

Logistics UK: Air Quality Policy Statement

Summary

HGVs and vans play an indispensable role in servicing our towns and cities, supplying local communities and supporting local economies. It is important that in seeking improvements to road safety and emissions there is also recognition that the logistics industry is a central part of the UK economy, bringing essential goods needed by communities nationwide.

The logistics industry understands the health impacts of atmospheric pollutants and that emissions need to reduce. The take up of Euro 6/VI requirements through fleet replacement has delivered significant emissions reductions of up to 90% on-road reductions in local pollutants, with more reductions expected in the years ahead without any further intervention in the market.

Recognising that many authorities are planning to introduce Clean Air Zones (CAZs), Logistics UK proposes a progressive, standardised, and fair approach through a national framework, that will achieve the same environmental impact while reducing business costs. This framework should include clear and consistent guidelines covering the size of zones and charges levied, a nationwide interoperable portal for collecting payments to reduce administrative burdens for all parties, allow extra time for compliance in specific cases and a flexible approach towards van operators and local businesses.

We believe that alternative approaches should also be considered which could deliver similar and ongoing long-term benefits to urban areas through a range of measures including congestion management, retiming deliveries, consolidation centres, working with customers and offering local incentives to operators of the cleanest vehicles.

1. Role of commercial vehicles in urban areas

HGVs and vans play an indispensable role in servicing our towns and cities. Every commodity we need is delivered by the freight industry, which plays a crucial role in supplying local communities and supporting local economies.

For example, a city with a population of 1,000,000 would have almost 45,000 tonnes of goods delivered by lorries on average each day. That equates to 1,874 tonnes picked up or dropped off every hour. Likewise, a town with a population of 100,000 would have around 4,500 tonnes of goods delivered by lorries per day and 187 tonnes per hour. And as this figure excludes vans, it is only a part of what freight does.

There are social and environmental impacts from vans and lorries, in terms of road safety and emissions, but there are social benefits too: keeping costs down, enabling local businesses to function and ensuring residents and visitors get the goods and services they desire or need. Therefore, it is important that in seeking improvements to road safety and emissions there is also recognition that the logistics industry is a central part of the UK economy, bringing essential goods needed by communities nationwide.

2. Air quality and road freight

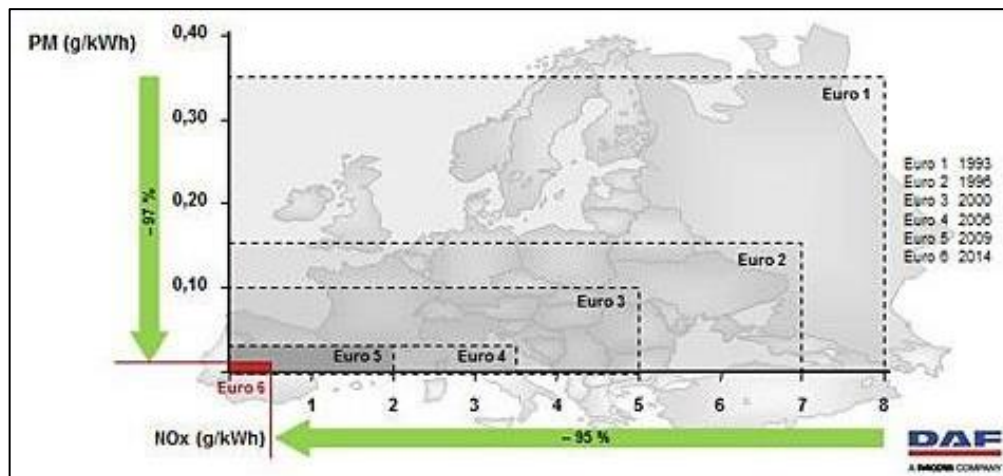
2.1 Additional policy measures are required to reduce air pollution

As information about the health impacts of some atmospheric pollutants has grown, the issue of lowering local air quality emissions has risen in importance. The logistics industry understands that emissions need to reduce. Rapid progress has been made in making new diesel vehicles significantly cleaner than their recent predecessors, which has already delivered substantial improvements to air quality. However, we accept that further public policy measures are required if the UK is to meet its legal obligations for nitrogen dioxide levels in the worst polluted spots around the UK.

