

Clean green vans?

The recent introduction of staggered EU targets for CO₂ emissions has left van manufacturers with plenty to aim at in cleaning up their vehicles. Keith Read considers approaches they might want to pursue

Three big changes in the rules regarding LCV emissions will concentrate the thinking of OEMs, transport managers and van owners on their responsibilities towards the environment over the coming months. The changes will influence the design and use of vans and light commercials – especially in London, where the Mayor, Boris Johnson, is extending the city's low emission zone (LEZ) in a way that will hit some large vans with a £100-a-day tax or £500 fine.

But the most wide-ranging changes will come as a result of EU legislation. The European Parliament voted in February to adopt a 175g/km CO₂ short-term – and 147g/km CO₂ long-term – target for LCVs. These challenging targets have been set to continue the process of ongoing CO₂ emission reductions for Europe's entire van fleet.

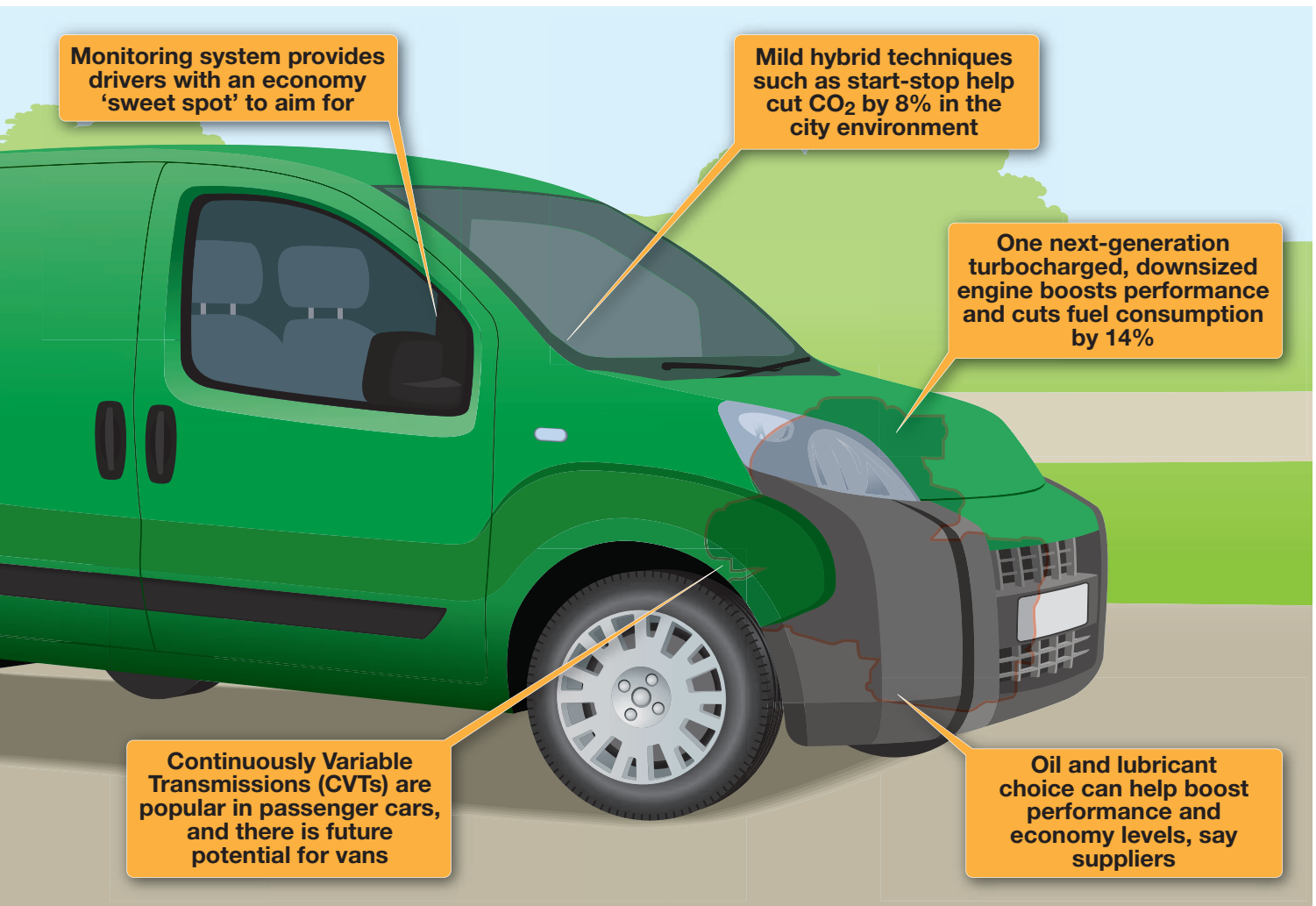
The new targets are unlikely to cause many headaches for operators, with manufacturers facing the task of cleaning up their van engines. However, with progress already made in lowering car emissions, Paul Everitt, chief executive of the SMMT



