



Go Further

Ford's Energy Strategy

Michigan Energy Public Forum

March 25, 2013

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Director, Energy
Ford Motor Company

Ford's Sustainability Vision

Our vision for the 21st century is to provide SUSTAINABLE transportation that is affordable in every sense of the word:

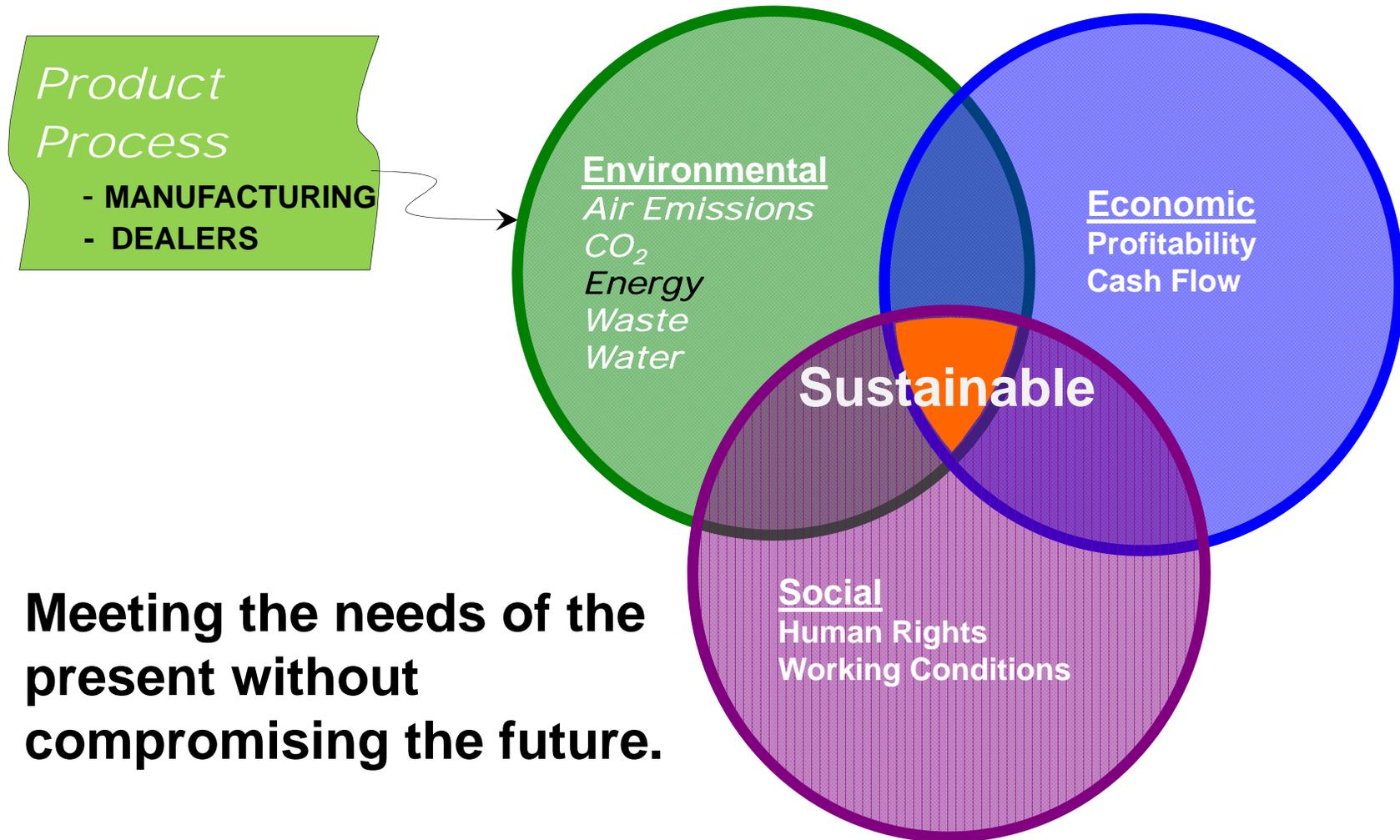
Environmentally,
Socially & Economically



“Improved sustainable performance is not just a requirement, but a tremendous business opportunity.”

- Bill Ford

Sustainability at Ford – Focus on Energy Reduction



Meeting the needs of the present without compromising the future.

