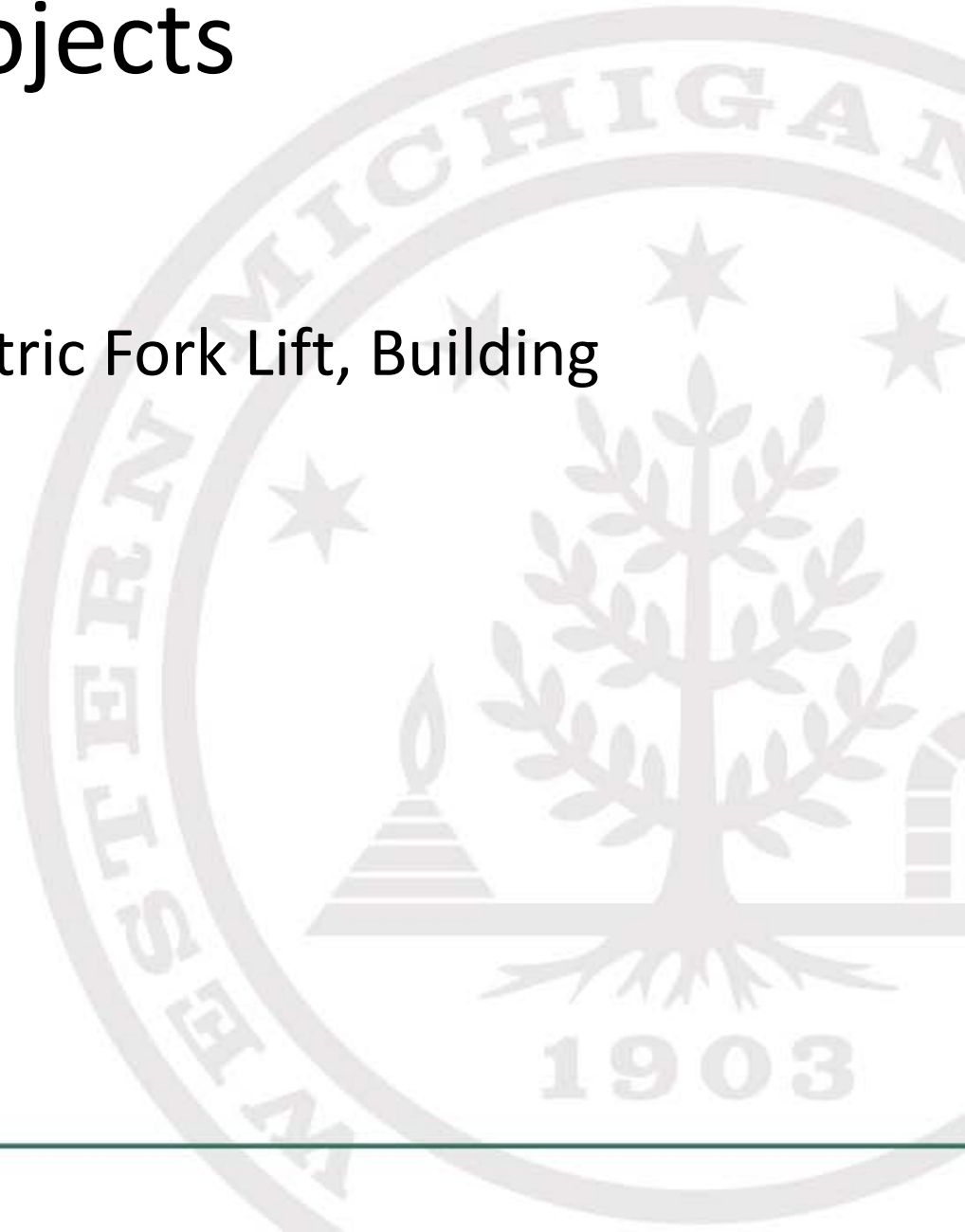
January 2010 to April 2011

- DOE Grant \$972,000 (awarded 2010) (\$668,512)
 - Spent: \$202,112
 - Remainder \$466,400
- Categories
 - Faculty/Staff/Students: \$170,116
 - Tuition: \$9,244
 - Contracted Services: \$5,000
 - Consulting: \$2,012
 - Supplies: \$4,920
 - Travel: \$8,079
 - Other: \$2,741



Projects

- Completed
 - Chrome Plating, Electric Fork Lift, Building Envelope (heating)



Projects continued

- Ongoing
 - Assessments (site)
 - Autophoretics
 - Co-Tri generation
 - Oven-Dryer energy utilization/efficiency
 - Renewable Energy (solar and wind)
 - Waste to Fuel/Energy (wood and food, and batteries); Reuse and Recycle
 - Waste to Reuse: Polystyrene, Powder Paint and Mixed Polymers (pyrolysis) , Wood (thermo modification)



Projects continued

- To do
 - Site Assessment: Fabri-Kal





Other Project Activities

- Green Manufacturing Certification (SME and Purdue Univ)
- Green Product Certifications and Standards
 - Building Green, LEED (US GBC), ISO, Green Seal, etc.
- NSF I/UCRC with MSU
- Software tools (analysis, DOE)
- Financial incentives (energy)
- Recycling (dumpster diving)



Companies

- Armstrong International
- Bells Brewery
- Borroughs
- Erdman
- Fabri Kal
- Haworth
- Herman Miller
- Kellogg
- Landscape Forms
- Ottawa Gage
- Post (Ralcorp)
- SP Industries





Companies being Recruited

- Borg Warner
- Cascade Engineering
- Consumers Energy
- Denso
- Eaton
- Heinz
- IAC
- Johnson Controls
- Kalsec
- L3 Communications
- Perrigo
- Steelcase
- Whirlpool





Faculty, Staff and Students

- Faculty: John Patten and Dave Meade, Mike Barcelona, Claudia Fajardo, Murali Ghantasala, Margaret Joyce, Dave Middleton, Pete Parker,
- Staff: Carey Schoolmaster
- Students: Matt Johnson (Stryker), Steve Srivastava, Sean Derrick, Gary Nola, Nate Christensen, Ryan Kamm, Trevor Williams, John Ihling, Michael Brio



Partners

- Michigan State University (chemistry & packaging)
- University of Michigan (Ann Arbor)
 - Michigan Industrial Energy Center (MIEC)
- Grand Valley State University
 - Michigan Alternative and Renewable Energy Center (MAREC)
- US Department of Energy: Save Energy Now, ALLY
- MMTC (Bill Small)
- Sustainable Research Group (Bill Stough)



Activities

- Conferences
- Publications
- Presentations
- Posters
- News articles
- Brochures and information





Web site

- <http://www.wmich.edu/mfe/mrc/greenmanufacturing/index.php>
- Online Journal: Green Manufacturing Research Journal



Future

- DOE Funding: 2011-2012
- NSF I/UCRC
- Other funding opportunities:
 - NSF GOALI