2.2 Euro IV/6 standards are a significant step forward

We welcome the acknowledgement by Government of the success of the Euro 6/VI standard for heavy duty vehicles (which include heavy goods vehicles (HGVs)). Whilst there are continuing concerns over the performance of Euro 6 cars, we must not allow these issues to obscure the successes of the heavy-duty vehicle Euro 6/VI requirement – with up to 90% on-road reductions in local pollutants (Figure 1).

Figure 1: Comparison of Euro Air Pollution standards (source: DAF)

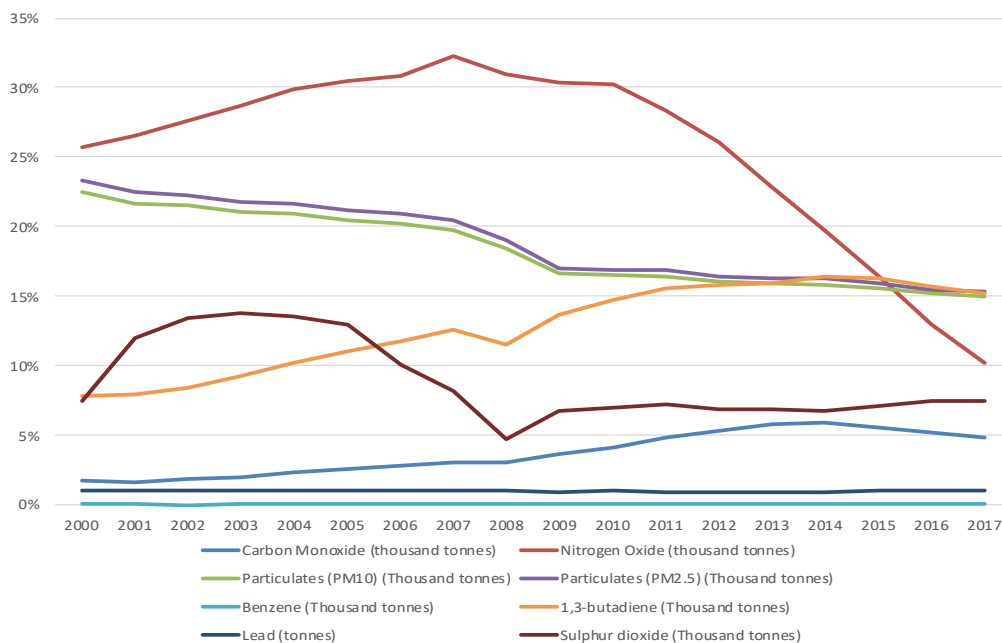


Source: DAF

2.3 The air pollution footprint of HGVs has reduced

Tighter tailpipe emission standards combined with fleet replacement mean that total HGV emissions have reduced significantly in the 17 years to 2017. NOx has fallen by 85%, PM10 by 62% and PM2.5 by 67.3% (Appendix table A1). HGV emissions as a proportion of all road transport air pollutant emissions have generally declined, albeit with some rises (fig 2).

Fig. 2 HGV air pollutant emissions as a percentage of all road transport air pollutant emissions