(Society of Motor Manufacturers and Traders), says OEMs are not unhappy – provided that some support is forthcoming from government.

“Industry is pleased that the European Parliament has come to a decision on CO₂ emission targets for LCVs, as vehicle manufacturers are committed to lowering emissions as part of ongoing introductions of low, lower and ultra-low carbon vehicles,” he explains. “The UK is well-placed to capitalise on low carbon technologies but manufacturers now need government to demonstrate its support for sustained investment in skills, R&D and capital equipment.”

The new LCV legislation will mirror new car CO₂ regulations, with each manufacturer judged against its own overall European fleet average CO₂ emissions. Effectively, their targets are based on the weight of each new LCV they register in the EU in a given year. The initial target of 175g/km will be phased in from 2014, with yearly rises in the percentage of fleets required to comply – 70% in 2014, 75% the following year, 80% in 2016 and 100% in 2017. Meanwhile, the European Parliament's plans for a long-term target of 147g/kg by 2020 will be reviewed in 2013.



Such challenging numbers are likely to expedite R&D in new concepts such as the Scuderi engine, which, through its developer's claims of lower fuel consumption, will effectively lower emissions. The Massachusetts-based Scuderi Group has recently announced that turbocharging its re-engineered conventional four-stroke engine reduces fuel consumption by 14% and increases power by 140%, while allowing the size – and, therefore, weight – of the engine to be cut by almost one third.

Meanwhile, on the opposite side of the world (Vietnam, to be precise), Bosch has opened a £26.6 million hi-tech facility for the production of push belts used in CVTs (continuously variable transmissions) that can offer reduced fuel consumption, again leading to lower emissions. The factory will have an annual capacity of 2.3 million units when it achieves maximum output in 2015, complementing the output of its existing Bosch push belt facility in the Netherlands.

CVTs have yet to find widespread favour for passenger car use and are all but unheard of in LCVs. However, with fuel consumption and CO₂

reductions of up to 15% possible, according to Bosch, LCV manufacturers are likely to be considering the potential of step-less transmissions in their quest to meet the new emissions figures. Indeed, it seems inconceivable that a major supplier, such as Bosch, would invest vast sums in push belt production, if it couldn't see a dramatic uptake in CVT technology.

LEZ initiative's impact

While OEMs are considering the implications of the new EU emissions rules, van operators have to take on board the more pressing changes that Transport Secretary Phillip Hammond and Boris Johnson are making. In the case of the mayor's extension of the LEZ, more than 72,000 vans and minibuses will be affected by the new rules, which come into force on 3 January next year.

From then, large vans and minibuses with an unladen weight from 1,205kg up to a gvw of 3,500kg, registered before 1 January 2002 and not meeting Euro 3 emission standards, will be charged £100 a day to enter the LEZ or risk a £500 penalty.