Ford's Power of Choice Line-Up

EB ECOBOOST

H HYBRID

P PLUG-IN HYBRID

E ELECTRIC



Relative Battery Size:

None



Source of Electric Power:

None



Federal Tax Credit:

None

None

\$3,750

\$7,500

Ford's Range of Electrified Vehicles



FUSION

C-MAX



Focus
ELECTRIC



Three of the Major Electrified Vehicles Are Manufactured in Michigan.

HEV/PHEV/EV Sales as Percent of Industry June 2011 to Present



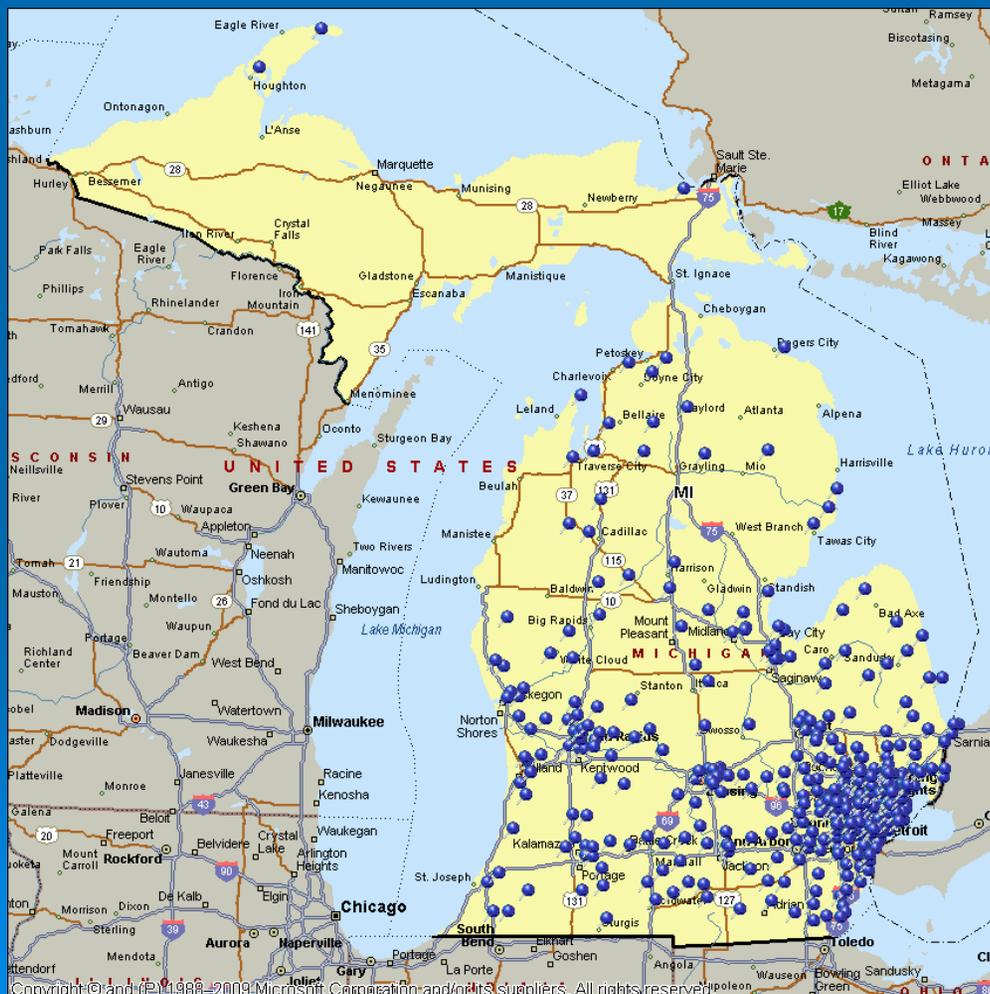
Electrified Sales Are Increasing at an Accelerated Rate.

