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Press Information

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Volvo XC60 Concept – six-cylinder bio-ethanol engine

The chosen power-train for the Volvo XC60 Concept is a six-cylinder, 3.2-litre bio-ethanol engine with All Wheel Drive.

The engine offers the driver dynamic performance in the form of 265 horsepower and 251 lb/ft (340 Nm) of torque – with emissions of fossil carbon dioxide dropping by up to 80 percent when driving, compared with the same engine running only on gasoline.

At the moment, three of Volvo Cars' nine models – the C30, S40 and V50 – are available on nine European markets with the bio-ethanol-powered FlexiFuel alternative. These cars all have a four-cylinder engine.

“We believe that the FlexiFuel has great potential also for larger engine sizes and we are planning to expand our range of bio-ethanol-powered engines in the coming years,” says Magnus Jonsson, Senior Vice President, Research & Development at Volvo Cars.

The power train for the XC60 Concept uses the same six-cylinder, in-line petrol engine that was introduced in the new Volvo S80 in 2006. The engine has been optimised for E85 (85 percent bio-ethanol, 15 percent gasoline). This gives 265 horsepower and 251 lb/ft (340 Nm) of torque and acceleration from 0–60 mph in 8.2 seconds. Top speed is approximately 143 mph (228 km/h).

Fuel economy when running on E85 is 19.2 mpg (12.3 litres/100 km). This is a competitive figure for this type car, since the energy content of ethanol is 40% lower than that of gasoline.

Bio-ethanol is also an entirely renewable fuel that can be produced from just about any biomass source, such as corn, wheat, sugar-cane and cellulose. This means that emissions of fossil carbon dioxide drop by up to 80 percent when driving on E85 bio-ethanol, compared with running the same car on gasoline.

On top of the environmental benefits mentioned above, on many markets the car owner is compensated at the fuel pump through the lower price of bio-ethanol.

Bio-ethanol on the move

Renewable bio-ethanol is a fuel that is on the move in Europe and Volvo Cars has launched FlexiFuel models on several new markets this autumn and will continue to do so in 2007. Markets to get Volvo's FlexiFuel cars outside Sweden are France, Norway, the Netherlands, Spain, the United Kingdom, Ireland, Belgium, Austria and Switzerland. Volvo Cars predicts sales of 7,000 FlexiFuel cars in 2007.

At present there are 23 plants producing ethanol in Europe and this figure is expected to rise to just over 60 in 2008. All told, about 720 million gallons (2.7 billion litres) of ethanol are produced annually within the European Union, primarily from sugar beet and various grains. Capacity is expected to increase threefold by 2008.

As of August 2006, the United States had 101 bio-ethanol plants in operation and with a capacity of 4.8 billion gallons per year. 39 bio-ethanol refineries are under construction and 7 more are expanding, which will add more than 2.5 billion gallons of capacity when complete. Ethanol is blended in 40 percent of the U.S. gasoline supply and there are already about 1,000 filling stations for E85 in the United States.

Environmental benefits

"One single renewable fuel will not be able to replace today's fossil fuels, and the range of alternative fuels will probably be far wider in the future. Many different fuels and technologies are therefore being developed in parallel. Ethanol reduces dependency on fossil fuels and Volvo Cars' FlexiFuel programme makes a vital contribution to our strategy of environmental sustainability," concludes Fredrik Arp, President and CEO of Volvo Cars.

Descriptions and facts in this press material relate to Volvo Cars' international car range.

Vehicle specifications may vary from one country to another and may be altered without prior notification.