



***TAMA / SP***

***3<sup>rd</sup> Quarter Membership Meeting***

***Panel on Greening the Automotive  
Supply Chain***

***September 8, 2011***



## *Panel on Greening the Automotive Supply Chain*

- **Kevin Butt**, General Manager/Chief Environmental Officer of Environmental/Safety Engineering, Toyota North America
- **Randy Leslie**, Vice President & General Manager, Johnson Controls Inc. Automotive Experience

Supplier Partnership for the Environment &  
Tennessee Automotive Manufacturing Association  
3<sup>rd</sup> Quarter Membership Meeting  
September 8, 2011



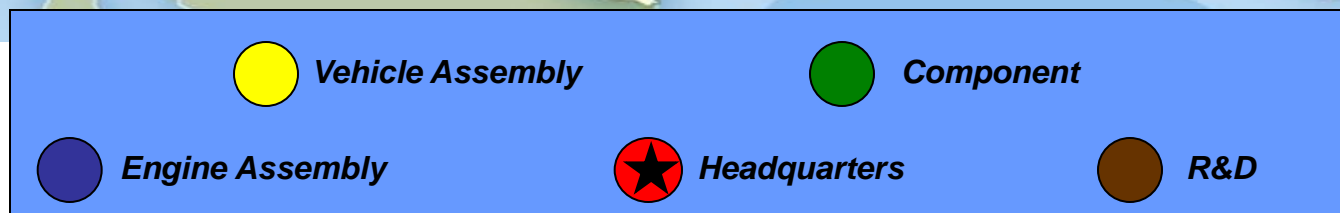
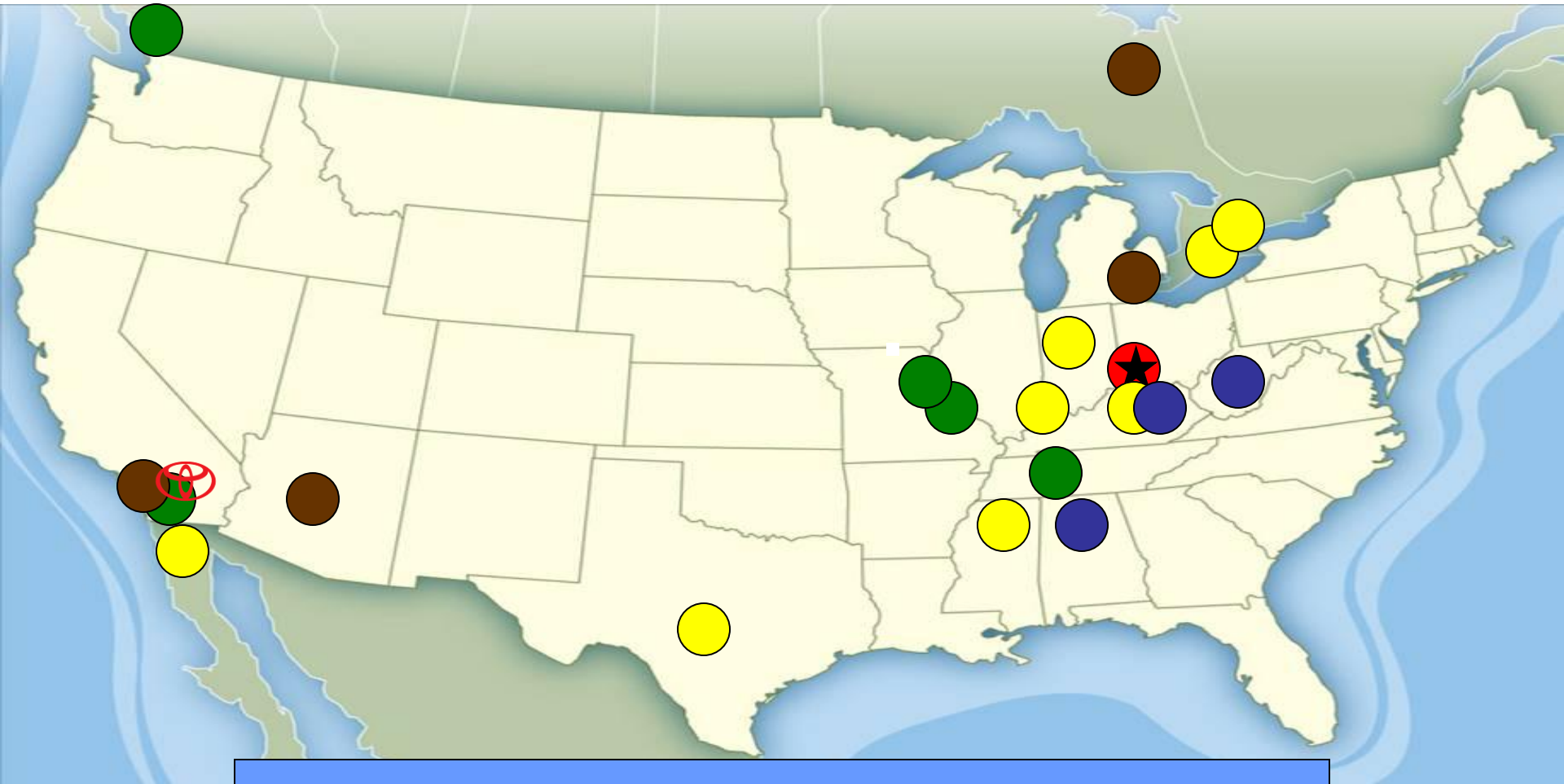
*Environmental Performance  
and Lean Manufacturing*

