Driving Change in Energy Use at Ford Motor Company
George Andraos, William Allemon

2005 Energy Star Leadership Conference
Overview

- 40 North American Manufacturing Facilities.
- 52 bilBTU load.
- Efficiency & Supply Side Management Teams.
- Energy coordinators located at each plant.
- Onsite support from DTE Energy Partnership.
Measurement

**mmBTU/Unit Reduction**

- **Goal**: 18% reduction by end of 2005 vs. year 2000 baseline.

- Monthly performance monitoring and reporting.

- Normalized for weather and vehicle production variances.

- Automating data collection.

- Currently on track to accomplish goal.
Communication

- Weekly Performance Email
- Weekly Plant Level Review
- Monthly mmBTU/Unit Report
- Plant Scorecard and OCM Review
- Division Scorecard and Monthly MST Review
- Measures Embedded into Ford Production System
- Yearly Corporate Reports – Environmental, Sustainability.

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**Efficiency Programs**

- Internal Use Only (Secure)
- Ford Land Energy Supply & Efficiency Web Site
- Reference Files, Web Links and Tools
- Monthly mmBTU Reports
- Southeast Asia Benchmarking
- Archived TVM Datasheets

- 2005 Utility Metering and Monitoring Project
- Compressor Controls Project
- Fumes to Fuel Team Folder (Secure)
- FAP SA File Sharing
- South Africa Benchmarking
- eRoom Reports

- SAVEnergy 2005 Program
- Climate Change Work Group
- FL SA File Sharing
- Dealership Energy Awareness
- Paint Energy Team (Secure)

**Announcements**

*Energy Star* (William Allemon, Construction Srvs & Strat, 29 Jun 05 9:28am)

Ford Motor Company is a registered Energy Star Partner. Energy Star is a partnership between industry and the U.S. Government (EPA, DOE) helping businesses and individuals protect the environment through superior energy efficiency. For more information regarding Energy Star and its tools, visit [www.energystar.gov](http://www.energystar.gov), or contact Bill Allemon, Energy Program Manager, Ford Land, 313-323-7910.
TVM Energy Program

Non-Production
- Electrical Shutdown
- Compressed Air Volume Reduction
- Compressed Air Pressure Reduction

Heating Season
- Paint Booth Humidity Reduction
- General Building Exhaust Fan Reduction
Energy Projects

Delivery Systems

• Traditional Capital Projects
• Zero Investment Capital Projects

Highlights

• Bay Compressor Control System
• Power Measurements
  Utility Metering and Monitoring System
Automotive EPI
Overview

- Plant-level percentile ranking.
- Break-out analysis of electricity and non-electric consumption.
- Data normalized.
- Accepts rolling 12 month data.
- Generates equivalent inputs for 50% and 75% EPI plants.
Automotive EPI

“On The Test Track”

- Generated model for each plant.
- Reviewed fuel break-out analysis and statistical outliers.
- Ran “What-If” analysis by varying inputs to confirm/watch outputs.
- Identified plants over 75% EPI.

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<tr>
<th>Plant</th>
<th>Overall</th>
<th>Elec</th>
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<th>Production Value</th>
<th>Capacity Utilization</th>
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*Air tempered facility
**Joint Venture - Ford mMBTU/Unit value contains all facility loads.
***Capacity utilization is under range of model
Automotive EPI
Test Results

- Recommended baseline data update.
- Surprised by some 75%+ plants, confirmed performance of others.
- Energy Star brand and focus group review brought credibility.
- Identified stretch objectives at specific plants.
- Identified efficiency opportunities.
### Automotive EPI Plans

#### 2005 Roll-Out
- Create Single Point Lesson.
- Train internal support team.
- Review results with open culture plants.
- Communicate across organization.

#### 2006 Strategy
- Include EPI in monthly report.
- Realign existing program effectiveness.
- Update EPI models periodically.
- Create models for Stamping and Powertrain plants.

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