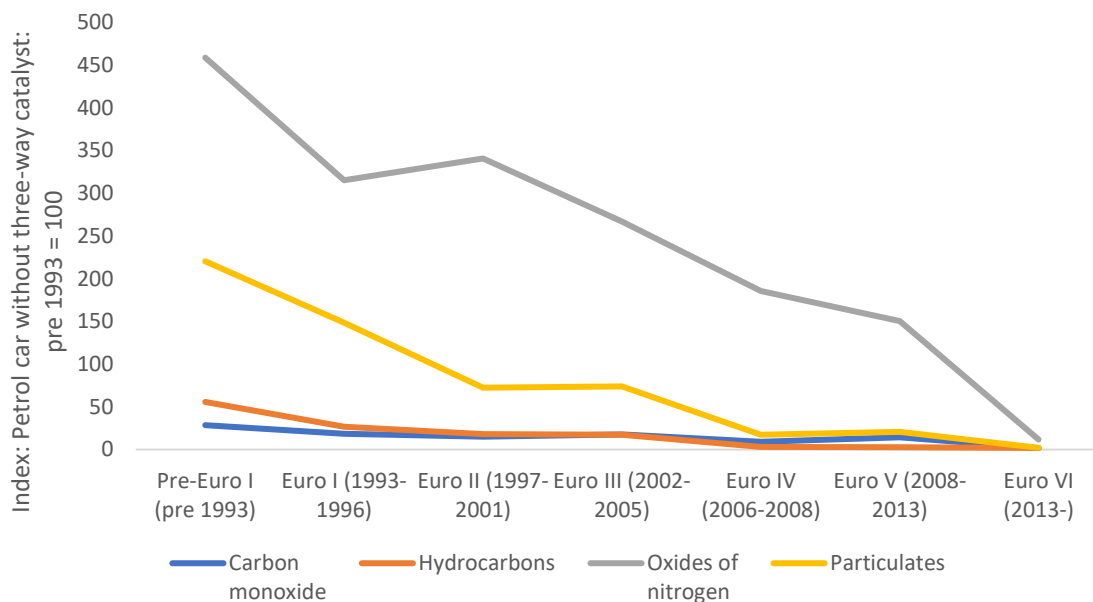


Source: Table ENV0301 Air pollutant emissions by transport mode: United Kingdom, from 1990-2017, DfT, 2019

2.4 HGV emissions in urban traffic

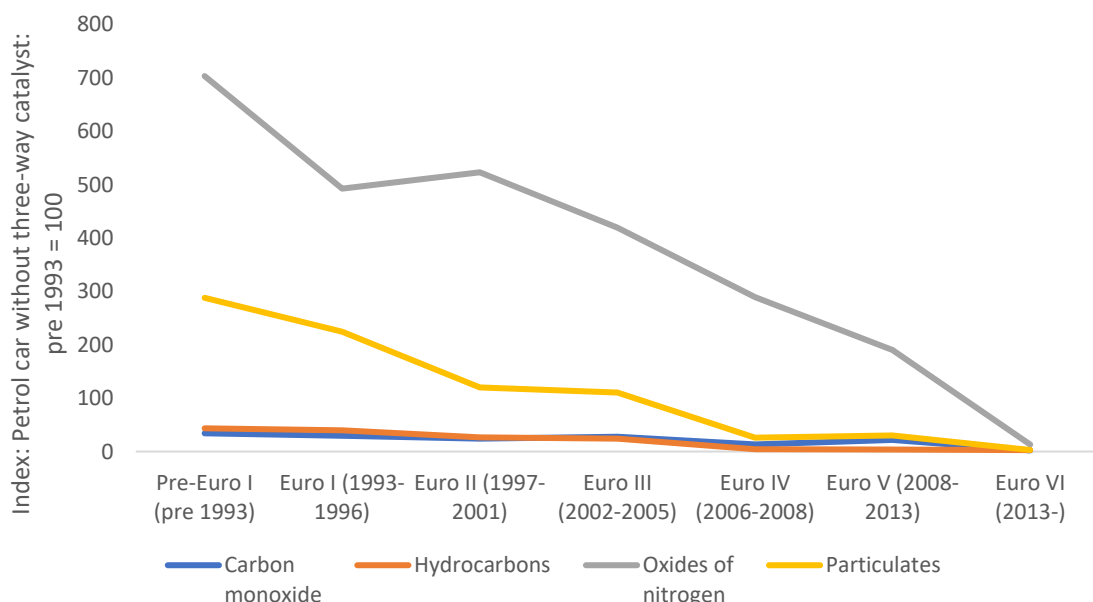
In 2019, HGV urban traffic accounted for just 1.6% of all urban traffic and 12.5% of all HGV traffic. Overall HGV traffic accounted for just 4.9% of all traffic (on all roads)¹. Trends in average emissions from HGVs in urban conditions show the positive impact of the Euro 6/VI standard; Figures 3 and 4 show this for both rigid and articulated HGVs (data are shown in Appendix tables A2 and A3).

Fig. 4 Index of average emissions from rigid HGVs in urban conditions: Great Britain



Source: Table ENV0302, Average emissions from road vehicles in urban conditions: Great Britain, DfT, 2019

Fig. 5 Index of average emissions from artic HGVs in urban conditions: Great Britain



Source: Table ENV0302, Average emissions from road vehicles in urban conditions: Great Britain, DfT, 2019