*Good Things to Share!!*

***Kevin M. Butt***

***General Manager/Chief Environmental/Safety Officer  
Toyota Motor Engineering & Manufacturing North America***

# Manufacturing Locations



# 12 Locally Produced Vehicles

**Avalon**



**Camry/Camry Hybrid**



**Corolla**



**Highlander**



**Lexus RX 350**



**Matrix**



**RAV4**



**Sequoia**



**Sienna**



**Tacoma**



**Tundra**



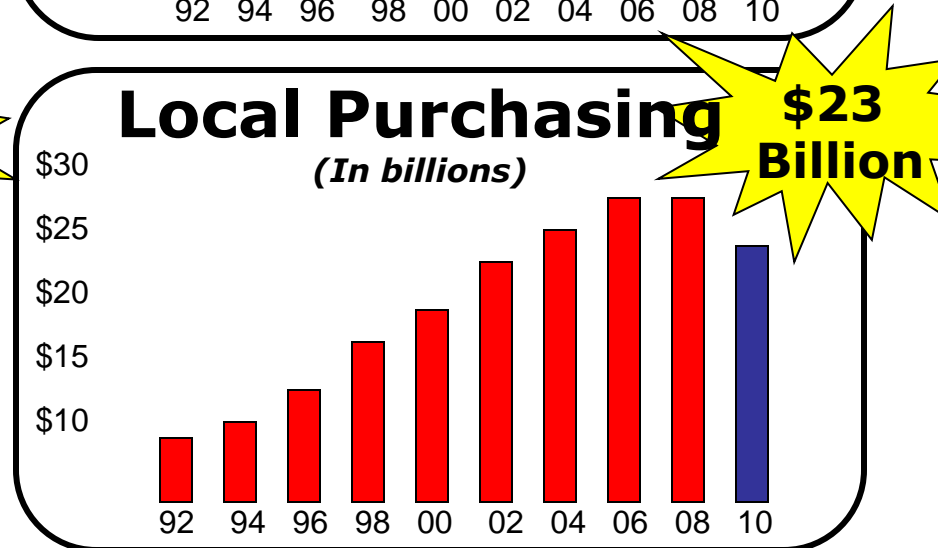
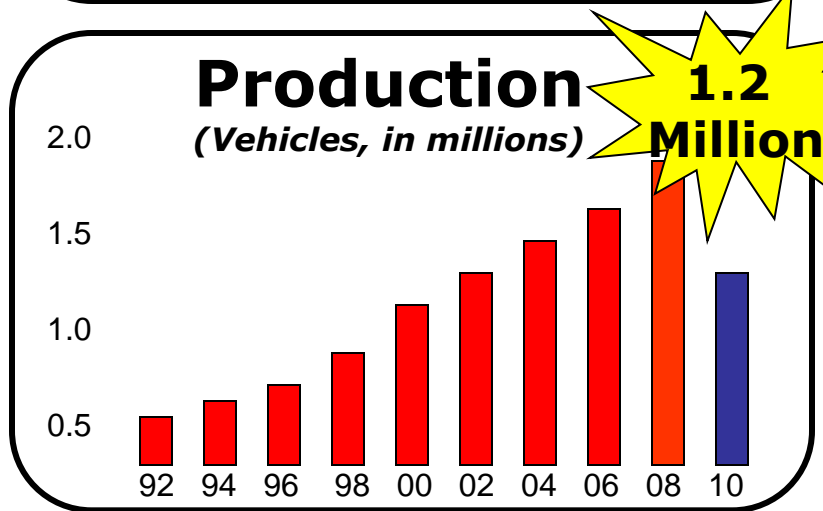
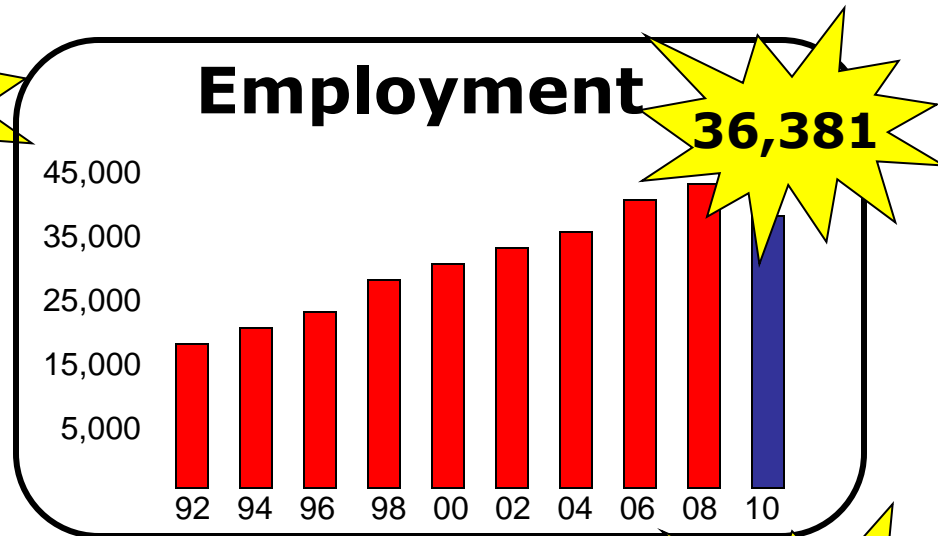
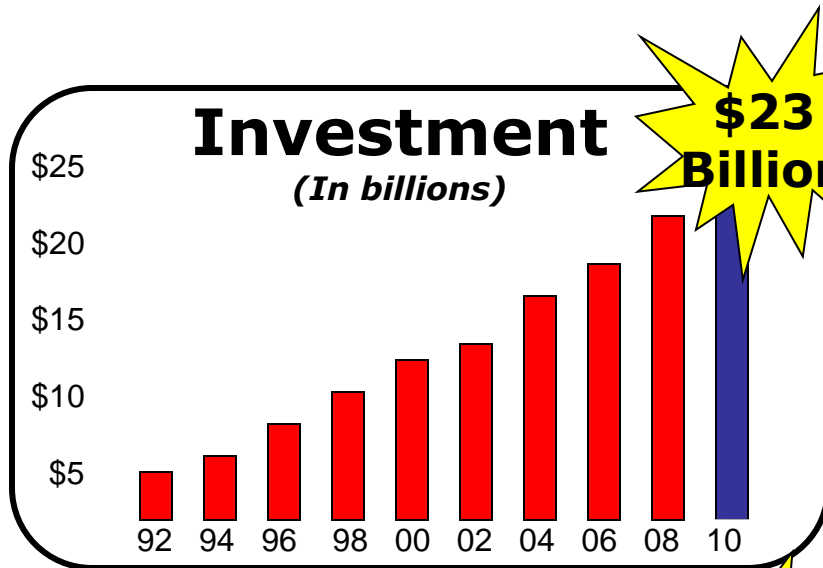
**Venza**



# More Than 500 Supplier Locations



# North American Impact



# Toyota U.S. Economic Impact

 = 10,000 jobs


*Direct employment:*

 **29,089**

*Indirect employment:*

 **177,312\***

*Total impact:*

 **206,401\***



\*Source: Center For Automotive Research Impact Study

# Toyota's Environmental Vision

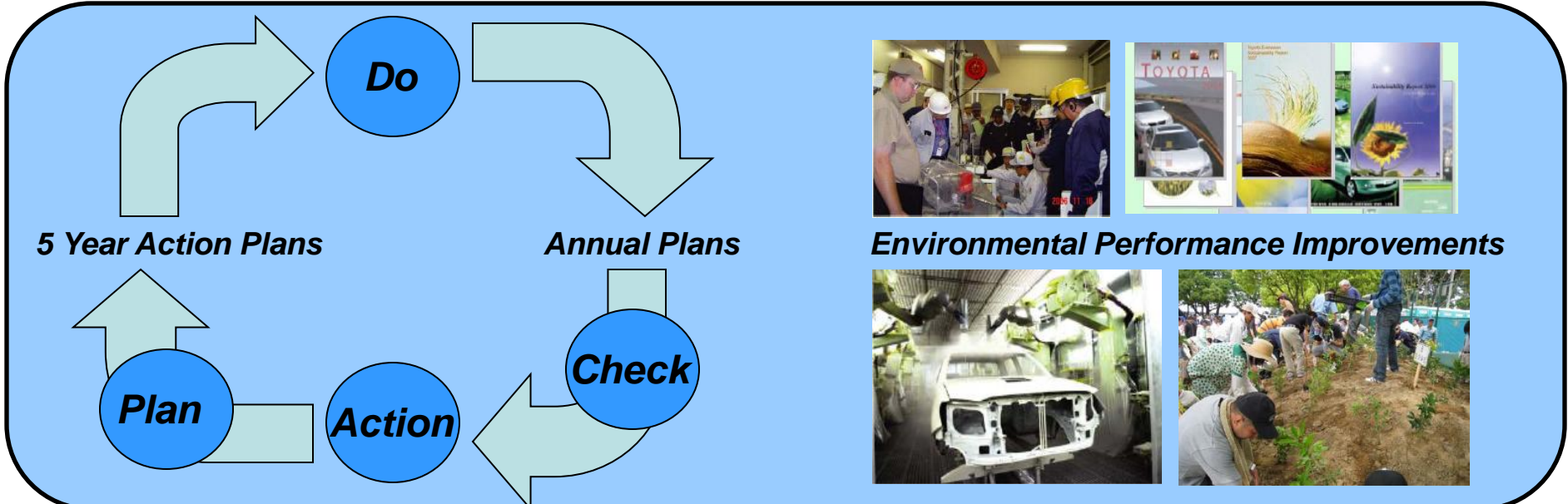
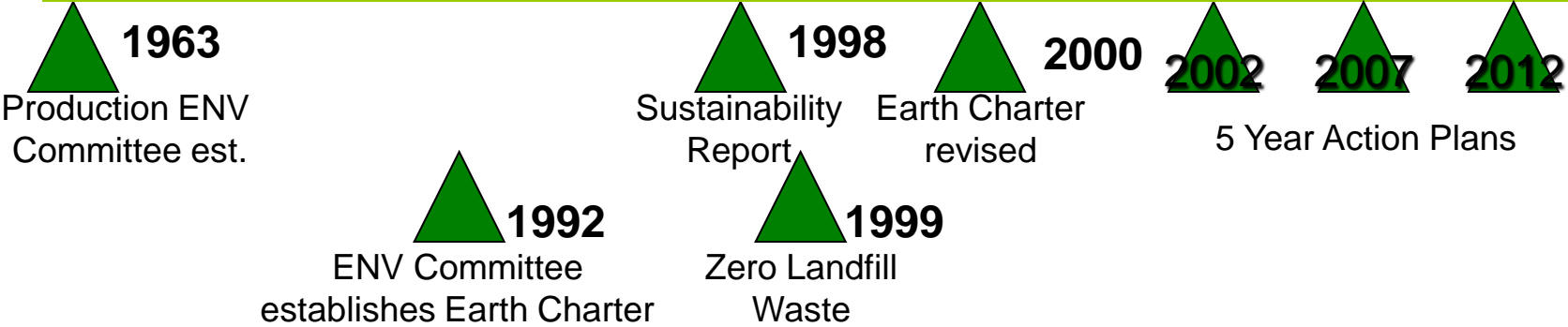
**“To become the most admired and respected automobile manufacturer by demonstrating continuous environmental performance improvements resulting in environmental leadership and sustainability.”**



