Mastering the ECO:nomics of Leaner, Greener Automobiles

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Automotive companies the world over are faced with the same challenge – how to go lean and green, and at the same time, get customers on board with the new technology.

At the *Wall Street Journal* ECO:nomics Symposium, held Jan. 10 during the North American International Auto Show in Cobo Center's Michigan Hall, Jim Farley, group vice president of Global Marketing for Ford Motor Co., and Thomas C. Baloga, vice president of Engineering for BMW USA, discussed their respective companies' strategies for addressing these issues.

WSJ Senior Editor Joseph White served as moderator for the program, which was followed by a brief question-and-answer session with the two auto executives.

"We're going to be hearing today from two senior auto executives who are directly involved in developing the marketing and technology strategies required, not just to put greener and smaller cars – smarter cars, not just smaller, on the road, but to convince customers to buy them, which is the real game," White said as the session began.

White had Farley and Baloga explain their companies' differing strategies and approaches to these challenges.

Farley, before joining Ford in 2007, was vice president in charge of Toyota's luxury brand, Lexus, and is also widely lauded for the successful launch of the automaker's Scion brand.

Farley discussed EcoBoost, which uses turbos and direct injection to get more power from smaller engines, while Baloga discussed the evolution of BMW's EfficientDynamics, an umbrella term for multiple technologies that allow the automaker to continue to provide the low-end torque their customers expect, and reduce CO2 emissions while providing improved fuel economy.

Farley confirmed that, like a lot of their competitors, Ford looked at turbocharging technology as a way to get both fuel economy and performance from a small engine.

"In 2007 . . . I found that the company had made a major bet on GTDI (gasoline turbocharged direct injection) in the U.S., largely due to the (European manufacturers) giving everyone low-end torque, fun-to-drive . . . We just felt . . . we had to differentiate ourselves, using our DNA from other parts of the world and that was when we really bet on fun-to-drive . . . It became clear that we were going to be the first of the mass market brands to bet big on GTDI installation as our core engine in all of our core car crossovers."

Baloga spoke about what prompted BMW – whose claim to fame is luxury vehicles engineered to provide low-end torque/fun-to-drive characteristics – to implement their fuel-efficiency, emissions-lowering technology.

Company executives started the discussion as early as 2000, based on the government regulation-backed movement to reduce automotive-related greenhouse gases and improve fuel economy. Maintaining the driving experience BMW owners had come to expect was paramount.

They brought "efficient" and "dynamics" together, a combination which works in German and in English. BMW also opted to go across the board with EfficientDynamics, offering it on their highest-volume vehicles.

"Our fleet fuel economy has been helped to the point that it's really astonishing. We can prove that it's (gone up) nearly 30 percent over the number of years," said Baloga.

Farley said, depending on the region of the world, Ford will offer a menu of country-specific technologies. The Dearborn-based automaker uses (the term) economic technology as a basket from start-stop (a system that programs the engine to shut off when the vehicle is idling at a stoplight, for example) to a full hybrid to the fully electric Focus and everything in between, including EcoBoost.

Farley noted that consumer acceptance when Ford began offering EcoBoost in the F-Series of trucks far surpassed what the company expected, to the point where Ford is now offering the system on 40 percent of its vehicles, more than twice what they expected.

"We sell nearly 500,000 F-Series (trucks) a year, just in the U.S. alone," Farley responded. "A year ago we had no V6s (in the F-Series). We introduced a normally aspirated V6 (with) EcoBoost . . . It's still the fastest-earning F-Series we have – and it is a high-performance F-Series.

"We found two things: Number one, democratize the price as much as you can . . . Secondly, truck customers are more open to new technology than almost any other customer in our lineup . . . The biggest learning challenge that we have is to prove without a doubt, that after 200,000 miles in towing 10,000 pounds or overloading the truck, that you won't have any durability issues with EcoBoost, and that's still to be played out."

In response to a similar question about customers embracing EfficientDynamics, Baloga focused on one of the technologies, stop-start.

"The government requirements that are in place," he said, "and that are proposed for the future are extremely tough . . . in order to achieve those targets, what we're faced with as an industry, particularly BMW, is improving efficiency in smaller increments.

"The low-hanging fruit's been picked a long time ago, so we need to have a lot of features that we're going to cumulatively use to meet the requirements for the fleet."

Baloga start-stop has been very successful in Europe with manual transmissions, where the driver activates and deactivates the system.

The automaker knew it would also have to get it to work seamlessly in cars equipped with automatic transmissions, which is the case with the majority of autos sold in the U.S.

