Clean living

Engine CO_2 outputs are continuing to fall across modern vans and LCVs, thanks to OEMs' increasingly sophisticated designs for cleaner vehicles. Keith Read talks to vehicle and equipment manufacturers, and transport operators to assess commercial benefits

When boffins in Brussels come up with new vehicle emission standards (not always to universal acclaim), it's down to OEMs to comply – witness the recent arrival of Euro 5 vans and even now Euro 6 trucks well ahead of the due date. But it doesn't stop there. Further cuts in emissions – primarily CO_2 – and consequent reductions in fuel expenditure are being achieved by some operators, thanks to after-market accessories and pragmatic thinking.

SMMT (Society of Motor Manufacturers and Traders) commercial vehicle manager Nigel Base believes that the UK is at the forefront of research, development, testing and uptake of low and ultra-low carbon technologies for all sizes and types of commercial vehicles. "Through the Automotive Council, industry sees numerous routes to continue the reduction of emissions," says Base. "From aerodynamics and light-weighting to intelligent logistics and increasingly efficient engines, today's vehicles are already highly optimised for fuel efficiency. But with further development of powertrains, along with the use of biofuels and waste heat recovery systems, commercial vehicles can become even cleaner."

At TNT – with its fleet of 1,550 HGVs, 1,700 7-5-tonne trucks and 30 mainly 3.5-tonne vans – aerodynamics has become critical in cutting fuel consumption, costs and emissions. "We're renowned for using aerodynamics," states national engineering manager Steve Davis.

"We've done so for around 30 years. We ran a review at MIRA, where we compared the same tractor first with no aerodynamics, then with our aerodynamics and finally with the manufacturer's own aerodynamics. We also compared those [combinations] with one of our standard trailers, both with and without aerodynamics.

"The tests showed a 16% improvement for the tractor/trailer using our aerodynamics over a tractor/trailer having no aerodynamics, while the tractor/trailer with the manufacturer's aerodynamic equipment showed only a 12% improvement. Our saving translated into a 13-month payback – and that was at 2009 fuel costs. I accept that our aerodynamics packages have gone up since then, but fuel costs have risen by an even greater amount."

Time to slow down

But when it comes to LCVs, simply reducing speed also brings a dramatic cut in fuel costs, as well as emissions. "Anything that limits fuel usage and spend has got to be good for transport operators,"

comments Andrew Smith, managing director of Cobra UK, which has been supplying appropriate equipment – mainly to OEMs – also for 30 years. "A van uses 25% less fuel when it travels at 70mph, rather than 80mph, thereby reducing fuel costs and emissions, and extending its engine life.

"We've just done some tests on a VW Transporter van equipped with a speed limiter restricting speed to 60mph," explains Smith. "Fuel economy was in the region of 30% better, over identical routes, compared to running without a limiter. The routes had a good mix of A-roads, dual carriageways and motorways, because we are aware that, if a van spends the majority of its life in an urban environment, it probably doesn't need a speed limiter… But if you're trunking, a speed limiter helps a lot and it can reduce mechanical problems, because the van is not being thrashed at every opportunity. This helps [to reduce] servicing and maintenance costs, plus, of course, it all goes to reduce CO_2 emissions."

Smith makes the point that for an operator with, say, 100 under 3.5-tonne vans, a saving of £100,000 per year on fuel costs from a speed limiter – not to overlook benefits in terms of reduced servicing and maintenance expenditure – makes such devices a shrewd investment. Payback comes in double-quick time, he says, adding that, at £200 to £250, speed limiters are not hideously expensive.

He also explains that operators can set the limit themselves and that, once set, it cannot be tampered with or overridden by drivers.

Steve Davis: "We're renowned for using aerodynamics, we've done so for around 30 years"

Furthermore, he highlights the fact that a fleet manager fitting speed limiters is also exercising his duty of care to employees. The devices can help drivers to reduce their risk of accidents and avoid breaking speed limits – so reducing the risk of losing their licences under the totting-up process.

Andrew Smith: "Anything that limits fuel usage and spend has got to be good for transport operators"

Duty of care is a theme picked up by Pat Gallagher, Trafficmaster's director for in-vehicle products. "Never before have UK fleets been under such tough financial, environmental and operational pressures… Add to this increasing duty of care, and health and safety demands, and a fleet manager's job is becoming ever more difficult," he observes.

"But telematics can play a major part in reducing driver stress levels and improving crew safety, while also cutting vehicle running costs, boosting productivity and cutting emissions."

Gallagher states that Smartnav and Fleet Director both focus primarily on the same goal – providing integrated, intelligent driving services aimed at reducing operator costs, improving efficiency and reducing carbon footprint. "They use a common telematics platform, developed in-house, to offer tailored solutions to our customers," he says. "The ... real-time traffic data that these systems require is provided by our own network of 5,200 traffic sensors – the only one of its type in the country – covering 100% of the UK's motorways and 95% of its trunk roads."

Citroën is Trafficmaster's biggest UK customer, with more than 50,000 of its vans now equipped. Gallagher claims that Citroën van operators have since benefited from up to 13% improvement in fuel economy and saved up to 4.3 tonnes of CO_2 per vehicle. He also suggests that they will have seen vehicle running costs reduce by up to 10%. Interestingly, he also believes that an equivalent of 6,500-plus working days will have been regained for operators and owner-drivers, through congestion avoidance, while driver stress levels will have dropped by up to 33%.

Of course, something as cheap and simple as maintaining correct tyre pressures also promises savings on fuel costs and emissions – and this, too, addresses vehicle safety.

"Tyre condition and fuel efficiency are inextricably interlinked," declares Ian Stuart, group managing director of ATS Euromaster. "It doesn't matter whether you are driving a car, van or truck – get your pressures right and you'll save fuel."