Ford Has Strong Michigan Presence



- Michigan is the hub of Ford's global manufacturing operations
 - Virtually every Ford vehicle you see on the road today has a connection to Michigan
- Ford employs 40,000 people in Michigan
- 13 major manufacturing facilities in Michigan
- Home to Ford's product development center, research & engineering, safety & emissions labs, and 2 test tracks
- In 2012, purchased over \$15 billion worth of goods and services from Michigan-based suppliers

Ford Supplier Locations in Michigan



Ford Manufacturing Energy Objective

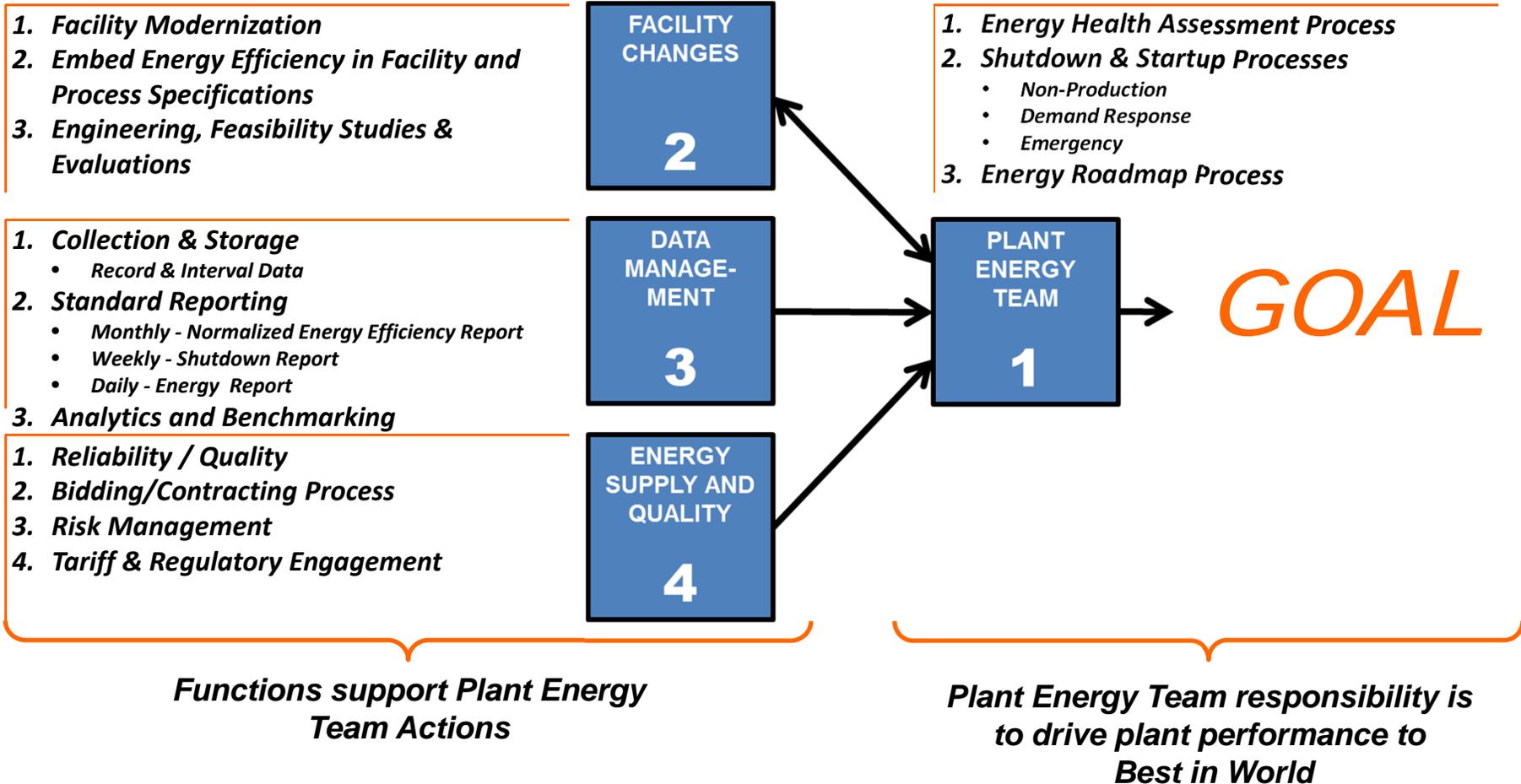


- Ford Globally has an established objective to reduce energy consumption per vehicle produced by 25% from 2011 to 2016
- Every facility is required to have a Plant Energy Team and develop/maintain an Energy Roadmap to help achieve the objective
- Ford has developed a comprehensive Energy Management Operating System (EMOS) to help drive this objective through continuous improvements in processes, designs and culture

