

**BORGWARNER EQUIPS NEW RENAULT DIESEL ENGINE**  
**WITH OPTIMIZED TURBOCHARGER TECHNOLOGY**

*BorgWarner's Latest Generation of VTG Turbochargers*

*Help Boost Performance and Lower Emissions of Renault's New 1.6-Liter Diesel Engine*

Auburn Hills, Michigan, January 24, 2012 – BorgWarner's latest generation of variable turbine geometry (VTG) turbochargers power the totally new 1.6-liter Energy dci 130 diesel engine from Renault. BorgWarner's VTG turbocharger helps the engine set high standards of efficiency with CO<sub>2</sub> emissions of less than 115 g/km (185 grams/mile) and 20 percent better fuel economy compared with its 1.9-liter predecessor. The boosted four-cylinder diesel engine also produces impressive performance, generating 130 HP and 320 Nm (236 lb.-ft.) of torque at 1,750 rpm. Debuting in the European Scenic and Grand Scenic models in first-half 2011, the engine is intended for Renault's and Nissan's European mid-range C-segment vehicles.

“BorgWarner's advanced turbocharging technology combined with our exhaust gas recirculation (EGR) cooler and tube on the low pressure EGR system allows drivers to experience the benefits of significantly improved fuel economy and reduced emissions without sacrificing performance,” said Frederic Lissalde, President and General Manager, BorgWarner Turbo Systems Passenger Car Products. “We value our long-standing and successful partnership with Renault and are pleased to provide them our latest engine technologies.”

To replace the older 1.9-liter diesel engine, BorgWarner supported Renault's downsizing strategy to combine driving performance, lower fuel consumption and reduced emissions for the new engine. In developing the latest generation of its BV38 VTG turbocharger, BorgWarner drew on its many years of experience, replacing the straight turbine vanes with a patented S-shaped vane to improve thermodynamics, response and controllability. To offer protection against the high exhaust gas temperature and acerbic exhaust gas components, BorgWarner developed a special coating for the new milled VTG turbocharger compressor wheel. BorgWarner also developed a more compact design for use in combination with the low-pressure EGR system. Built to deliver powerful yet efficient

## BorgWarner Inc. (BorgWarner Equips New Renault Diesel Engine with Optimized Turbocharger Technology)-2

performance, the new VTG turbocharger provides excellent torque characteristics over the entire engine speed range while reducing fuel consumption.

### **About BorgWarner**

Auburn Hills, Michigan-based BorgWarner Inc. (NYSE: BWA) is a technology leader in highly engineered components and systems for powertrain applications worldwide. Operating manufacturing and technical facilities in 59 locations in 19 countries, the company develops products to improve fuel economy, reduce emissions and enhance performance. Customers include VW/Audi, Ford, Toyota, Renault/Nissan, General Motors, Hyundai/Kia, Daimler, Chrysler, Fiat, BMW, Honda, John Deere, PSA, and MAN. For more information, please visit [www.borgwarner.com](http://www.borgwarner.com).



BorgWarner's new low-pressure exhaust gas recirculation capable BV38 turbocharger enables lowest NOx emissions while offering best fuel economy and performance.

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