

## **Volvo Cars to increase the development of vehicles powered by electricity with new test fleet**

**North York, Ontario (December 17, 2009)** - At the North American International Auto Show in Detroit, Volvo Car Corporation will present a battery-electric Volvo C30 with a range of 150 km. The show car represents the first step toward building a test fleet of at least 50 electric Volvo C30s that will be on the road in 2011.



Volvo Cars first presented a basic, driveable electric car prototype in September, 2009. The C30 to be shown in Detroit takes the company one step further in the development process as this vehicle features a complete interior, full instrumentation and as well as enhanced battery packaging.

"The first prototype helped us identify the main technological challenges, such as battery packaging and safety issues," says Lennart Stegland, Director of Volvo Cars Special Vehicles. "We have addressed these challenges without compromising the C30's cool and fun-to-drive personality. I am very happy with the result. The electric C30 in Detroit is a much more complete product."

The next step in 2010 is a factory-built series of test cars. Selected users will drive the test fleet during a two-year trial period during which time Volvo Cars will collect valuable, real-world technical data as well as feedback on the user's driving behaviours with an electric car.

The Swedish Energy Agency is supporting the project by contributing SEK 150 million towards its funding.

### **Valuable field data**

A pure electric car has different characteristics compared to a car with an internal combustion engine. With the test fleet, Volvo Cars engineers will have the opportunity to study how users handle these differences.



"Our test fleet data will be valuable in Volvo Cars' development of electric cars," says Steglund. "It will also provide crucial input for the infrastructure planners and help define which services are needed to make rechargeable cars the most attractive choice in the future."

### **New instruments and graphics**

The electric C30 looks like a regular Volvo C30 and it offers the same safety, comfort and roominess as the standard car. The most obvious difference is inside the car with unique instruments, which is largely limited to communicating road speed and energy consumption. However, it also integrates a number of new symbols such as a gauge for battery charge status.

The driving experience is also different to that in a conventional car. The electric C30 has no transmission gears and the motor's power is delivered seamlessly, with maximum torque available immediately.

"Sailing along virtually without a sound is a very special experience," says Steglund. "The power is there instantaneously. We need to spend a lot of time verifying a transmission system that is both comfortable and safe for the driver to handle and at the same time utilizes the battery's capacity optimally at different speeds."

### **Like a regular C30 - all the fun but with no emissions**

An electric motor uses approximately one-fourth as much energy as an engine running on fossil fuels. This superior energy efficiency suggests that interest in

electric cars will increase as fuel prices rise and demands for low CO2 emissions become increasingly stringent.



The Volvo C30 shown in Detroit is powered by Lithium-Ion batteries that can be recharged via either a regular household power socket or special roadside charging stations. Charging the battery fully takes about eight hours. If the car is recharged with renewable electricity, CO2 emissions could be almost zero from a well-to-wheel perspective.

Top speed with a fully charged battery pack is about 130 km/h. Acceleration from 0 to 100 km/h takes less than 11 seconds and maximum range is up to 150 km. These performance figures cover the daily transport needs of more than 90 percent of all motorists in Europe.

#### **As safe as all other Volvo vehicles**

The electric motor is fitted under the hood while the two batteries (24 kWh) are installed in the propshaft tunnel and in the space normally occupied by the fuel tank; meaning outside the passenger compartment and away from the deformation zones.

"What is more, they are well encapsulated and the structure around them has been reinforced," says Thomas Broberg, Senior Safety Advisor at Volvo Cars. "Electric cars represent yet another interesting challenge in our dedication to building the world's safest cars. An electrically powered Volvo must be as safe as all other new Volvos. And the very same standards also apply to ownership, driving and protection in the event of an accident."

#### **Market prospects for electric power**

When it comes to electric-only cars, there are several factors that determine their appeal in the future.

"The consumers must feel that this type of car is attractive both to drive and own," says Paul Gustavsson, Director of Electrification Strategy at Volvo Cars. "That is why electric cars have to be as comfortable and safe and offer the same sort of performance as cars with other power sources. We believe in this technology and our field test aims to demonstrate that electric cars have considerable market potential. However, offering an attractive car is not enough. What is also needed initially is a system of subsidies to make the electric car's expensive battery technology financially viable for the car buyers. We hope that the authorities and the rest of the society will follow Volvo Cars in our 'Drive Towards Zero' - Volvo Cars' journey towards zero emissions."

### **Technical specification Electric C30**

Car model:	Volvo C30 - full four seat vehicle
Main engine:	Electric engine 40/82KW
Power output:	Electric engine 82kW, 111 bhp
Acceleration 0-100 km/h:	10.5 seconds
Charging duration:	Charging via standard European power socket (230 V, 16 ampere): < 8 hours
Range on electric power:	150 km (NEDC cycle)
Battery energy content:	24 kWh nominal energy, of which 22.7 kWh used to power the car
Battery weight:	280 kg
Carbon dioxide emissions (tailpipe):	none

Volvo Cars of Canada Corp. is part of the Volvo Car Corporation of Göteborg, Sweden. The company provides marketing, sales, parts, service, technology and training support to the 41 Volvo automobile retailers across the country. The company's product range includes the stylish and sporty C30, the elegant C70 hardtop convertible, the compact S40 sedan, the S80 flagship sedan and the versatile V50 and V70 wagons. For customers looking for a Volvo vehicle with all-road capability, the company offers the versatile XC60 crossover – equipped with City Safety as standard equipment – as well as the XC70 and XC90.