

## Road-Testing the Path to Carbon Reduction

By Jim Stickford  
Staff Reporter

David Shepps, 6 Sigma master black belt material planning and logistics manager for Ford Motor Co., spoke at the Sept. 28 AIAG greenhouse gas guideline symposium about how to measure carbon emissions.

Jonathan Newton, global lead supply chain sustainability strategy for Ford, was also at the symposium and said the company "road tested" a draft of AIAG's methodology for measuring Scope 3 carbon emissions. Shepps spoke about what Ford learned.

The definition of Scope 3 emissions is broad and can in-

clude anything from employee travel, to "upstream" emissions embedded in products purchased or processed by the firm, to "downstream" emissions associated with transporting and disposing of products sold by the firm.

Shepps said that fuel use data is very useful for calculating CO2 emissions, while distance traveled is better for calculating CH4 and N2O emissions, according to the World Resource Institute (WRI).

Emissions for on-road freight can be calculated using vehicle distances or weight distances data, depending on the circumstances, Shepps said. A

truck carrying engine blocks uses more energy to travel than a truck carrying foam padding, even though they might travel the same distance.

Newton said AIAG, working with the WRI, is developing a standard methodology for measuring Scope 3 emissions. Ford acted as the beta tester for AIAG for six months. The automaker learned about the process, implemented it and offered opinions and the opinions of Ford suppliers at the end of the test.

"This required collaboration throughout the value chain to get a full understanding of your GHG footprint," Newton said. "We started in January and

were finished by June. We're now going through the figures and have developed our own personal GHG inventory."

Newton said the whole process is really about looking at this information that is collected at a global level and evaluating it to determine a company's risks and opportunities at a more local level.

Newton said companies, by understanding how their carbon footprint is generated, can look for efficiency gains, and ultimately even opportunities for trading emissions with another company.

That's when one company,

CONTINUED ON PAGE 5



PHOTO: FORD

Ford Motor Company revealed the 2012 Focus last week at the Paris Auto Show. The new Focus comes in three different body styles. Pictured here is the four-door sedan.

## Redesigned 2012 Focus Same for Europe, U.S.

By Stefanie Carano  
Staff Reporter

Visitors to the Paris Auto Show last week got a taste of Ford Motor Co.'s latest global vehicle with the 2012 Focus – a completely redesigned compact model intended to accelerate the company's ONE Ford strategy.

Like the Fiesta, which was introduced as a global model this year, the Focus will share the same platform for U.S. and European production and essentially be the same car in both markets.

What's more, North American production for the Focus will take place in Southeast Michigan at the Michigan Assembly Plant in Wayne.

"Our objective with our new wave of small cars is to seriously strengthen our hand in this segment here and around the world – not just to match the appeal of Honda, Toyota and VW, but to

exceed it," said Derrick Kuzak, Ford's vice president of global product development.

The Focus is built on Ford's C170 platform, a predecessor to the C120 platform, which is also the Mazda BG platform. The latest version of the vehicle comes in three body styles – the 5-door hatchback and 4-door sedan version will be featured in the North American market. The new 5-door hatchback sports a larger, more luxurious appearance than the previous North American model.

In vehicle quality, Ford North American engineers have been working closely with their European colleagues to bring together a global capability for the Focus and to emphasize attention to detail.

According to Don Ufford, Ford's chief vehicle engineer,

CONTINUED ON PAGE 3



PHOTO: STEFANIE CARANO

Susan Pepper, left, Ford Motor Company manager of corporate alliances, with Carol Bosché and George Winn of The Children's Center, at the Detroit Uncorked fundraiser. Ford, a major sponsor of the event, displayed its 2011 Fiesta, above, and Edge vehicles.

## Children's Center Benefits From a Sip of the Grape

By Stefanie Carano  
Staff Reporter

Visitors to the Ford Conference and Event Center last week sampled flavors from vineyards around the world as part of Detroit Uncorked – a wine-tasting fundraiser for The Children's Center in Detroit.

Guests were offered samples of more than 300 wines ranging in bottle price from \$7 to \$200, as well as the opportunity to participate in a silent auction where a selection of fine wines were available for the highest bidder.

One of the goals of this year's fundraiser was to bring younger demographics into The Children's Center's family of supporters.

"And one of the ways that they thought that might work

would be with a wine-tasting, so the natural fit was with the Detroit Wine Organization," said Susan Pepper, Ford's manager of corporate alliances.

As a presenting sponsor, Ford helped organize the event, which Pepper said has earned considerable response from the company.

"The Ford employees are very excited to have it right here in Dearborn this year," Pepper said. "We were able to give them early admission based on our presenting sponsorship and I estimate we saw at least 50 to 100 Ford employees here."

"Ford Motor Company has supported The Children's Center in a myriad of ways ever since the center was

CONTINUED ON PAGE 5

## Efficient Vehicles Means Fewer Soldiers Deployed

By Stefanie Carano  
Staff Reporter

The U.S. Army is developing a number of vehicle solutions intended to improve its vehicles' fuel efficiency – not just to save costs, but to protect its soldiers.

"If we can improve one percent fuel economy in the vehicle, it saves 6,200 convoys from being deployed, convoys of soldiers that won't be exposed to harm's way," said Thom Mathes, executive director of product development for the U.S. Army's Tank Automotive Research, Development and Engineering Center.

Mathes, a plenary session speaker at last week's Hybrid Truck Users Forum (HTUF) at the Hyatt Regency in Dearborn, talked about the latest research being conducted by TARDEC to improve fuel efficiency in their tactical vehicles.