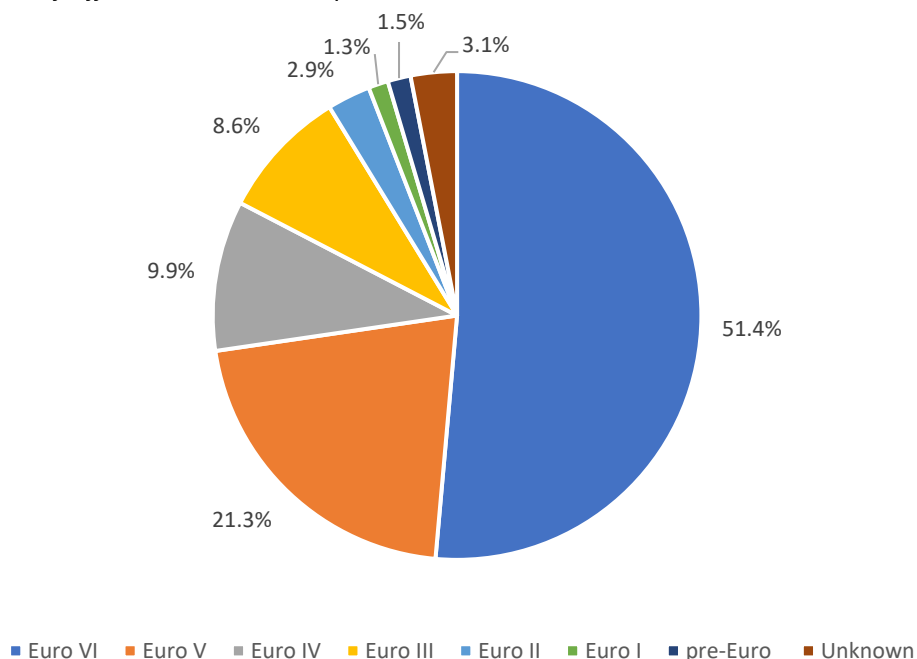
¹ TRA0204, Road traffic (vehicle kilometres) by vehicle type and road class in Great Britain, Road Traffic Statistics, September 2020

3. Clean Air Zones: Costs and benefits

3.1 Purpose of Clean Air Zones

Clean Air Zones (CAZs) are a policy designed to accelerate the fleet replacement cycle, by incentivising vehicle operators to purchase newer vehicles which meet the most stringent emission standards. However, the fleet replacement process is already well underway: At the end of 2019, Euro 6/VI HGVs accounted for over half of the UK fleet (51%) – see Figure 6.

Fig.6 Proportion of different HGVs vehicles by standard: UK 2019



Source: Vehicle Licensing Statistics, Table VEH0511, DfT, April 2020

3.2 Cost and benefits of CAZs

Using historical trends for both the total number of licensed HGVs and Euro 6/VI HGVs, it is predicted that by the end of 2021 (beginning of 2022), Euro 6/VI HGVs will account for nearly 70% of the total number of HGVs, reaching 78% by the end of 2022 (see Appendix Table A4).

CAZs are costly to implement, with the need to install a camera network, signage, and set up a back-office system to run the scheme. They also have significant impacts on those with the least means to replace vehicles, such as small businesses and operators of specialist HGVs– including many local authorities.

CAZs also create compliance costs for businesses. Comparatively new and relatively low-emission Euro V/5 HGVs have seen resale prices fall, in part due to CAZ policies. Many operators who wish to comply will be locked into lease agreements that may run beyond the start of the CAZ which can be expensive, if not impossible, to get out of.

With these costs, and limited long-term benefits in mind, Logistics UK believes alternative approaches could deliver additional, long-term benefits to urban areas – not just in air quality, but in greenhouse gas emissions, safety, and efficiency. These are summarised in section 5, below.

4. A national framework for CAZs: Good for the environment and better for businesses

In some locations, use of a CAZ will be unavoidable to ensure legal compliance with EU targets. We propose a progressive, standardised, and fair approach to developing CAZs that will achieve the same environmental impact while reducing business costs, summarised below.

4.1 Consistent environmental standards – Euro VI/6

We support the Defra framework for England, which stipulates Euro 6/VI for diesel, Euro 4 for petrol and Euro 3 for motorcycles.

4.2 Size of zones

CAZs should be kept as small as possible; expanding beyond the city centre makes a significant difference to logistics operators, as there is a substantial difference between the fleet going into the city centre and those that operate, and are therefore based in, the whole conurbation. Birmingham has utilised a zone far smaller than the whole city council area.

4.3 Consistent charges

The daily charge for HGVs in CAZs should be set to £50, which is consistent with Birmingham's plans.

