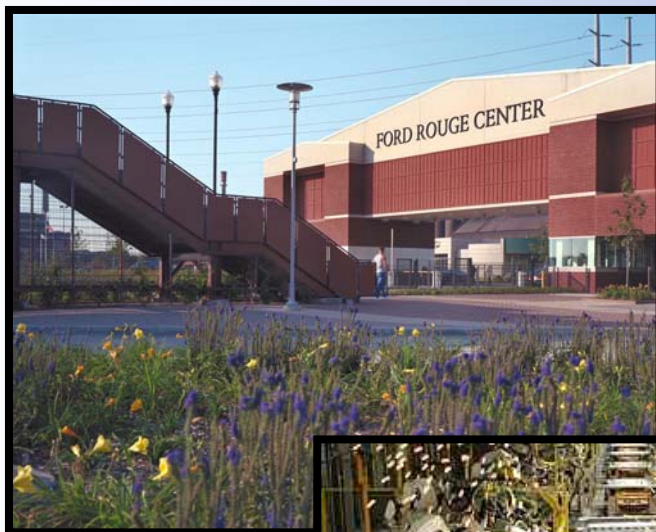


# Driving Change in Energy Use at Ford Motor Company

George Andraos, William Allemon





FORDLAND

## Overview

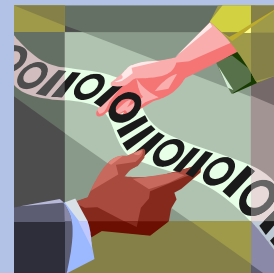
- 40 North American Manufacturing Facilities.
- 52 bilBTU load.
- Efficiency & Supply Side Management Teams.
- Energy coordinators located at each plant.
- Onsite support from DTE Energy Partnership.





# 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.





**eRoom**

TERMS OF USE • SECURITY • EDUCATION • SELF-HELP • FEEDBACK • HELP

*Ford Motor Company*

my eRooms edit Ford Land Mfg. Services - Energy an eRoom created on 14 Nov 02

create

- 2005 Utility Metering and Monitoring Project
- Archived TVM Datasheets
- Climate Change Work Group
- Compressor Controls Project
- Dealership Energy Awareness
- eRoom Reports
- FAP SA File Sharing
- FL SA File Sharing
- Ford Land Energy Supply & Efficiency Web Site
- Fumes to Fuel Team Folder (Secure)
- Internal Use Only (Secure)
- Monthly mmBTU Reports
- Paint Energy Team (Secure)
- Reference Files, Web Links and Tools
- SAVEnergy 2005 Program

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)	

create add file mark read commands

Announcements add an announcement

**Energy Star** (William Allemon, Construction Svcs & 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 it's tools, visit [www.energystar.gov](http://www.energystar.gov), or contact Bill Allemon, Energy Program Manager, Ford Land, 313-323-7910.*





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# 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

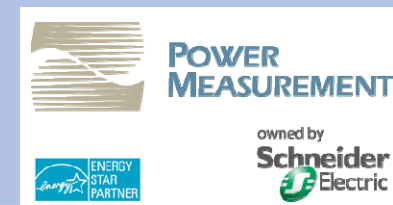
# Energy Projects

## *Delivery Systems*

- Traditional Capital Projects
- Zero Investment Capital Projects

## *Highlights*

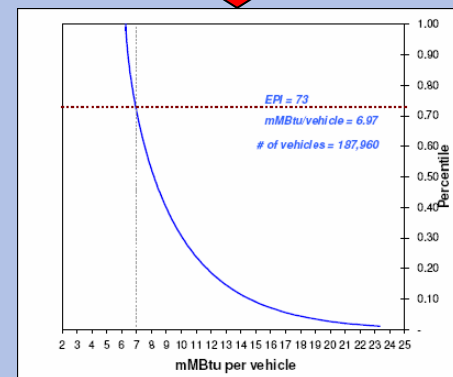
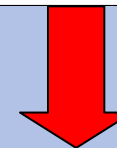
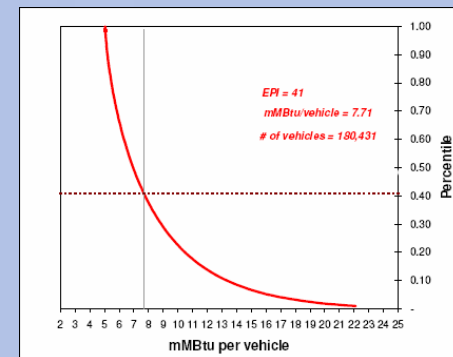
- Bay Compressor Control System
- Power Measurements  
Utility Metering and Monitoring System



# 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.



**Energy Star EPI Model Comparison**

Plant	EPI Percentile			Production Value	Capacity Utilization	Data Run Date	Notes
	Overall	Elec	Non-Elec				
Atlanta							
Chicago							
Dearborn Truck Plant*							
Kansas City							
Kentucky Truck							
Lorian/Ohio							
Louisville							
Michigan Truck							
Norfolk							
St. Louis							
Twin Cities							
Wayne Stamping & Assy							
Wixom***							
<b>U.S. Based Average</b>							
<b>Other Facilities</b>							
Auto Alliance**							
St. Thomas, Ontario							
Oakville Assembly, Ontario							

\*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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