ABSTRACT:

Natural gas is one of the most promising fuel alternatives for the future. Independent of vehicle category, natural gas will help to bring down harmful emissions. There are already excellent natural gas vehicles on the market. However, some technical improvements are still needed, especially in the heavy-duty sector.

This is a status report on engine technology, exhaust emissions, energy efficiency and environmental impacts in general from a technical point of view. The report does not cover commercial aspects, and it does not deal with refueling or fuel storage related issues.

The report, which was completed in early 2000 covers, among other things, fuel properties, engine technology for gaseous fuels, emission legislation and examples on gas fuelled vehicles and their performance. The report itself has a global perspective on NGVs, although, for obvious reasons, the North American and the European situations have been given much attention. Also Japanese technology is discussed.

The report highlights the progress in fuel system development, OBD requirements for gas fuelled vehicles, new test methods for emission testing and examples of the performance of the latest natural gas vehicles. It also discusses the progress in conventional technologies and the areas for improvement so that natural gas vehicles will stay environmentally competitive with conventional technologies.