Energy Management Operating System (EMOS) – Key Processes



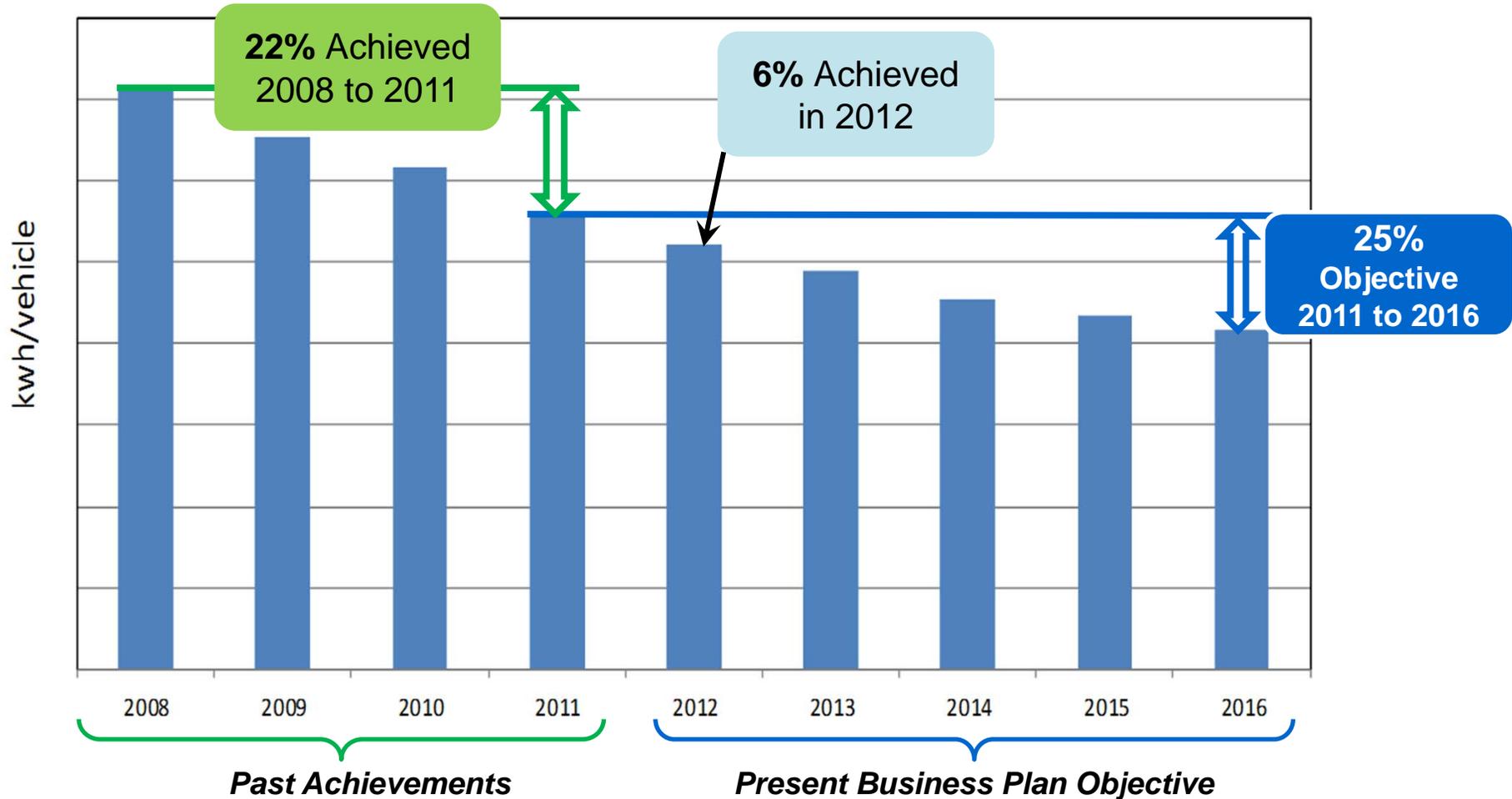
A Standardized, Proactive and Disciplined Operating System that drives reductions in energy consumption per unit produced through continuous improvements in processes, designs, and culture.