# Toyota Environmental Milestones



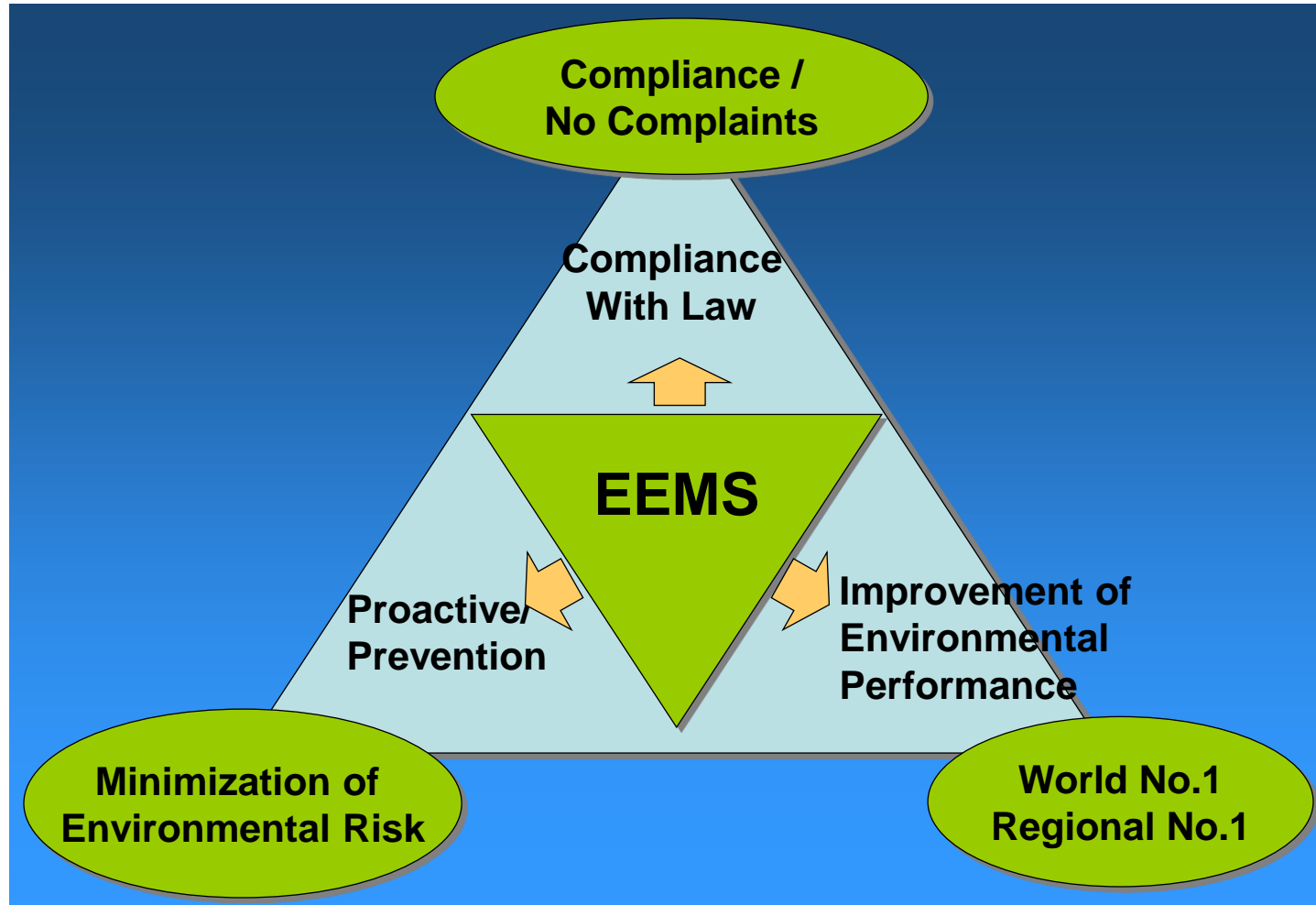
Continued Environmental Activities to Reduce Energy, Water, VOC and Waste



# Environmental Activities That Improves Lean Manufacturing

- ECO Plant Design
- 5-yr. Action Plans
- Enhanced Environmental Management Plans
- Kaizens/Yokoten

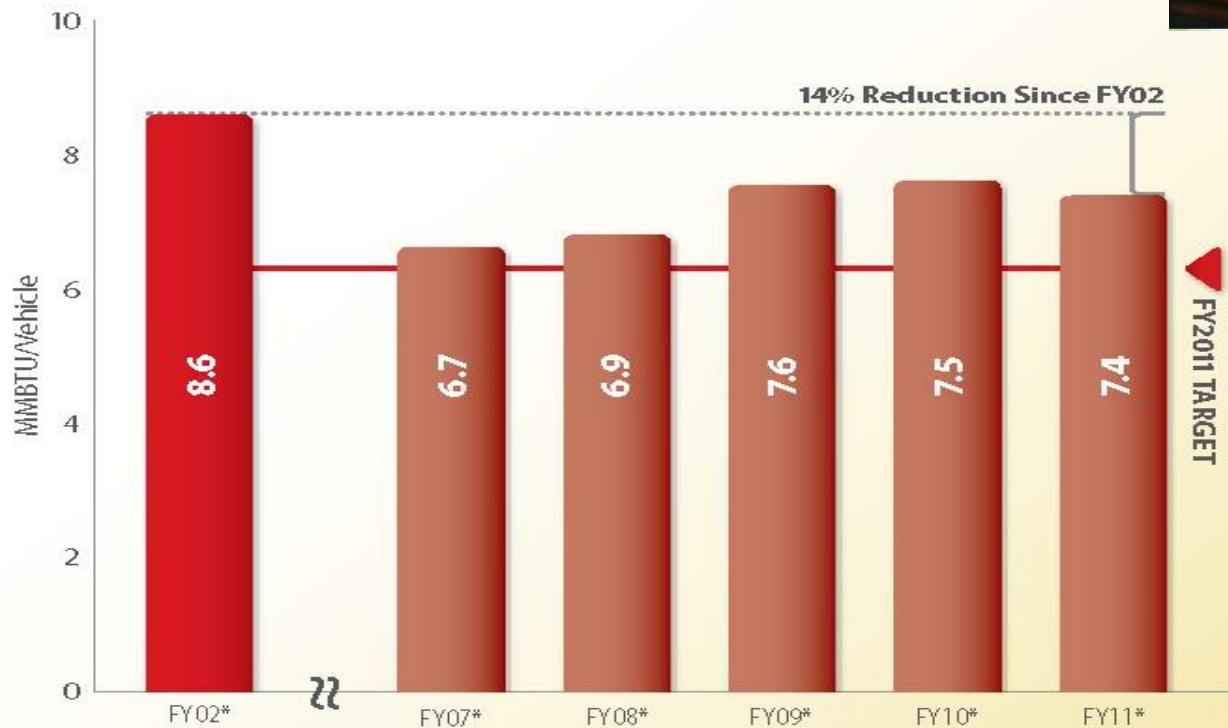
# Goals of Enhanced Environmental Management Systems (EEMS)



