

## **ENVIRONMENT**

### **In brief:**

**Volvo's continued commitment to the environment is reflected in its 'clean inside and out' programme.**

**An air filter prevents dust, pollen and exhaust particles reaching the interior, while the Interior Air Quality System ensures that the air inside the cabin is always cleaner than that outside. All the trim materials comply with Oeko-Tex standards to create a healthier, emissions-free interior, helping to reduce the risk of an allergic or asthmatic reaction.**

**Another pioneering feature is Volvo's PremAir system, which converts up to 75 per cent of the ground level ozone passing through the radiator into oxygen. Several of the engines in the range already also meet the stringent EU 2005 and America's ULEV (Ultra Low Emissions Vehicle) emissions requirements.**

**The XC90 is built in one of the automotive world's cleanest factories and 85 per cent of each car can be recycled. Every new Volvo is backed by an Environmental Product Information (EPI) analysis which can be viewed at [www.volvocars.com/epi](http://www.volvocars.com/epi). Volvo also produces an annual Corporate Citizenship report, which is available at [www.volvocars.com/citizenship](http://www.volvocars.com/citizenship).**

### **In brief:**

- 'Clean inside and out' environmental commitment.
- Interior trim materials conform to Oeko-Tex standards and are allergen-free.
- Cabin air filter removes dust, pollen and exhaust particles.
- PremAir® ozone system converts up to 75% of ground level ozone to oxygen.
- Interior Air Quality System ensures cleaner air inside than out.
- 85 per cent of the car can be recycled.
- Several of the engines already meet stringent EU 2005 emission requirements.
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Environmental care is one of Volvo's core values, so designing the XC90 represented an extra challenge - a Volvo SUV had to have class leading emissions and fuel economy.

"We know that some people are uncomfortable about the fact that SUV's produce higher emissions and consume more fuel than most passenger cars," says Hans Wikman, the XC90 Project Director.

As a result, the XC90 will take the lead in the SUV segment for both fuel economy and emissions. The 6-cylinder, T6 petrol engine meets the American ULEV (Ultra Low Emission Vehicle) requirements.

Volvo's D5 diesel engine is Euro IV compliant, offering top-class fuel economy and low emissions achieved through a number of interacting factors. Here are a few examples:

- Both diesel and petrol engines are made of aluminium. This material is lightweight, which helps cut fuel consumption and thus emissions
- The engines are of Volvo's latest low-friction generation. All the moving parts are designed to offer the least possible resistance
- The cylinders' combustion chambers are designed to rotate the fuel/air mixture effectively and achieve high compression for more efficient combustion
- Three-way catalytic converter
- CVVT (Continuously Variable Valve Timing). This system adjusts valve timing to suit current engine revs and load more efficiently to reduce fuel consumption and emissions

#### Healthier Inside

According to the 2001 RAC Report on Motoring, the typical private motorist drives for over 250 hours each year, while in the same period, a company car driver spends an average of 425 hours inside their vehicle.

Yet, while most of us are aware of vehicle emissions and air quality issues, how many drivers know that the air inside their cars may also be harmful? Or that the metals, textiles and leathers used in car interiors can emit volatile substances, which activate allergies and skin conditions?

Many motorists don't realise their car could be increasing their risks of asthma, eczema, headaches, eye irritation or even a heart attack. In recent years, the number of people suffering from allergies and other forms of hypersensitivity has been growing rapidly.

Volvo's 'clean inside and out' programme to create emission-free cars is a healthy solution to the problem.

The interior of the Volvo XC90 complies with a strict standard called Oeko-Tex, which sets maximum levels for dangerous substances contained in textiles and trim materials. All the leather upholstery and the trim meets strict Oeko-Tex standards.

Furthermore, the leather is tanned using natural plant substances and the components on the Volvo XC90 that most frequently come into contact with the skin – the door handle, ignition key and safety belt locks – are also compliant with Oeko-Tex and allergen-free.

### Clean Air

The Volvo XC90 also takes further care of the environment inside the passenger compartment and reduces the risk of allergy-related problems with its Electronic Climate Control (ECC) with automatic Interior Air Quality System (IAQS).

IAQS consists of a filter featuring a particle trap and an active carbon filter, removing particles such as pollen and unpleasant odours from the incoming air, and has a sensor that automatically activates the air recirculation function if the concentrations of substances such as nitrogen oxide, carbon monoxide and hydrocarbons in the air entering the cabin are too high.

PremAir<sup>®</sup>, Volvo's "ozone-eater" is a unique Volvo environmental innovation that combats the problem of ground-level ozone. Ground-level ozone is formed through the combination of air pollutants and strong sunlight. It can cause respiratory problems and also inhibits plant growth.

Volvo was the first carmaker in the world to tackle this with the introduction of PremAir<sup>®</sup> in 1999, which is available for the XC90 range. It consists of a special catalytic film coating on the car's radiator that converts up to 75 percent of the ground-level ozone into oxygen as it passes through the radiator.

### Corporate Citizenship

Volvo's commitment also extends beyond the car's immediate environment. It was one of the first manufacturers to use tools to evaluate the life-cycle environmental impact of its products. The system, known as EPI (Environmental Product Information) enables Volvo to evaluate the impact of its products and processes on natural resources, ecosystems and human health. This information is available to the public at [www.volvocars.com/epi](http://www.volvocars.com/epi).

It's a strategy that's clearly paid dividends. The XC90 is built in one of the automotive world's cleanest factories with emissions of solvents from the Volvo Torslanda plant in Sweden reduced by over 90 per cent since 1972. Plus, 85 per cent of each car can be recycled and every new Volvo is backed by an EPI. Volvo's annual Corporate Citizenship report is available on [www.volvocars.com/citizenship](http://www.volvocars.com/citizenship).