Ford Global Manufacturing Operations



Energy Achievements and Future Objectives

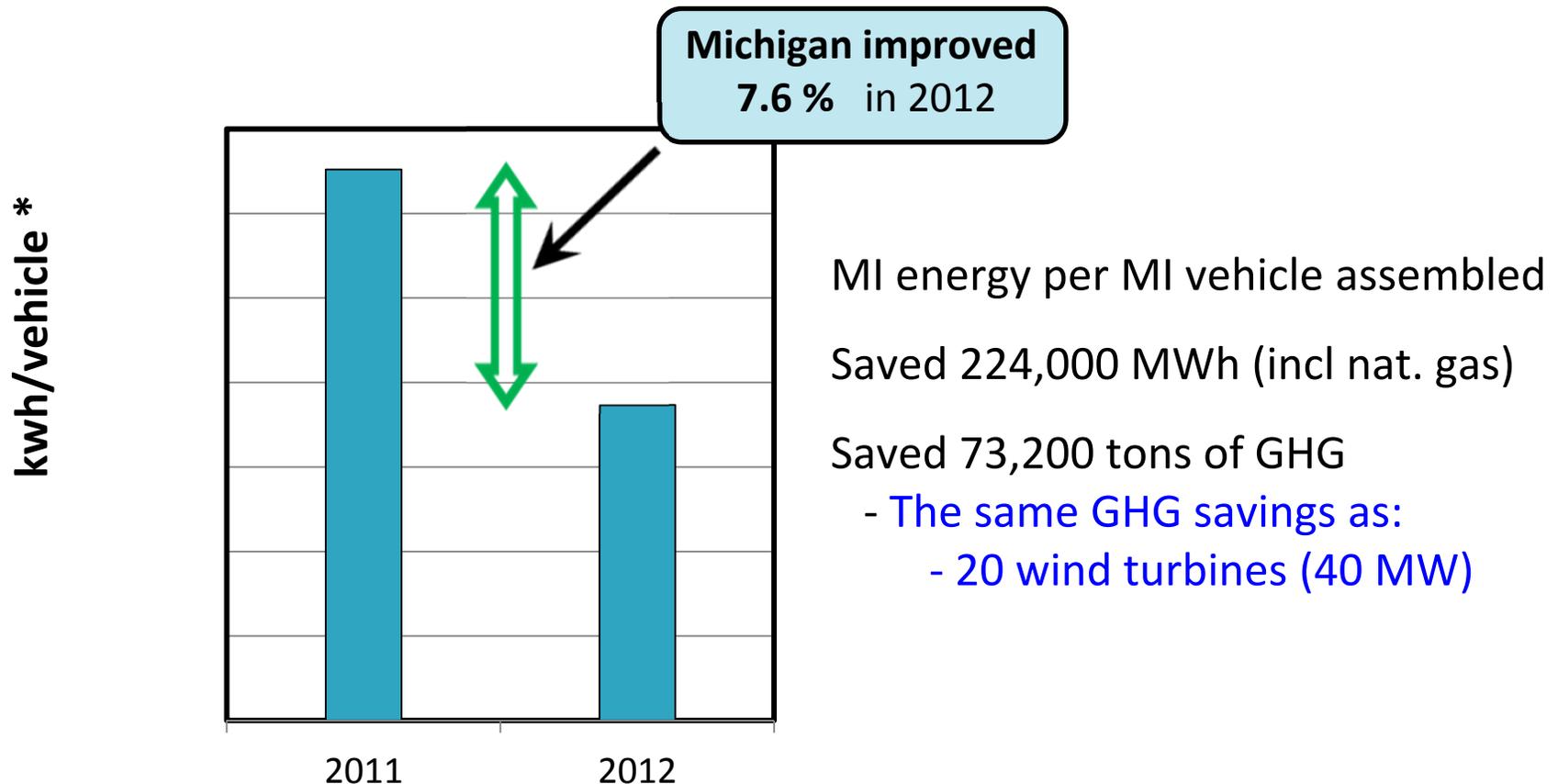


Ford Global Manufacturing Operations



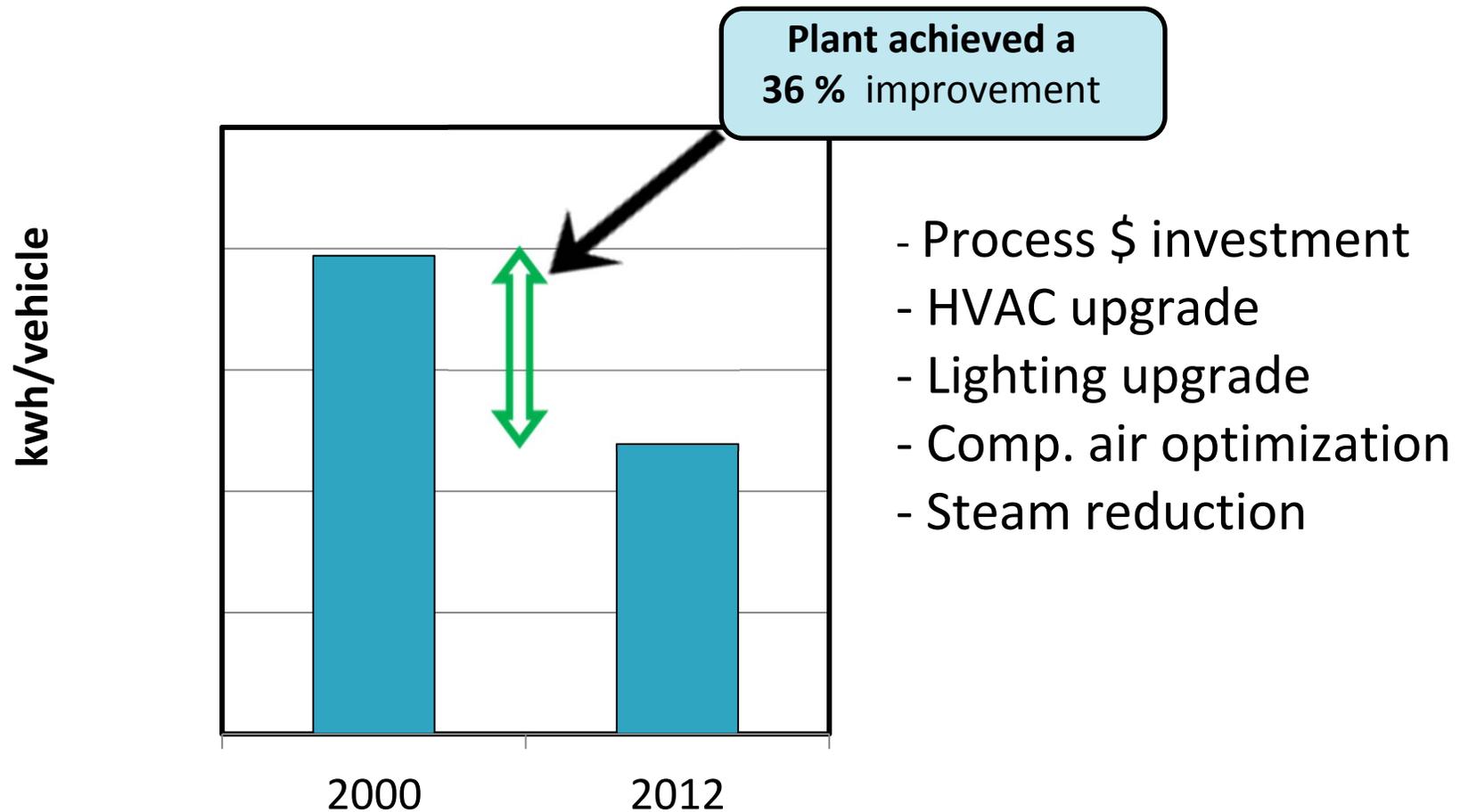
Energy Efficiency Achievements

2012 vs. 2011 Michigan Plants



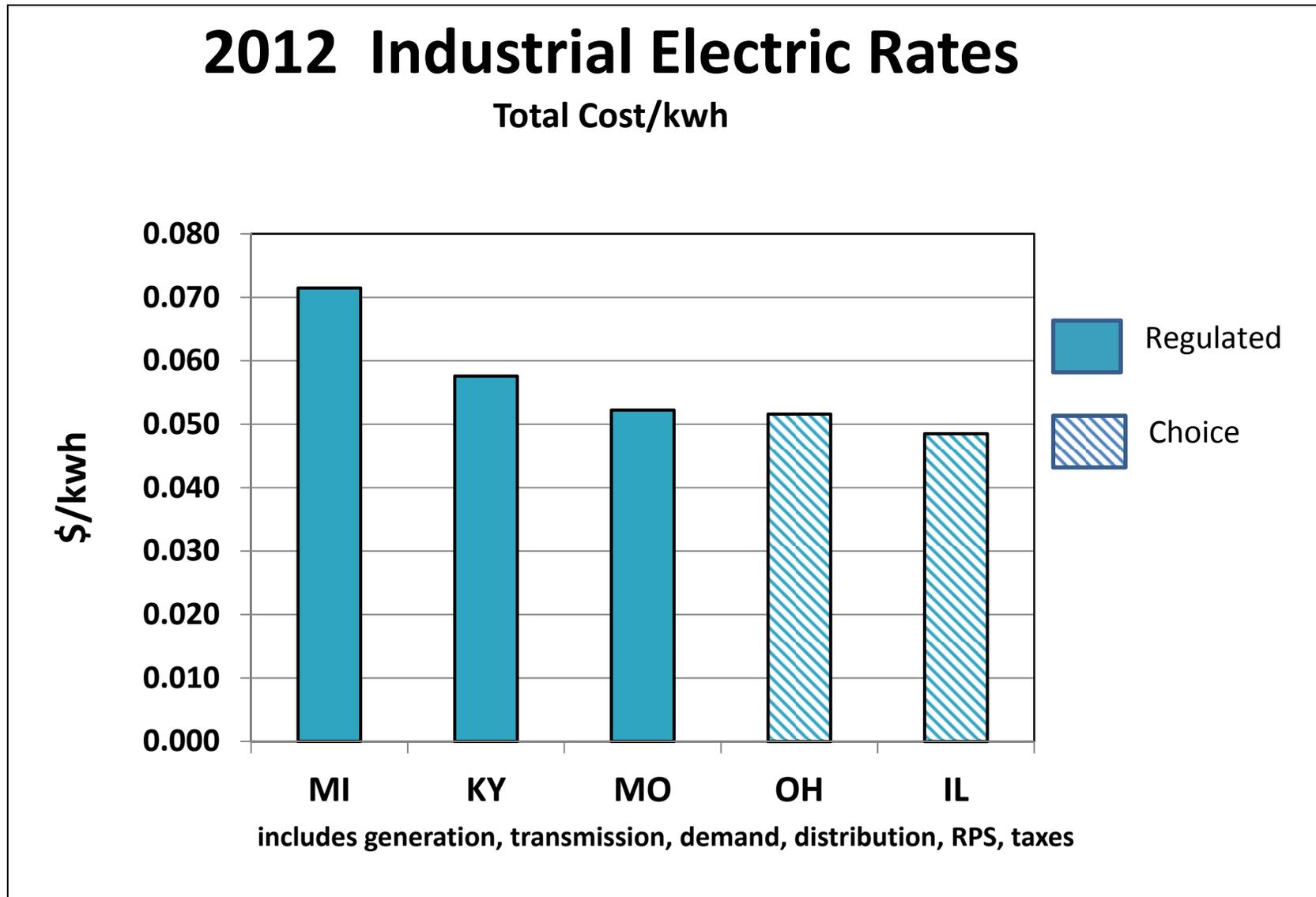
*includes all energy from assembly, engine, transmission and stamping plants

Energy Efficiency Achievements Michigan Assembly Plant – Wayne, MI



Ford and Renewables

- Ford Has Global Experience In Renewable Energy
 - On-Site Wind Turbines
 - On-Site Hydro-electric
 - On-Site Landfill Gas
 - On-Site Combined Heat and Power