# Energy Consumption



## Energy Consumed per Vehicle Produced in North America

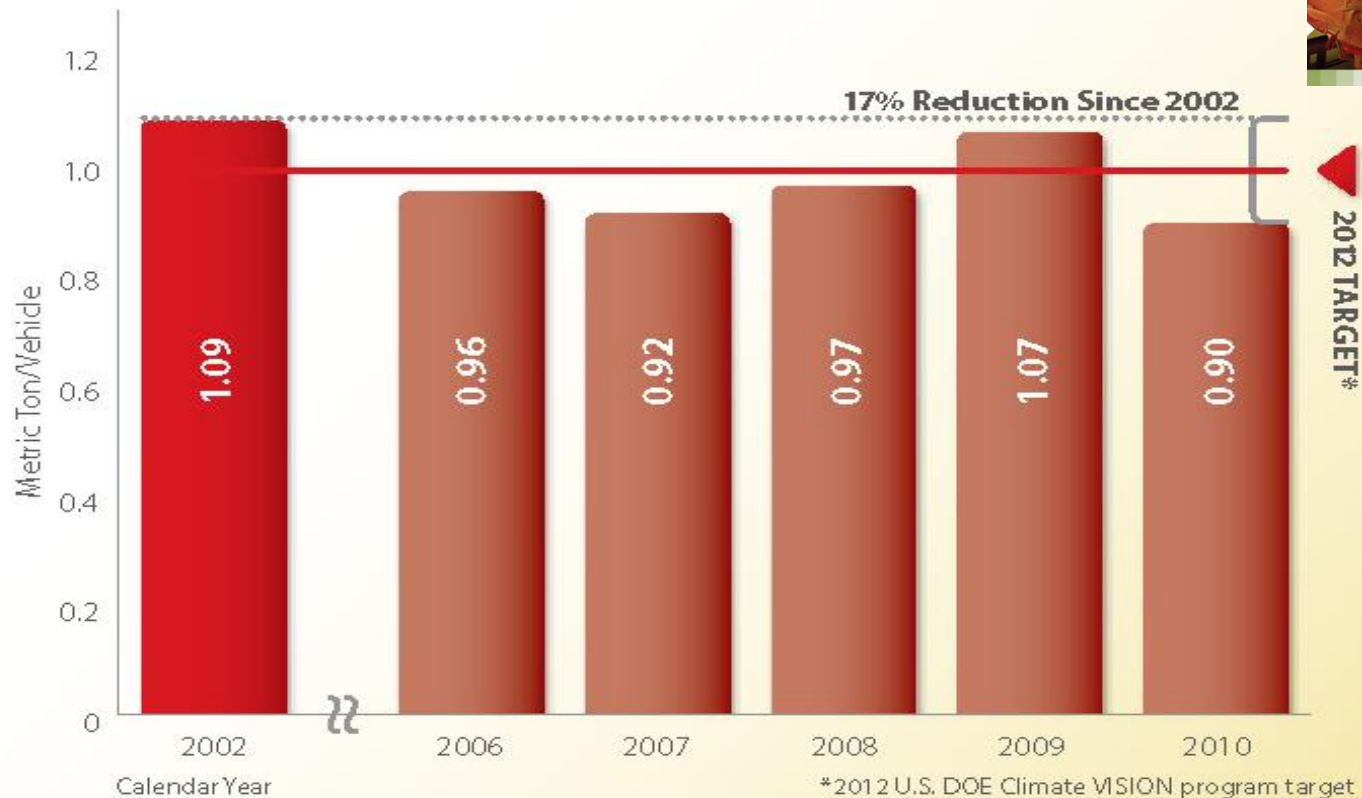


\*Fiscal Year (FY): Runs April-March

# CO2 Reductions



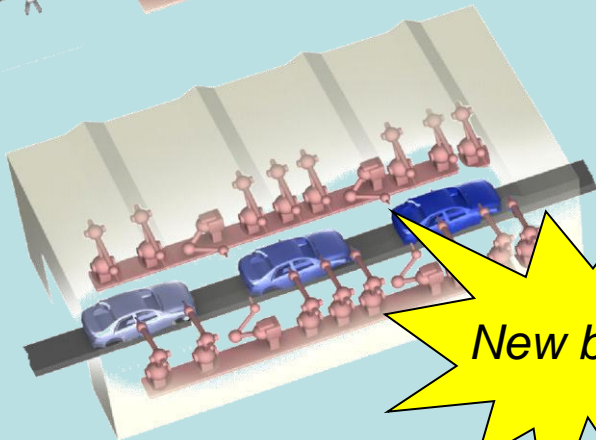
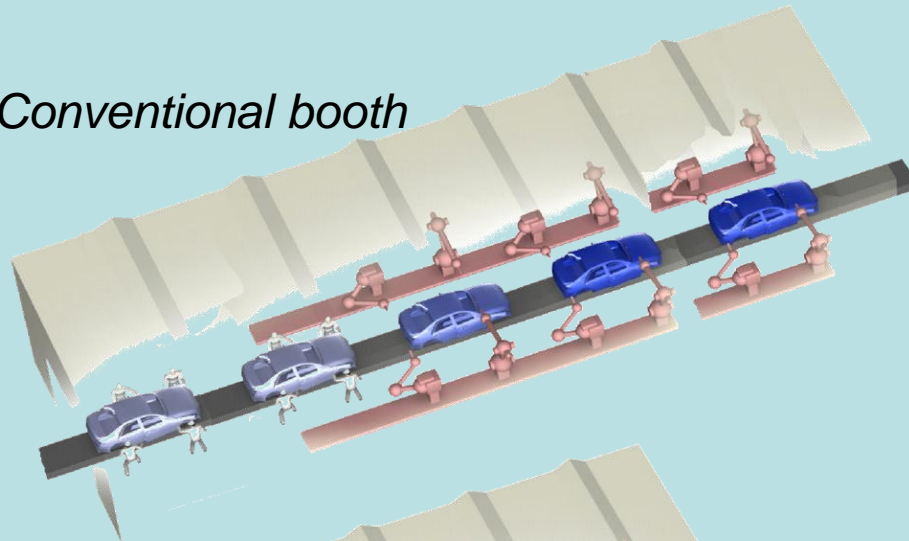
## CO<sub>2</sub> per Vehicle Produced in U.S.