4.4 Interoperable charging

Whilst the Government is developing a single, nationwide portal for the registering and charging of non-compliant vehicles entering the different zones, the system does not have an autopay feature, such as exists with other charging schemes, like the London Congestion Charge and the Dart Charge. This means that fleet operators will be required to declare each journey for each zone which will not only be bureaucratic but is likely to lead to administrative errors and risk fines for businesses.

In the long-term, the central portal should be expanded to include other government charging schemes, such as the Dart Charge and the Mersey Crossing, which will maximise the investment in the system development, given that CAZs are likely to have a limited life and will further reduce the administrative burden for businesses.

4.5 Extra time to comply in specific cases

Additional time for operators to comply should be considered in specific circumstances. These include additional compliance time for operators based within CAZs, or who primarily operate within them, who will be the most significantly impacted by the changes, and for operators who can demonstrate that they have placed orders for compliant vehicles which will enter service after the go-live date for the CAZ. Leeds², for example, allowed businesses who have placed an order for a compliant vehicle or accredited retrofit solution by 31 July 2019 an exemption from payments until the order has been delivered or until 31 December 2020, whichever is soonest. This is an example of good practice as it decreases business costs while still delivering the same environmental benefit.

4.6 Financial support to aid compliance

The Government's Clean Air Fund provides a mechanism for local authorities to bid for funding to support operators affected by the CAZ. Bath, for example is offering grants for local businesses of up to 35% of the net upgrade costs, capped at £4,500 for vans and £20,000 for HGVs. We encourage other public authorities to take advantage of this fund to support compliance, which in turn will deliver environmental benefits.

² Leeds City Council announced on 13 October that they have decided not to implement the Leeds Clean Air Zone plan. The scheme is no longer required due to businesses switching to cleaner vehicles faster than expected <https://news.leeds.gov.uk/news/leeds-clean-air-zone-has-achieved-its-aims-early-and-is-no-longer-required-joint-review-finds>

4.7 Exempting Authorised Testing Facilities from zones

HGVs need to undergo regular safety inspections every few weeks in addition to their annual test. Vehicles should be provided with an exempt route for accessing key facilities such as Authorised Testing Facilities (ATFs) and testing centres.

4.8 Vans: Support and flexibility required

Van operators will be the most affected by the introduction of Euro 6 requirements. The introduction date for Euro 6 vans was September 2016, as opposed to September 2015 for cars and January 2014 for HGVs and buses. Therefore, by the end of 2021 vans little more than five years old will be non-compliant. This means very few users whose business model relies on using second-hand vehicles, such as SMEs, will have compliant vans.

According to government statistics around 16% of the van fleet is used for the delivery and collection of goods³; most vans in our towns and cities are used for servicing rather than deliveries and will therefore spend much of their time parked up. These points should be considered and flexibility for local business considered.

5. Urban Transportation Air Quality: Additional Policies to Consider

5.1 Congestion management

Our urban centres are becoming more populated and this is putting huge pressure on the transport network as more people need to move around. More people also create more demand for deliveries and servicing activity. As there is limited space in our towns and cities to build new roads, we need to think about how we can use existing infrastructure more intelligently. Congestion has a direct impact on fuel consumption and emissions; a typical 420hp heavy-duty truck engine consumes fuel at the rate of around two litres an hour when left idling and stationary⁴. Although drivers are advised to switch off engines when they have been stationary in traffic for a long period of time, in urban environments with frequent stop-starts this may not be possible.

Congestion is predominantly caused by passenger cars. Given the economic importance of road freight traffic, public authorities should put more focus on getting freight moving. This could include infrastructure changes to alleviate bottlenecks; innovative policies such as allowing low-emission commercial vehicles to use under-utilised bus lanes; and encouraging the use of public transport and targeting congestion penalty measures to single-occupancy private cars.

5.2 Retiming deliveries

Retiming freight activity out of the morning peak to less congested times in the day, or even overnight, can bring huge benefits to the logistics industry and its customers as journey times and fuel consumption are reduced and productivity is increased. But the wider environmental and social benefits are potentially even bigger: reduced emissions, leading to improved air quality, and fewer lorries on the road during the school rush and other peak times when there are high numbers of vulnerable road users sharing the same space.

