

Briefing: Vans and CO₂

Updated March 2010

Context

In October 2009 the European Commission published a proposal to reduce CO₂ from light-commercial vehicles (vans). This proposal is part of the so-called 'integrated approach' carmakers have called for, whereby less has to be done to improve fuel efficiency of cars (i.e. a 130 g/km target instead of 120). The Commission has said the 10 g/km shortfall should be compensated for through measures on fuels, tyres, gear shift indicators, vehicle air conditioners and **vans**. This was announced as early as February 2007¹. The 2007 Communication announced targets for average CO₂ emissions from vans of 175 g/km for 2012 and 160 g/km for 2015, respectively 14 and 21% reductions on the 2007 level of 203 g/km².

CO₂ emissions from vans and minibuses are rising rapidly

The EU's climate effort sharing agreement (Decision 406/2009/EC) sets out a 10% reduction target, compared to 2005 levels, for all sectors not covered by the Emissions Trading Scheme, including transport. This target is likely to rise to 15% in the case of an international climate agreement. In that context, the transport sector in particular will present a significant challenge. Its emissions increased by 36% between 1990 and 2007, while emissions from other sectors decreased by 9%³.

Currently, 12% of Europe's fleet of light-duty vehicles are vans, but their number is rising fast. Between 1997 and 2007, the total fleet of vans increased by about 50%.⁴ Light commercial vehicle (LCV) traffic is increasing. In the UK, for example, LCV traffic rose by 40% between 1997 and 2007, and accounted for 31% of all new traffic in that period. LCV emissions were rising at the highest rate of any road vehicle. They

¹ eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52007DC0019:EN:NOT

² ec.europa.eu/environment/air/transport/co2/pdf/final_report_lcv_co2_250209.pdf

³ www.transportenvironment.org/Publications/prep_hand_out/lid:545

⁴ Compare: www.acea.be/images/uploads/files/20090218_EU_Motor_Vehicles_in_Use_2007.pdf and http://ec.europa.eu/transport/roadsafety_library/publications/improver_final_report_sp2_060430.pdf

contributed 3.6% of total UK CO₂ emissions in 2006, compared to just 1.8% in 1990⁵. At the same time fleet average CO₂ emissions of new LCVs increased from 201 g to 203 g/km between 2002 and 2007⁶.

Regulation – a response to the environmental, energy and economic crises

Van fuel efficiency legislation would:

- i) reduce CO₂ emissions, oil use and oil imports;
- ii) create value, as well as high tech and secure jobs in the automotive industry through increased use of low carbon technologies;
- iii) reduce the €30bn fuel bill that Europe's businesses, particularly small and medium-sized enterprises, currently pay every year;

Closing a loophole

Without a law on vans, or with a weak one, there is a real risk that carmakers will classify (type-approve) passenger cars as vans in order to circumvent car CO₂ standards.

The vans market is less 'rational' than often thought

It has been claimed that vans are already very fuel-efficient because professional customers take fuel consumption into account when buying vans.

But the car industry itself admits that there are large discrepancies between models with similar functionality. According to the UK car industry association, *"If everybody buying a new van bought the most fuel efficient model in its class the average buyer could save up to 17% on both CO₂ emissions and fuel costs"*⁷.

In addition, engine power of vans has been rising dramatically, although rationally it's more economical to mount smaller (i.e. cheaper and more fuel efficient) engines and keep the power constant.

⁵ www.dft.gov.uk/pgr/statistics/datatablespublications/freight/vanactivitybaseline08/vabs08.pdf

⁶ http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2009:1454:FIN:EN:PDF

⁷ www.smmmt.co.uk/articles/article.cfm?articleid=19726

T&E believes the proposal should contain the following three key points:

1. The Commission should stick to its original ambition level of 175 g/km by 2012 and 160 g/km by 2015.
2. A 2020 target should be set at 125 g/km. This represents a 38% reduction based on 2007 levels, and matches in ambition the 40% reduction required for cars to achieve 95 g CO₂/km by 2020.
3. Vans should be equipped with speed limiters set at 100 km/h. This would reduce on-road CO₂ emissions by a further 8%.

A short-term target of 175g CO₂/km by 2012 and a follow-up target of 160g CO₂/km by 2015

If we are to achieve global abatement thresholds as set out by the IPCC we need to start reducing emissions as soon as possible. McKinsey stress that “action in the automotive sector is needed to prevent many more additional years’ worth of CO₂ emissions growth and to prevent a high-carbon infrastructure from being locked in for years to come”.⁸ Therefore, it is important to maintain the original 2012 deadline for the LCV target. This is the time to make up for past inaction.

The Commission’s consultants assume that achieving a 160 g/km target will require mild or full hybrid power trains and will hence be very costly.

In reality, reductions of about 20% have been reached on diesel cars without hybridisation but with a range of less expensive measures (see Table 1).

Table 1: Improvement of ‘best practice’ diesel cars 2007 and 2009⁹

Brand and model	CO ₂ of best available diesel variant (g/km)		Decrease (%)	Fuel-saving programme	Power
	2007	2009			
VW Golf	135	99	-27%	BlueMotion	Remains 77kW
Volvo S40	129	104	-19%	DrivE	Remains 80kW

⁸ www.mckinsey.com/client-service/ccsi/pdf/roads_toward_low_carbon_future.pdf

⁹ The year 2007 is chosen because it is the baseline for van emission data, which has been used in the supporting study.