# Example of Reducing CO2 Emissions and Lean Manufacturing

## REDUCE BOOTH LENGTH

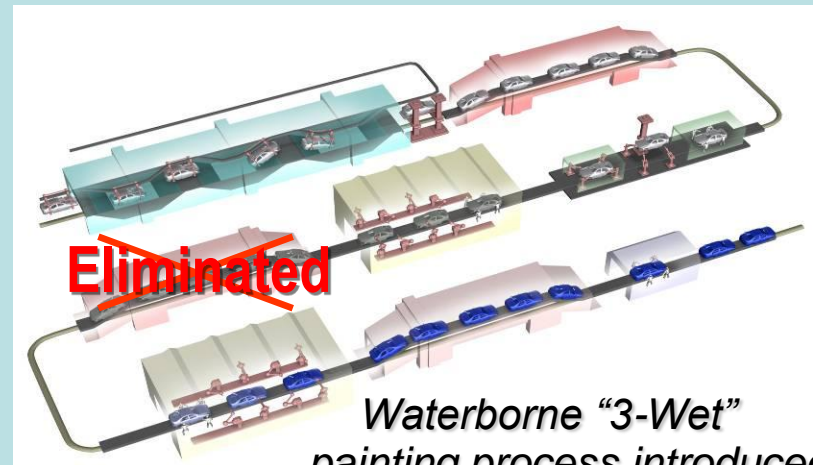
*Conventional booth*



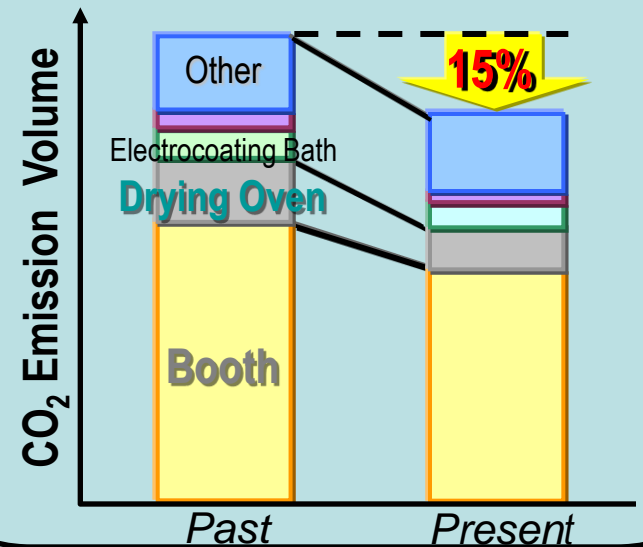
*New booth*

Development and introduction of slim robots  
*"simple slim"*

## ELIMINATE PRIMER DRYING OVEN



*Waterborne "3-Wet" painting process introduced*



# ENERGY STAR Sustained Excellence

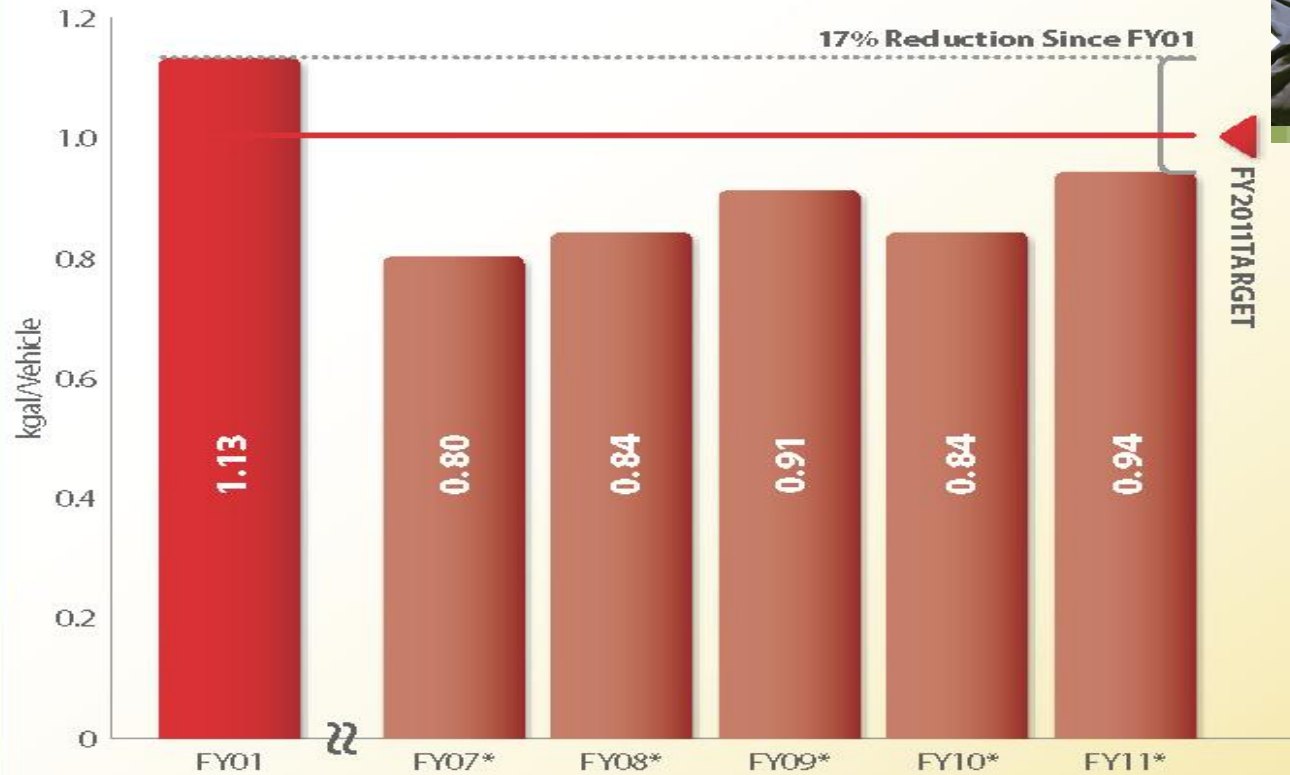
- Seven-time recipient
- Energy use ↓ 14 percent
- CO2 emissions ↓ 17 percent
- Equal to 17,000 U.S. homes
- Annual savings of \$26 million



# Recycling & Improved Resource Use

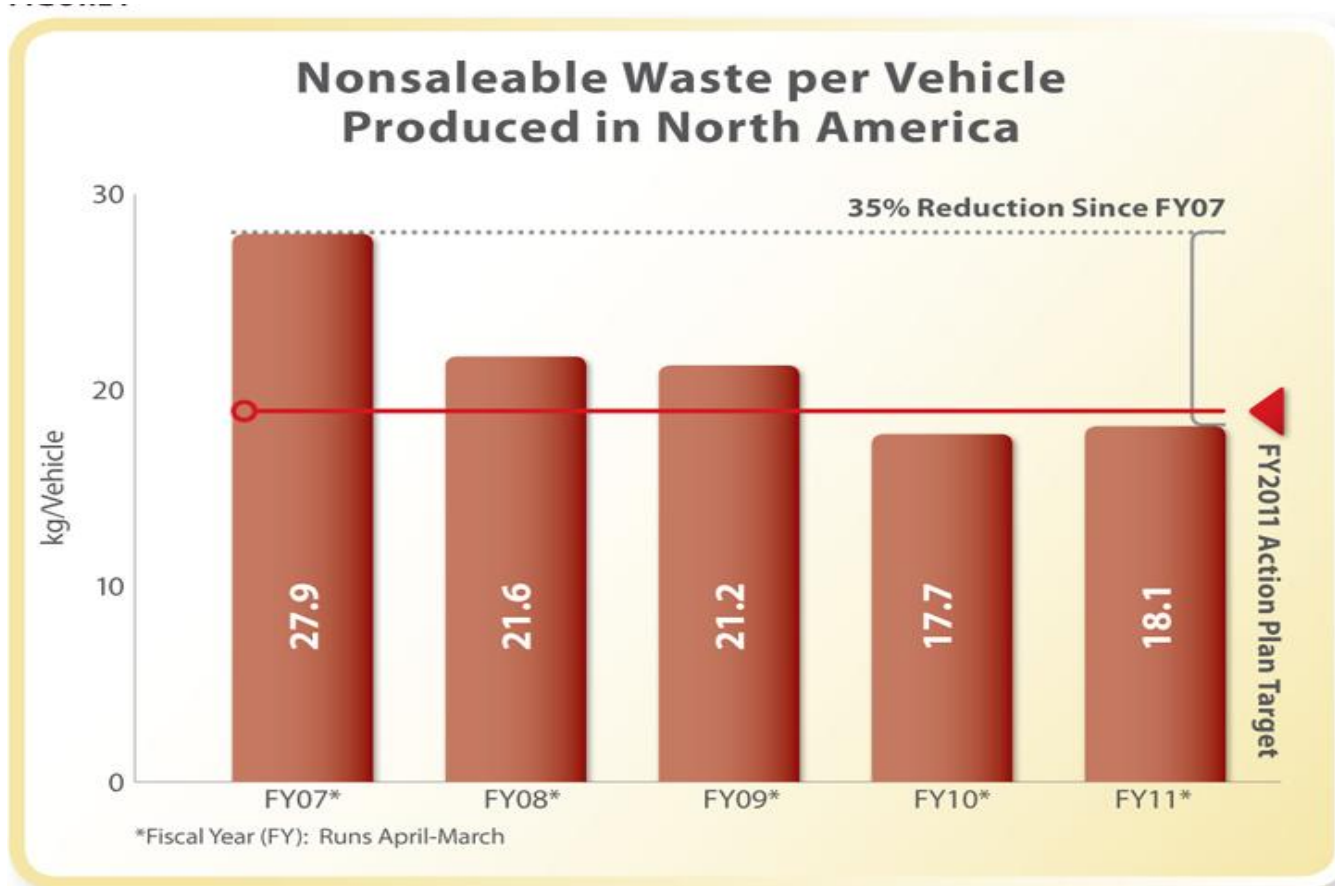


## Water Used per Vehicle Produced in North America



\*Fiscal Year (FY): Runs April-March

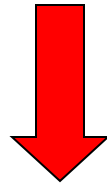
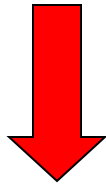
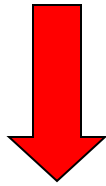
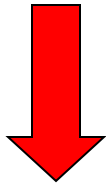
# Recycling & Improved Resource Use