 - On-Site Geothermal
 - On-Site Solar Voltaic
- Ford supported initial MI RPS in 2008
- Need to be part of a comprehensive energy policy
 - Right application at the right location
 - Cost effective & create real impact
 - Sustainable Environmentally, Socially & Economically



Ford Energy Cost

- Higher Costs Do Drive Business Away From MI
- Higher Costs Impact Entire Supplier Base
- Ford is DTE's Largest Customer
 - Over \$100 million per year
 - Any % cost increase is substantial
- Cost Disadvantage Limits Available Capital
 - Reduced R&D
 - Reduced engineering
 - Reduced expansion/improvements

Ford Energy Summary

- New Vehicles are a Growing Part of Utility Business
 - Ford's goal is to provide total sustainable transportation
- Energy Efficiency is a Key Driver
 - Reduces Cost – every day – every month
 - Reduces GHG - most cost effective GHG action
 - Reduces Pollution, Grid Stress & Generation Needs

Ford Energy Summary

- Responsible Renewables
 - Sustainable Environmentally, Socially & Economically
- Energy Cost Impacts Many Areas
 - Direct Ford Impact to Bottom Line
 - Multi-cost Effect to Suppliers – passed on to Ford
 - High Costs Drive Business Away From MI
- Ford is committed to working with the State to develop a sustainable long term energy strategy.