

A COMPARISON OF TWO GASOLINE AND TWO DIESEL CARS WITH VARYING EMISSION-CONTROL TECHNOLOGY

Peter Ahlvik
Ecotraffic ERD³ AB

The transport sector contributes significantly to air pollution and particularly influences local air quality. Besides the question of air quality, the consumption of fossil fuels in the transport sector and the CO₂-emissions from this use are increasingly important issues.

For a long period of time, the emissions from light-duty vehicles have been in focus, and a lot of measures have been taken to reduce the emissions from these vehicles.

The market penetration for light-duty diesel cars has been increasing in most markets in Europe and is now over 30 percent (2001). In Sweden, however, the market share for diesel cars has decreased the last 3 years and is now slightly above 5 percent.

The issue of whether petrol or diesel fuel should be used as fuel in passenger cars has been the subject of lively debates during the last years, particularly in Sweden, especially the particle emissions from diesel cars. This study is an attempt to contribute with some more facts to the subject.

The study presented in this paper is built on new investigations of two petrol and two diesel cars with varying emission-control strategies. Tests have been carried out both in the European driving cycle and in other driving cycles. Besides the regulated substances, analysis has been made on unregulated substances as well. The data have also been compared with data from earlier studies.