# Zero Landfill Achievement

## “The 5 Rs”

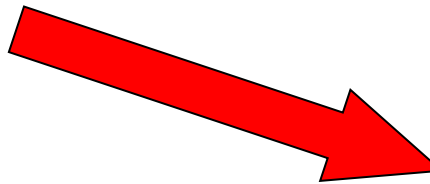
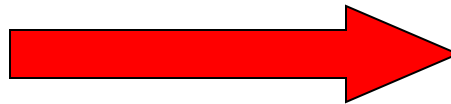
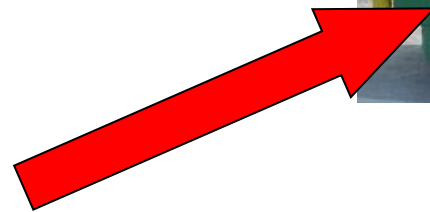
**Refine, Reduce, Reuse, Recycle and Recover**



**North American plants achieved zero landfill**



# Line-side Waste Segregation



# Environmental Kaizen Story



**BEFORE** *TMMWV used to throw out plastic pipe caps*

**NOW** *Recycle 100%*  
*Equal to more than three tons, the weight of a Tundra*

**BEFORE** *Various plastics were either recycled or disposed*

**NOW** *All plastics – 140 tons or 280,000 pounds annually – from TMMWV is given to a local disabled center who sells the plastic to a local recycling center*



***EQUAL TO 65 Siennas***



# Environmental Kaizen Story



# Sustainable Plant Activities

## TMMMS: One of Toyota's four Global Sustainable Plants

*Geothermal, reforestation, 50 kilowatt solar energy, and solar lighting*

## TMMAL: Also leading the way in North America

*Install 5 kilowatt solar panel*


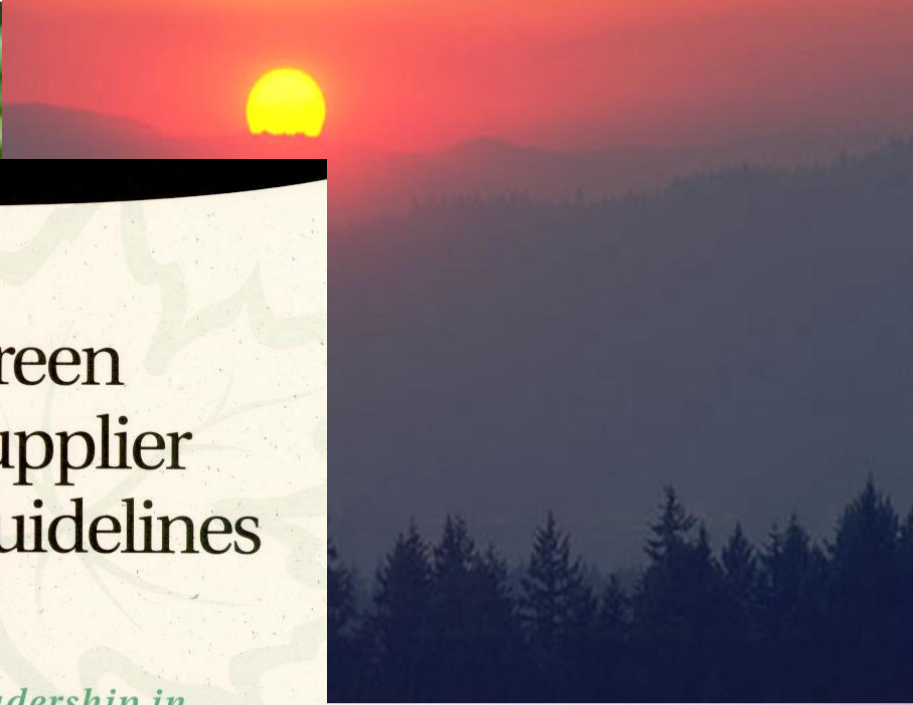
*Perform reforestation and improvement activities*



Toyota Motor Manufacturing, Mississippi (TMMMS)




Toyota Motor Manufacturing, Alabama (TMMAL)



# Green Supplier Guidelines

*Leadership in  
Environmental  
Performance*



Toyota Motor Manufacturing North America, Inc.

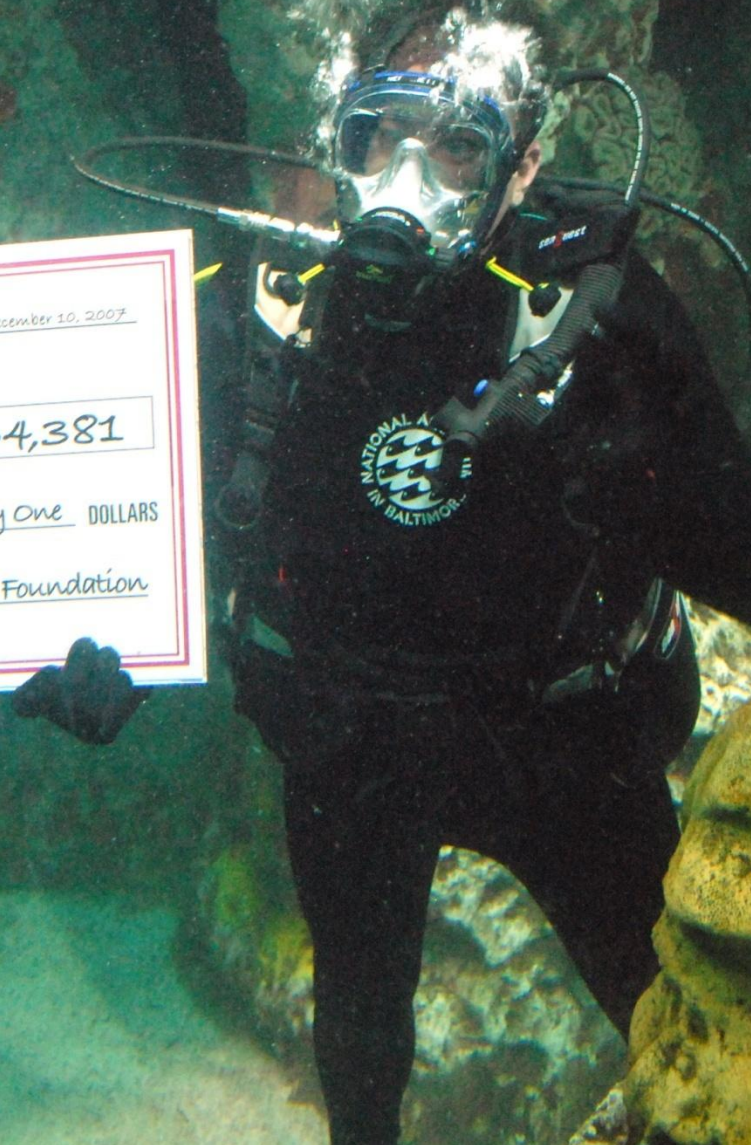
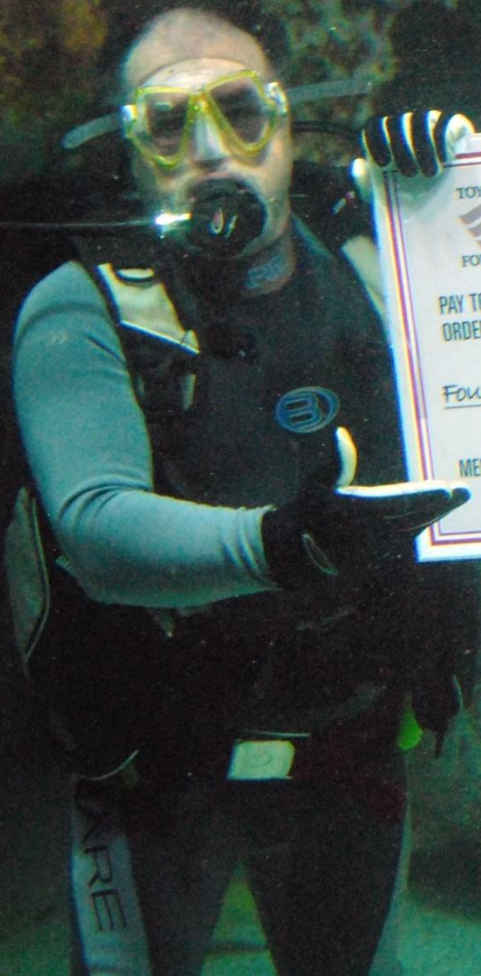