Logistics UK supports measures that enable more logistics operations to be retimed outside of peak times. This will make better use of limited road space and allow vehicles to travel when the roads are less congested which will have a direct impact on improvements on emissions. Through its retiming deliveries programme, which we supported, Transport for London (TfL) worked with freight operators and customers to help retime deliveries. This helped move 166,000 deliveries out of the peak times each year⁵. This approach should be adopted across the UK's major city regions.

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/916508/provisional-van-statistics-2019-20.pdf

⁴ DfT, "The Fuel Efficient Truck Drivers' Handbook", <http://www.ritchiestraining.co.uk/wp-content/uploads/2016/01/FuelEfficientTruckDriversHandbook.pdf>

⁵ <https://tfl.gov.uk/info-for/deliveries-in-london/delivering-efficiently/retiming-deliveries?intcmp=37935>

Logistics UK has been championing the benefits of retiming deliveries for many years, but we recognise that, if we are going to use the roads during sensitive hours, we need to do so responsibly and quietly. Therefore, over the last decade or so, we have been working with the Noise Abatement Society on initiatives to promote the use of quiet technology and working practices.

5.3 Big can be good: Consolidating deliveries

Consolidation centres can, in certain circumstances, help reduce the numbers of freight vehicle movements. However, they can struggle to be financially independent and often require ongoing public funding. It should also be recognised that a lot of consolidation already takes place in the supply chain, so it is important to ensure those already maximising the efficiency of their operation are not required to split loads via a consolidation centre. Equally, a medium lorry can carry the same capacity as 10 vans and a large lorry the capacity of 25 vans, so we need to ensure we do not replace one large vehicle with many smaller ones.

HGVs are in effect mobile consolidation centres: they function in an efficient way by bringing multiple consignments together into a single large vehicle, thus reducing both congestion and pollution by reducing overall freight vehicle miles. Compared to the year 2000, the amount of goods lifted by GB-registered HGVs in 2019 was 10% lower, while HGV vehicle kilometres have fallen by 17% over the same period⁶. This suggests that HGVs have become more efficient over time.

5.4 Working with customers

Ultimately, the logistics industry delivers what the customer wants, when they want it so, if we are going to change what we do, we also need customers to be willing to change; this includes businesses and consumers alike. Businesses could consider setting up joint procurement networks with neighbouring businesses, perhaps through Business Improvement Districts. Not only could this reduce the amount of vehicle movements but, through economies of scale, they could also negotiate more competitive prices. Retail has seen a huge shift to online ordering over the last few years and there are opportunities to signpost and enable more 'click and collect' options, particularly to reduce first-time delivery failures.

5.5 Carrots as well as sticks: Incentivising cleaner, low-emission freight vehicles

Public authorities at all levels, whether local, city-region, devolved administrations or national, have several policy measures available to them to incentivise the next generation of cleaner freight vehicles. At the national level, grant-funding is scarce for low-emission HGVs; there are currently only three large vans and trucks that qualify for DfT grant funding⁷.

Logistics UK welcomed the £20 million fund announced in the '10 Point Plan for a Green Industrial Revolution'⁸ for freight trials to pioneer hydrogen and other zero emission lorries, to support industry to develop cost-effective, zero emission HGVs in the UK. We also want to see closer government and industry engagement to decide how to increase the number of trucks that qualify for a grant. At the local or city region level, incentives such as congestion charge discounts and the ability for low-emission freight to use bus priority lanes should also be considered.

For the van market, electrification is accepted as the most appropriate solution to enable vans to move away from fossil fuels; however, significant barriers to uptake remain. Logistics UK's 2019 EV Report⁹ identified recharging infrastructure, grid capacity, vehicle availability, cost, mileage range and heavier vehicle model range as the biggest barriers to greater uptake. We support Government policies to encourage uptake of

⁶ DfT, Domestic road freight activity statistics, [RFS0101: Goods moved, goods lifted and vehicle kilometres](#)

⁷ <https://www.gov.uk/plug-in-car-van-grants>

⁸ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/936567/10_POINT_PLAN_BOOKLET.pdf

⁹ <https://www.logistics.org.uk/evreport>

electric vans, which include upfront purchase grants, zero VED ratings and congestion charge exemptions, but more must be done to address the commercial and technical barriers associated with recharging infrastructure.