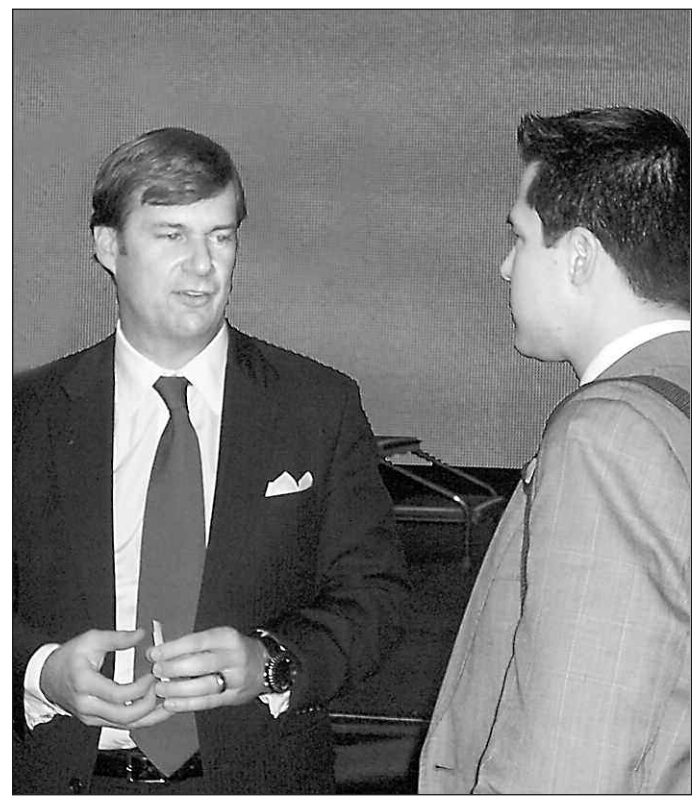

PHOTO: IRENA GRANAAS

Jim Farley, group vice president of Global Marketing for Ford Motor Co., left, talks to a reporter following the ECO:nomics Symposium at NAIAS at Cobo Center in Detroit Jan. 20.

For cars equipped with automatic transmissions, start-stop would have to activate without input from the driver, which can be disconcerting for the customer. The automaker does have a customer education program and has provided information and training to dealerships.

But, even with all this, Baloga said the new car customer is "not necessarily in the mood" to absorb all that information at once.

"What we learned is . . . we need to get it into the mainstream so that people are accommodating these things." They've heard about it, they've understood it, they can accept it over a longer term as opposed to getting the new technology with the first delivery of a car."

OnStar, Verizon Shine in Concept Volt

LAS VEGAS – OnStar and Verizon Wireless unveiled a second-generation connected research vehicle at the 2012 International Consumer Electronics Show (CES).

The static Chevrolet Volt research concept vehicle focuses on a comprehensive in-vehicle experience, giving all users access to streaming content from the Cloud enabled by the Verizon 4G LTE network and building on OnStar's Advanced Telematics Operating System (ATOMS).

The Volt research cars were featured as part of the Verizon booth.

The prototype applications demonstrate:

• Streaming content: The 4G LTE connection provides passengers access to streaming content from their home computer or via a popular streaming service.

• Sharing content throughout the vehicle: OnStar has developed a method for the in-vehicle sharing of content among users.

• Rear seat infotainment management: With the use of an advanced Human Machine Interface, the user has independent control of the two rear zones, allowing transmission of cached or streaming content, including music, videos, games and news, to each rear passenger.

• Video chat: Rear seat passengers can make a Skype video call from the vehicle to anywhere: vehicle to home, vehicle to mobile device, or vehicle to vehicle.

Additionally, OnStar built on its pioneering work with Smart Grid technology and home connectivity to develop in-vehicle energy management applications:

OnStar RemoteLink: Full integration of OnStar's RemoteLink mobile application, giving the Volt owner the opportunity to access remote vehicle information and services.

Real-time diagnostics and Eco Routing: Volt owners can access charge status, distance on remaining charge, find and reserve charging locations and manage pertinent Volt information and vehicle diagnostics.

Home Energy Management: OnStar allows users to control the home thermostat, lights, garage door and other systems directly from the vehicle.

Following the 2011 CES joint research vehicle, OnStar's advanced innovation engineering team continued collaboration with Verizon's LTE Innovation Center to further investigate the potential of the connected vehicle. The takeaway was developing a more holistic cloud connected in-vehicle experience.

"These applications are just a glimpse of what is possible when you combine the cloud computing capabilities of OnStar and the power of the Verizon 4G LTE network," said OnStar President Linda Marshall.

"Moving forward, we want to continue to provide our customers with a comprehensive suite of connected services and create a seamless and safe in-vehicle experience."

While the applications shown in the static Chevrolet Volt research vehicle are only conceptual, they demonstrate future opportunities the OnStar ATOMS Cloud capabilities can provide in combination with broadband accessibility.

"Any future services from OnStar will meet our high standards for safety – making sure that drivers' hands are on the wheel and their eyes are on the road," Marshall said.

OnStar is a wholly owned subsidiary of General Motors. With more than 6 million subscribers in the U.S, Canada and China, OnStar is currently available on more than 45 model year 2012 GM models, as well as available for installation on most other vehicles already on the road with OnStar FMV.