# Supplier Treasure Hunt Examples

No cost and low cost reductions - Operational Improvements







TOYOTA USA  
FOUNDATION

Date December 10, 2007

PAY TO THE ORDER OF National Aquarium in Baltimore \$ 464,381

Four Hundred Sixty Four Thousand Three Hundred Eighty One DOLLARS

MEMO AquaPartners Toyota USA Foundation

# Empowering Team Members



**Encourage team members to take ideas home**



# TOYOTA

## Thank you

*Kevin M. Butt*

*General Manager/Chief Environmental Officer*

*Toyota Motor Engineering & Manufacturing North America*

# Supplier's Partnership for the Environment Meeting September 8, 2011



Randy Leslie, Vice President & General Manager  
Ford Business Unit -Johnson Controls  
Chairperson – Suppliers Partnership for the Environment



# Our Businesses



# Johnson Controls is a globally diversified company in the building and automotive industries



## Automotive Experience

A global leader in automotive seating, overhead systems, door and instrument panels, and interior electronics.



## Power Solutions

The global leader in lead-acid starter batteries, advanced lead-acid batteries for Start-Stop vehicles and Lithium-ion batteries for hybrid and electric vehicles.



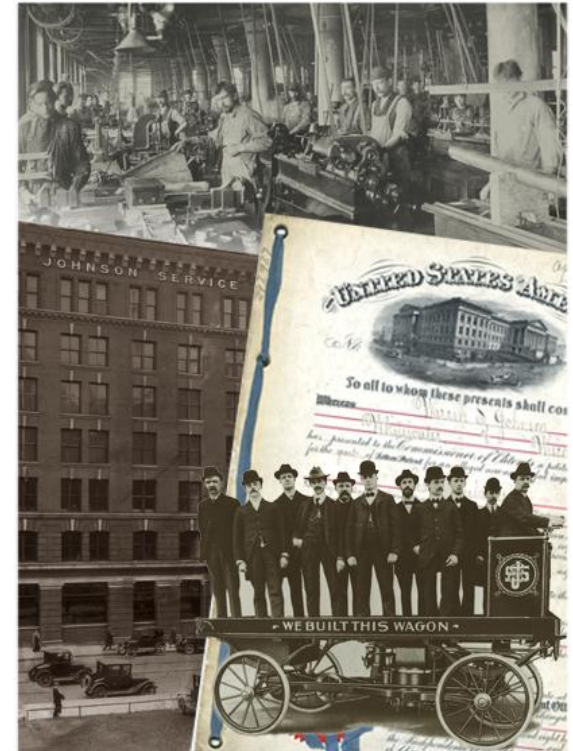
## Building Efficiency

A leading provider of equipment, controls and services for heating, ventilating, air-conditioning, refrigeration, and security systems for buildings.

## A Company Founded on Sustainability & Innovation

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- In 1885, company founder, Warren Johnson launched an industry focused on energy efficiency.
- He was the inventor of the first electric in-room thermostat.
- Johnson created huge pneumatic tower clocks. He experimented with electric steam batteries and started a wireless telegraph business. He developed steam powered vehicles, from luxury touring cars to the first postal service trucks.
- Most of his patents were devices aimed at harnessing the sustainable power derived from air, steam or fluid pressure.



# Our Vision and Values are the foundation of our success

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## Vision

A more comfortable, safe and sustainable world.

## Values

### ■ Integrity

Honesty, fairness, respect and safety are of the utmost importance.

### ■ Customer Satisfaction

Our future depends on us helping to make our customers successful. We are proactive and easy to do business with. We offer expert knowledge and practical solutions, and we deliver on our promises.

### ■ Employee Engagement

We foster a culture that promotes excellent performance, teamwork, inclusion, leadership and growth.

### ■ Innovation

We believe there is always a better way. We encourage change and seek the opportunity it brings.

### ■ **Sustainability**

**Through our products, services, operations and community involvement, we promote the efficient use of resources to benefit all people and the world.**

# Our Environmental Leadership



## We focus on our own environmental performance with the same discipline that we apply with our customers

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- 2002 – Started reporting sustainability data
- 2003 – Published first Sustainability Report via the Global Reporting Initiative (GRI) guidelines, the most widely accepted global standard for reporting corporate responsibility
- 2009 – Introduced an environmental scorecard addressing resource efficiency, environmental management and sustainable product design
- 2010 – Glendale, U.S., headquarters office buildings awarded LEED™ Platinum certification by the U.S. Green Building Council. The largest concentration of LEED Platinum buildings ever on one site
- Our sustainability performance is recognized by numerous, respected corporate social responsibility and sustainability indices

CARBON DISCLOSURE PROJECT



# LEED™ Platinum Campus– The Johnson Controls Corporate and Power Solutions headquarters campus, Glendale, Wisconsin

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Johnson Controls has been awarded LEED™ Platinum certification by the U.S. Green Building Council, for its efforts to make the Glendale campus a model of energy efficiency and sustainability

This represents the largest concentration of LEED Platinum buildings – four – on one site ever awarded

- Photovoltaic solar
- Thermal solar
- Geothermal wells
- Rainwater management
- Green roofs
- Material re-use
- Integrated building management technology



What we've learned



# What Johnson Controls has learned from Toyota

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- **Energy treasure hunts in our plants** - learned from Toyota and implemented at JCI
  - Observe plant in off hours and then again when starting up and during production
    - Identify areas of waste
  - Implemented into JCI plants
- Avanzar joint venture location participates in the **TMMTX Zero landfill program**
  - This is an on-site supplier to Toyota in San Antonio, Texas that supplies seats and interior components
- The Johnson Controls Toyota Business Unit **offices promote recycling** - paper, plastics, batteries
- **Sustainability bulletin board** in the Toyota Business Unit at our Plymouth Tech Center
  - Provides an overview of articles about how to be more sustainable; news about what Toyota and JCI are doing

# Sustainable Packaging & Products

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## ■ Packaging Efficiency:

- **Returnable package** used extensively in our plants
- For long hauls (trim covers from Mexico ) and foam, we have developed **packaging methods** that eliminate a return transportation leg saving emissions and reducing cost

## ■ Product:

- Low mass seat frames vs current model will be introduced on the all new 2012 Camry
  - Seats are the heaviest component in the interior. Lighter weight seat frames help our customers improve fuel economy
- Natural Oil polyols (ie: soy) used in our Urethane foam pads