Ford Fiesta	116	98	-16%	Econetic	Increase 50→66kW
Mercedes C220	169	127	-25%	BlueEfficiency	Increase 105→125kW
BMW 118	150	119	-21%	Efficient Dynamics	Increase 90→105kW

As fuel saving technologies deployed are largely transferable to diesel vans, similar reductions can be achieved. A 160 g/km by 2015 is therefore feasible and does not require excessive technological investment.

Significant van emission reductions have already been achieved

Also, significant reductions in popular van models have already been achieved in the last two years. The Commission impact assessment analysing the data for this proposal is based on vans emissions from the year 2007.¹⁰ The 175 g/km standard, which fully applies in the year 2016, represents a 14% reduction compared to the 2007 baseline.

In 2009 the VW T5 achieved a reduction of about 10% in fuel consumption and CO₂ compared to 2007¹¹. The T5 was the 3rd biggest selling van in Europe in 2007 according to JATO dynamics.¹²

The new Ford Transit ECONetic version is on sale since late 2009. The new Ford Transit ECONetic has CO₂ emissions 11% better than the most efficient Ford Transit previously available in the UK.¹³ The Ford Transit was the

¹⁰ See: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SEC:2009:1454:FIN:EN:PDF>

¹¹ See: www.volkswagen.co.nz/media/country/nz/x/company.Par.0054.File.pdf/vwmr0909_new_generation.pdf, or http://www.redstore24.de/T5GP_2010/VW-T5-Modelljahr-2010-GP-grosse-Produktaufwertung-und-Facelift-im-Herbst-2009.html or <http://www.vanlocator.co.uk/van-for-sale-marques.php?van=1112>

<http://www.jato.com/PressReleases/LCV%20volumes%20rise%20in%20European%20markets%2026.11.2007.pdf>

¹³ See UK website: <http://www.ford.co.uk/AboutFord/News/VehicleNews/IconicFordTransit> The Ford TransitECONetic has average CO₂ emissions of 189 g/km. It is based on new Transit ECONetic the front-wheel drive Transit 280 panel van with short wheelbase and 2.2-litre 115PS Duratorq TDCi engine. The lowest-emitting current version of this van emits 213 g/km. Data for this is taken from the VCA database, which gives fuel consumption and CO₂ emissions figures for new vans and other light commercial vehicles currently available in the UK, <http://www.vca.gov.uk/vandata/?xgovk3w=bl1000&xgovf0p=|xgovs9k=vca|xgovr3h=vanfueldata|xgovc8h=1000|xgovk3w=bl1000|xgovovd2v=en&xgovj6d=bed1209b148a554435b5f25e32a24e18017ae270>.

best selling van in Europe in 2007 according to JATO dynamics.¹⁴

Importantly, these improvements **have all been achieved without introducing a new model but via improvements of the existing one.** This is not uncommon – in fact most models receive facelifts and/or new engines during their product lifecycle. The VW T5 had a facelift in 2009 and the Ford EConetic modifications were improvements of the current Transit van.

Also Renault just introduced the new Renault Master, which emits 187 g/km.¹⁵ This is already 15% more efficient than the best Renault Master from 2007.¹⁶

Manufacturers' claims that the 175 g/km target could not be met before 2016 or even in the year 2016 therefore seem completely out of proportion.

A target of 125 g CO₂/km by 2020

A 2020 target is needed to provide planning certainty for the industry, to increase CO₂ savings and to make this legislation consistent with the legislation for CO₂ and cars and with other EU legislation on reducing CO₂ emissions. A target of 125 g CO₂/km would represent a 38% reduction over 2007 levels, less than the 40% cut expected from cars.

A 100 km/h speed limiter would reduce CO₂ emissions by 8%

Scientific studies¹⁷ show that limiting the speed of vans to 100 km/h would increase CO₂ savings by 7-8% by 2020. Limiting the speed of vans would also improve safety, reduce noise as well as wear and tear on tyres and engines.

Vans are the only commercial vehicles without a speed limiter, although they can be driven with a standard 'B' type car licence. Several large, companies already use speed limiters on vans to minimise total cost of ownership (TCO). Examples are British Gas, TNT and Royal Mail. Their experiences are positive and there is no

reason why the rest of the market should not be obliged to fit limiters as well.

¹⁴

<http://www.jato.com/PressReleases/LCV%20volumes%20rise%20in%20European%20markets%2026.11.2007.pdf>

¹⁵

http://www.renault.com/SiteCollectionDocuments/Communiqu%C3%A9%20de%20presse/en-EN/Pieces%20jointes/21477_20100125_CP_reveal_New_Master_GB_E23F245E.pdf

¹⁶ Kraftfahrtbundesamt; Fuel Consumption and Emissions Type, Approval Figures for Motor Vehicles with a National or EC Whole Vehicle Type Approval, SV 2, 17th Edition, State: 1st March 2007

¹⁷ www.ce.nl/publicatie/begrenzing_op_bestelling/116 and Dings, J.M.W. et al (1998) Speed limiters on vans and light trucks, CE Delft, 1998

