

# ‘A diesel bus emits less NOx than a diesel car’

Study finds that buses and coaches are cleaner than cars

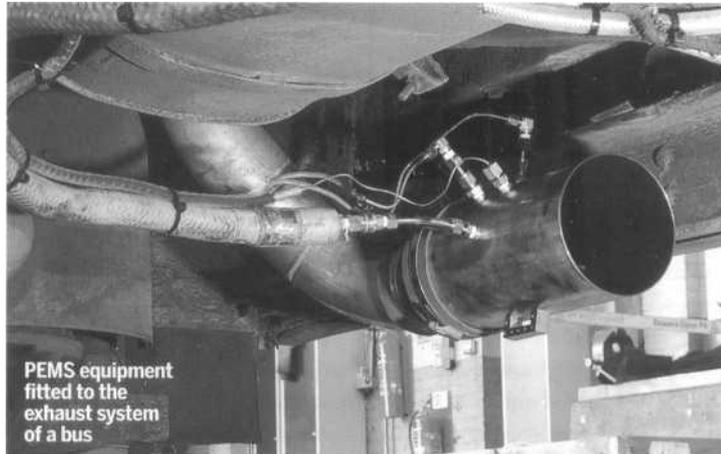
**EMISSIONS**

► Research by the International Council on Clean Transportation has discovered that heavy duty vehicles such as buses and coaches that are powered by diesel engines are far cleaner than cars powered by significantly smaller diesel engines.

ICCT analysed research that saw diesel cars subjected to “real world” emissions testing, rather than the tests undertaken under strict laboratory conditions.

They reported finding that the latest heavy duty diesel engines in lorries, buses and coaches produce an average of 210mg of nitrogen oxide (NOx) per kilometre compared with 500 mg/km for new cars powered by diesel engines.

However, buses and trucks have larger engines and burn more diesel per kilometre, meaning that in effect diesel-powered cars produce 10 times more NOx per litre of fuel.



The tests, which were undertaken by Germany’s vehicle testing agency and a Finnish research centre, have led ICCT to conclude that the difference is because buses, lorries and coaches are subjected to far stricter emissions testing than cars.

**“It would be much better to measure the emissions of ordinary vehicles”**

**Peter Mock, ICCT**

“In contrast to Euro VI cars, Euro VI trucks do not systematically emit significantly more NOx in real-world, everyday operation than they are certified to,” concluded ICCT. ‘And there is a likely explanation for that as well: emissions from diesel cars and trucks are regulated differently under the Euro standards.’

In Europe new diesel cars can only emit a maximum 80mg of NOx per kilometre. Official emissions testing takes place in laboratory conditions with prototype vehicles that have been

optimised to perform well.

In contrast, for the last two years heavy duty diesel vehicles, like buses and coaches, have been subjected to random tests of vehicles already on the road.

The issue was highlighted in 2015 when it emerged that car manufacturer Volkswagen has cheated these laboratory tests by installing software that enabled the cars to recognise they were being subjected to tests in a lab and so optimise their performance to meet the emissions requirements.

Changes to the car testing regime in the EU are due to start in September, with mobile devices, called portable emissions measurement systems (PEMS), attached to vehicles as they drive on real roads. However, even this change still offers the potential for loopholes to be identified.

“Manufacturers will still be allowed to carefully select special prototype cars for emissions testing,” warned Peter Mock, managing director of ICCT in Europe. “Instead, it would be much better to measure the emissions of ordinary mass-production vehicles, obtained from customers who have had been driving them in an ordinary way” ■

## CHINA LEADS ON ELECTRIC BUSES

**But the UK is top of the European e-bus league**

**REGULATION**

► A new report published as part of the UITP-backed Zero Emission Urban Bus System project has revealed that by 2015 there were more than 173,000 electric buses in service around the world - with more than 98% of them located in China.

The country’s lead on electric

buses has been strongly endorsed by Chinese government policy, which includes a ‘new energy buses’ programme, aiming to produce over one million electric vehicles (including buses), and to create 1.2 million jobs annually by 2020.

Meanwhile, and closer to home, the report has found that 19 major public transport operators and authorities, covering around 25 European cities, have a published e-bus strategy for 2020. By this date, there should be more than 2,500

electric buses operating in these cities, representing 6% of their total fleet of 40,000.

In addition, more than 13 public transport operators and authorities in a further 18 European cities have a strategy up to 2025; by then, they are expected to have more than 6,100 electric buses in service, representing 43% of their total fleet of 14,000.

The UK leads the way in the field, boasting 18% of the total European bus fleet of pure electric and hybrid

bus types, ahead of the Netherlands, Switzerland, Poland and Germany, with around 10% each.

The report also includes a market analysis conducted among bus manufacturers, which illustrates that European series production of electric buses should reach full maturity by 2018-2020. These developments all bode well for the uptake of fully electric buses in the near future, since demand and supply are now beginning to converge. ■