What we're teaching  
our suppliers

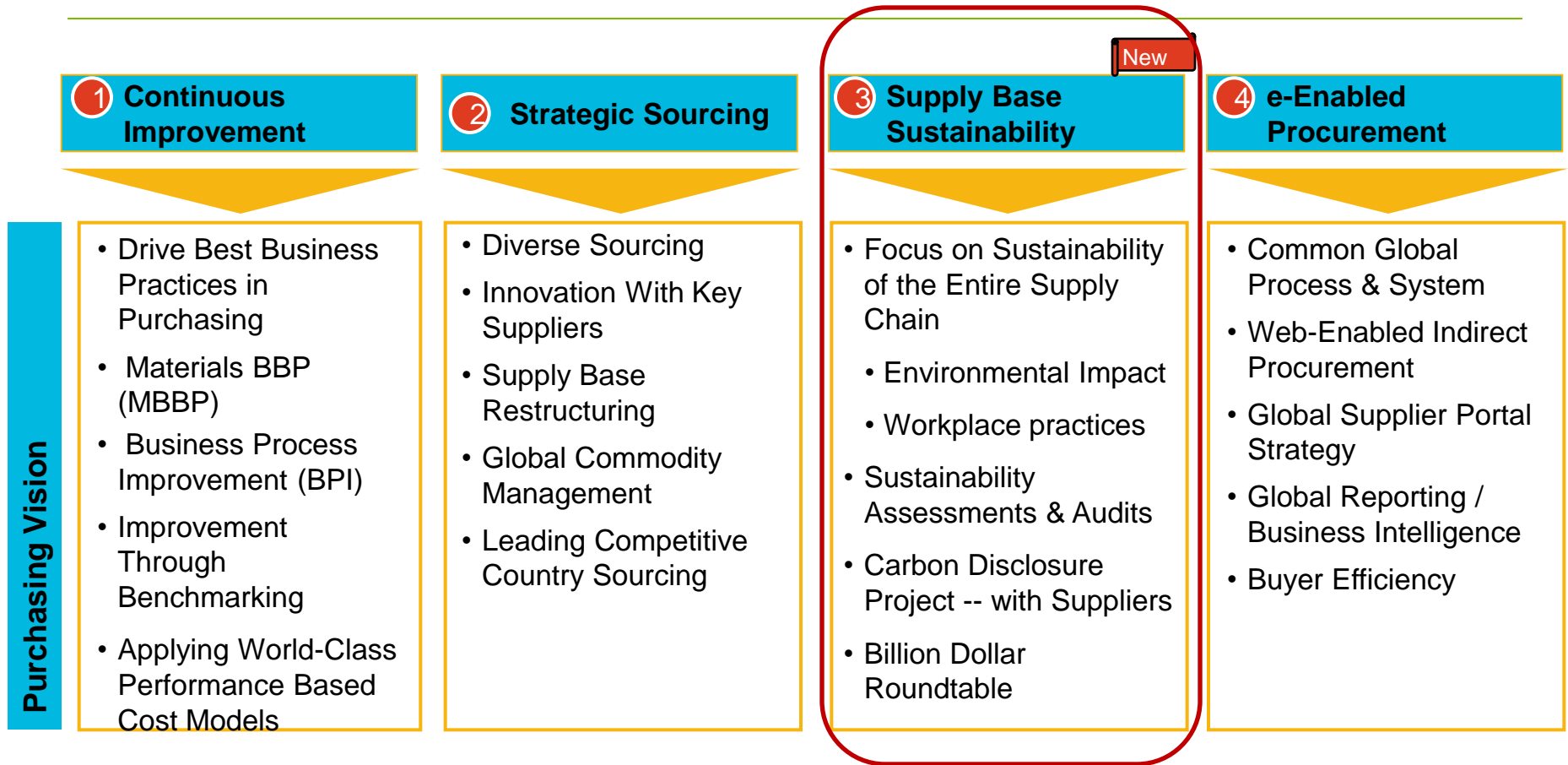


# Johnson Controls – Supply Base Sustainability Background

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- 1985: Ethics policy is released.
- 2001: Ethics policy is revised to include human rights, working conditions and diversity.
- 2002: Supplier Terms & Conditions of purchase posted on line.
  - New section 14 – **Compliance with Laws: Ethics**
- 2006: Social & Environmental Performance of Suppliers Standard is released.
- 2006: Supplier Social & Environmental survey is created – Manual hard copy.
- 2008: Supplier assessment survey (SAS) is revised to incorporate sustainability metrics.
- 2008: Global Supplier Scorecard revised to incorporate sustainability performance.
- 2008: JCI joins the Carbon Disclosure Project (CDP) - Supply Chain Program
- 2010: Launched new on-line Supplier Sustainability Rating (survey) located on the Supplier Portal

# Supply Base Sustainability is a key element of our global purchasing strategy



**Closely Linked To The Business Requirements: Enabling World-Class Performance**

# Sustainability Rating – Supplier Portal

## SUPPLIERS AUTOMOTIVE EXPERIENCE

### AUTOMOTIVE EXPERIENCE ▶

Supplier Standards  
Manual ▶

Terms and Conditions ▶

Forms ▶

Applications ▶

Quality ▶

Purchasing Initiatives ▶

Supplier Training ▶

Sustainability ▶

Supply Chain Risk  
Management ▶

BUILDING EFFICIENCY ▶

POWER SOLUTIONS ▶

CORPORATE ▶

## PRODUCTS & SOLUTIONS

## Automotive Experience



### Automotive Experience is Our Business: Worldwide

From the initial concept to the final implementation, the design of Johnson Controls' added-value products for vehicle interiors enhances consumer preference and surpasses vehicle manufacturer requirements.

At Johnson Controls we understand that our success is linked to that of our suppliers, and we continue to develop strong partnerships and work closely with the most competitive, innovative and financially stable supply companies. We look forward to working with each of you in the future as we continue to strengthen our relationships and provide world-class products for our customers' vehicles throughout the world.

Our success and commitment to our employees, customers, and community is supported by the best-in-class suppliers.

We value suppliers that can provide the latest technology, products, and services to our employees and customers; giving them the opportunity to live and work in a more comfortable, safe, and sustainable world.

## TOP ANNOUNCEMENTS

April 2011 - New Shipping Label for GM Tier 1 - [read more](#)

October 2010 - Johnson Controls Supplier Awards & Supplier Expectations day - [read more](#)

June 2010 - Change to electronic funds transfer (EFT) payment - [read more](#)

March 2010 - Request for federal tax ID number - [read more](#)

## TOP LINKS

- ▶ [Johnson Controls Diversity Development](#)
- ▶ [Johnson Controls Ethics Policy](#)
- ▶ [Supply Chain Risk Management](#)
- ▶ [Global Supplier Scorecard](#)
- ▶ [Supplier Sustainability](#)
- ▶ [Open Innovation](#)

# FY2011 Sustainability Rating – Supplier Portal

**SUPPLIERS SUSTAINABILITY**

## Sustainability

### Supplier Expectations

Suppliers are expected to conduct their business in a safe, sustainable manner, consistent with all laws, and focusing on reducing the carbon footprint of their activities. Specific suppliers will be invited to participate in the Carbon Disclosure Project at [cdproject.net](http://cdproject.net)

### Social & Environmental Performance of Suppliers

The general expectations of Johnson Controls require its suppliers to

### Supplier Sustainability Rating

Johnson Controls has released an on-line supplier sustainability rating. The on-line survey allows supplier to complete the questionnaire at their convenience. The questionnaire contains 17 questions related to human rights, working conditions employee safety and energy management. The sustainability rating will be a method for measuring sustainability activity and compliance with our supply base. It will also be used as an input to the supplier scorecard.

Click this link to preview the **supplier sustainability rating** in PDF format

Click this link to complete the **supplier sustainability rating**

**AUTOMOTIVE EXPERIENCE**

- Supplier Standards Manual
- Terms and Conditions
- Forms
- Applications
- Quality
- Purchasing Initiatives
- Supplier Training
- Sustainability
- Supply Chain Risk Management

**BUILDING EFFICIENCY**

**POWER SOLUTIONS**

**CORPORATE**

**PRODUCT SOLUTIONS**

[http://www.johnsoncontrols.com/publish/us/en/suppliers/automotive\\_experience.html](http://www.johnsoncontrols.com/publish/us/en/suppliers/automotive_experience.html)

# Johnson Controls Supplier Scorecard – FY2011



## Global Executive Scorecard

Division: Automotive Experience  
 Region: North America  
 Fiscal Year: 2011  
 XYZ Industries

Global Supplier Status	XYZ Industries – Expectations Met
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Scorecard Point Criteria
QUALITY (30 Points Maximum)
COMMERCIAL (30 Points Maximum)
SUPPLY CHAIN MANAGEMENT (20 Points Maximum)
SERVICE AND GENERAL EXPECTATIONS (10 Points Maximum)
SOCIAL AND ENVIRONMENTAL SUSTAINABILITY (10 Points Maximum)

## Global Supplier Summary

	Points Earned within AE
QUALITY (30 Points Max)	30
COMMERCIAL (30 Points Max)	30
SUPPLY CHAIN MANAGEMENT (20 Points Max)	20
SERVICE AND GENERAL EXPECTATIONS (10 Points Max)	10
SOCIAL AND ENVIRONMENTAL SUSTAINABILITY (10 Points Max)	10
Points Summary: Total	100
Overall Ranking	1 of 597

# Summary



# Summary

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- Sustainability is a core value for Johnson Controls
- We've learned from the best and have tried to apply it in all areas of our business.
- We are cascading our knowledge and best practices to our supply base, and this is part of the overall scorecard.

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# Johnson Controls





***TAMA / SP***

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Supply Chain***

***September 8, 2011***