He said TARDEC currently has a project called the Fuel Efficiency Demonstrator that looks at all of the existing fuel conservation technologies with the goal of discovering what can be done to optimize

and maximize the fuel efficiency of a tactical vehicle while balancing "the three Ps" – protection, performance and payload.

Within the FED project, TARDEC is building two vehicles, one with a highly efficient diesel system and one with a hybrid system. With each vehicle, the company is examining a number of different factors to determine what influences their fuel efficiency, while also acknowledging that the operator is in fact the biggest influencer in fuel use and conservation.

The two vehicles, for instance, are equipped with an optic accelerator pedal that lets the drivers know if they're not driving efficiently, while also allowing them to accelerate quickly if need be.

"So, if you look at Ford's (Fusion Hybrid) 'leaves,' we've got devices to assist that. The trick is determining the duty cycle so you can properly measure fuel economy," Mathes said.

He said TARDEC is looking at vehicle components like Superfinish gears, composites, carbon fiber and the power plant, or engine sys-

tem, and examining how they integrate into a vehicle to determine whether the components contribute to a higher vehicle fuel economy at a system level.

"Based on this, what we're learning is if you use low-rolling resistance tires, you get about an 8 percent improvement in system fuel

economy. Currently, we don't specify on a vehicle system low-rolling resistance tires. We're now learning how to put that into our forward spec so that when we buy a joint lightweight tactical vehicle, we can incorporate that in," he said.

CONTINUED ON PAGE 3



PHOTO: FORD

Ford Motor Co. recently revealed the new 2012 Focus ST, a global high-performance vehicle featuring a 2.0-liter EcoBoost engine.

## Focus ST to be Launched by May

By Stefanie Carano  
Staff Reporter

Last week in Paris, Ford Motor Co. unveiled the new 2012 Focus ST, a high-performance version of Ford's newly-designed Focus model.

Initially developed as a performance vehicle for the European market, under the ONE Ford strategy, the 2012 is a global high-performance model scheduled to launch in all Ford markets worldwide by May of next year.

The Focus ST will feature a 2.0-liter EcoBoost engine with 240 horsepower and 10 percent more power and torque than the 2.5-liter engine in the

current ST, which is sold in the European market.

"At its heart is another great engine with Ford EcoBoost technology," said Derrick Kuzak, vice president of Ford product development. "It gives customers the power they'd expect from a larger engine but with outstanding fuel efficiency."

Gunnar Herrmann, Ford's Global C-car vehicle line director, told the press that the ST represents an ultimate expression of Focus driving quality and performance and that Ford is confident that the new model will strengthen

CONTINUED ON PAGE 3



PHOTO: STEFANIE CARANO

At the recent Hybrid Truck User Forum, Thom Mathes (right), executive director of product development for Tank Automotive Research, Development and Engineering Center discusses TARDEC's latest research in alternative energy military vehicles with the U.S. Army's HTUF Program Manager Brad McNett.

## New Slip Differential Delivers Better Fuel Mileage

By Jim Stickford  
Staff Reporter

Eaton Corp., a major supplier to auto manufacturers, unveiled on Sept. 23 its UltraPosit, an all-new electronic limited slip differential at its testing track in Marshall, Mich.

UltraPosit can be used in front- and rear-wheel-drive vehicles, and allows them to perform comparably to four-wheel-drive and all-wheel-drive systems while providing up to a 10 percent saving in fuel economy.

Chris Ostrander, vice president and general manager – Eaton Torque Controls, said Eaton's engineering team was able to adapt their electronic and mechanical locking and limited slip differentials for larger rear- and four-wheel-drive systems to the unique

requirements of more compact front-wheel-drive vehicles.

"We're focused on the customers' most critical issue, smaller packaging," Ostrander said. "This allows our customers to reduce vehicle weight up to 300 pounds, which translates into improved fuel economy and enhanced performance and safety for the end consumer."

Ostrander said Eaton's UltraPosit differential is located inside the transaxle and gets input from the existing brake, wheel-speed, steering-wheel, throttle, yaw and lateral acceleration sensors to ensure each wheel is receiving sufficient torque.

If there is slippage, it instantaneously engages a hydraulic power supply to transfer extra torque to the wheel with the most traction by modulat-

ing the differential from fully open to fully locked, and anywhere in between, depending on driving conditions.

Ostrander said Eaton's testing showed a 20 to 30 percent improvement in managing over-steer with less brake intervention compared with similarly-equipped all-wheel-drive vehicles.

Darryl Niven, general manager – vehicle group supercharger division, said the company is proud of its differential technology. He said GM even advertises the system in its GMC truck commercials.

"When they talk about locking differential, they're talking about our system," Niven said. "That's rare, but they see the value of it."

Eaton also showed off its new electronic fuel vapor management valve for hybrid-electric vehicles. The technol-

ogy is designed to increase safety while reducing emissions.

Eaton's fuel tank isolation valve uses two pieces of company technology: solenoids and vapor management valves, said Julie Tolley, general manager, fuel emissions and powertrain controls – Eaton Vehicle Group.

"Hybrid-electric vehicles have significantly reduced the time the engine is on, which inhibits the ability to purge fuel vapor stored in the carbon canister," Tolley said. "Eaton's hybrid fuel tank isolation valve enables fuel vapor containment within the tank until the engine is available and prevents canister saturation and hydrocarbon leakage."

The valve design allows for

CONTINUED ON PAGE 2



PHOTO: JIM STICKFORD

Darryl Niven, general manager of Eaton Corp.'s vehicle group supercharger division, shows off one of the company's SuperChargers at the supplier's Marshall, Mich., testing track.