To encourage owners to replace these older, more polluting vehicles, TfL (Transport for London) has mailed 54,000 van owners who regularly enter the LEZ, giving details of special sales incentives from manufacturers for the purchase of a new van that will avoid the impending LEZ entry charges.

Peugeot, for instance, is providing all registered owners who are mailed by TfL with a range of cashback offers that will be on top of all existing offers. Examples of Peugeot's cashback incentives include: £500 (Bipper), £750 (Partner), £1,500 (Expert) and £2,000 (Boxer). Payments will only be made to customers who have been mailed by TfL and vans must be registered before 31 March 2012.

Ford has also announced a van scrappage scheme – not dissimilar to that offered some time ago on cars. Its London-based customers with vans that are 10 or more years old will qualify for up to £3,000 off a new Ford Fiesta Van, Transit Connect or Transit. At the scheme's launch, Boris Johnson said he was delighted that Ford is being so supportive of his moves to clean up the capital. "It is particularly pleasing that vans running on engines made locally in the capital [Dagenham] are part of this package," he added.

Scrappage: the sums

Crushing a 10-year-old Fiesta will reap a £1,000 payment, while Transit Connects attract £1,500, front-wheel-drive Transits get £2,000 and rear-wheel drive Transits benefit from a £3,000 payment. All scrappage deals come on top of current retail offers. "We are acting in advance of the new LEZ measures to ease the transition from older vans into new commercial vehicles," explains Ford's commercial vehicle director Steve Clary.

Meanwhile, those operators preferring not to see their Transits scrapped – and instead opting for a

trade-in – could look to the package being offered by Ashwoods. The company is best known for its hybrid vans, but also supplies the EcoDrive system for Transits, which provides a simple, but effective, system that works with the driver to minimise fuel consumption. The in-cab EcoDrive display provides the driver with a visual 'sweet spot' for maximum engine efficiency in all traffic conditions, with the potential to achieve 5–10% reductions in fuel consumption and emissions.

Incidentally, Ashwoods' LEZ vehicle replacement scheme will run until 31 March next year and offers £500 cashback, plus discounts and lower fuel costs, on new Transits.

On a separate note, part of the new Clean Air Fund – announced by Philip Hammond earlier this year to improve air quality in London – includes measures such as no-idling zones. That has prompted Bosch to calculate that 500,000 tonnes of vehicle CO₂ emissions could be saved annually in the capital, if all cars and vans were equipped with start/stop technology.

"Start/stop is one fuel-saving technology that further reduces CO₂ emissions," says Peter Fouquet, president of Bosch UK. "It can reduce a vehicle's CO₂ emissions by 8% in average city driving and up to 15% in dense city traffic. In addition, the technology also reduces noise pollution."

The system works by automatically switching off a vehicle's engine when it comes to a stop – for example, at traffic lights. When the clutch is depressed (or the foot taken off the brake pedal on an automatic transmission van), the engine restarts in a fraction of a second.

But some have concerns. While a new vehicle with an engine bursting into life and a battery full of energy responds well, what happens in a tired vehicle with a poor battery? And what benefits are there to start/stop, if the driver overrides the system (which he can, from the driving seat, by pressing a button in the Nemo)? Having said that, Bosch contends that it has already delivered start/stop technology for more than two million cars and vans, and predicts half of all new vehicles sold in Europe will have start/stop by 2013.

Beyond the enforced changes that will reduce emissions pumped into the atmosphere by vans and LCVs, best advice is that operators can play their part, too. Something as simple as ensuring surplus weight is not carried will reduce fuel consumption and hence also emissions. Choosing the right lubricants can also enhance efficiency – both performance and economy – while opting for the right tyres when replacements are due can frequently make a big difference. Continental's low rolling resistance VancoEco tyre, for example (developed for vans such as Mercedes-Benz's Sprinter, Vito and Viano, Ford's Transit and VW's T5), will cut consumption and emissions by 4%, according to Tracey Hyem, brand manager at Continental Tyres UK. 