5.6 Retrofit funding for HGVs

For older HGVs, retrofitting cleaner exhaust systems may be a useful option. However, as noted by the Energy Saving Trust (EST), this vehicle category is particularly challenging in terms of retrofit technology, due to the diverse range of vehicles, engines, and duty cycles in a legacy fleet¹⁰. The Clean Vehicle Retrofit Accreditation Scheme (CVRAS) is operated by EST, and companies providing retrofit solutions must be approved by the EST to qualify for funding. This scheme may become a useful avenue for HGV retrofits in the future.

¹⁰ Energy Saving Trust, <https://energysavingtrust.org.uk/service/clean-vehicle-retrofit-accreditation-scheme/>

Appendix

Table A1: HGV air pollutant emissions: United Kingdom, from 2000-2017

	Carbon Monoxide (thousand tonnes)	Nitrogen Oxide (thousand tonnes)	Particulates (PM10) (Thousand tonnes)	Particulates (PM2.5) (Thousand tonnes)	Benzene (Thousand tonnes)	1,3-butadiene (Thousand tonnes)	Lead (tonnes)	Sulphur dioxide (Thousand tonnes)
2000	42.23	187.47	7.71	7.08	0.01	0.27	0.32	0.49
2001	41.13	184.58	7.33	6.70	0.01	0.24	0.32	0.49
2002	41.11	181.58	7.03	6.40	0.00	0.22	0.33	0.50
2003	41.25	178.16	6.74	6.10	0.00	0.21	0.33	0.51
2004	42.14	177.39	6.58	5.92	0.00	0.19	0.34	0.47
2005	41.88	172.16	6.25	5.60	0.00	0.18	0.34	0.41
2006	41.44	168.10	6.00	5.35	0.00	0.17	0.34	0.29
2007	39.13	168.97	5.72	5.07	0.00	0.15	0.34	0.20
2008	34.71	152.27	5.08	4.45	0.00	0.12	0.32	0.09
2009	31.28	121.38	4.38	3.80	0.00	0.09	0.29	0.08
2010	31.10	113.98	4.23	3.65	0.00	0.08	0.30	0.09
2011	30.02	100.92	3.93	3.37	0.00	0.07	0.30	0.09
2012	28.95	88.75	3.66	3.11	0.00	0.06	0.30	0.08
2013	26.66	75.32	3.47	2.92	0.00	0.05	0.30	0.08
2014	22.85	63.51	3.33	2.77	0.00	0.04	0.30	0.08
2015	18.85	51.00	3.21	2.63	0.00	0.04	0.32	0.09
2016	15.15	38.59	3.03	2.45	0.00	0.03	0.33	0.10
2017	12.09	28.79	2.91	2.32	0.00	0.03	0.34	0.10
% change since 2000	-71.4%	-84.6%	-62.3%	-67.3%	-89.9%	-89.9%	5.2%	-80.3%

Source: Table ENV0301 Air pollutant emissions by transport mode: United Kingdom, from 1990-2017, DfT, 2019

Table A2: Data for Fig 4 - average emissions from rigid HGVs in urban conditions: Great Britain

	Carbon monoxide	Hydrocarbons	Oxides of nitrogen	Particulates
Pre-Euro I (pre 1993)	28.56	55.72	458.75	220.37
Euro I (1993-1996)	18.62	26.79	315.23	148.38
Euro II (1997-2001)	15.11	18.23	340.62	72.36
Euro III (2002-2005)	17.74	17.25	267.07	74.08
Euro IV (2006-2008)	9.09	3.12	185.54	17.22
Euro V (2008-2013)	14.39	2.76	150.19	20.72
Euro 6 (2013-)	1.69	1.86	11.76	2.03

Table A3: Data for Fig 5 - Index of average emissions from artic HGVs in urban conditions: Great Britain

	Carbon monoxide	Hydrocarbons	Oxides of nitrogen	Particulates
Pre-Euro I (pre 1993)	34.13	43.48	703.18	287.91
Euro I (1993-1996)	29.51	39.66	492.50	224.20
Euro II (1997-2001)	23.98	26.39	523.23	119.90
Euro III (2002-2005)	27.52	24.26	419.52	110.63
Euro IV (2006-2008)	13.16	4.62	289.02	25.67
Euro V (2008-2013)	21.72	4.01	190.43	30.29
Euro 6 (2013-)	2.06	2.65	13.09	2.89

Table A4: Current HGV fleet that is Euro 6/VI and future projections

UK	GB
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Year	Total licensed vehicles	Total Euro 6	Proportion Euro 6	Total licensed vehicles	Total Euro 6	Proportion Euro 6
2014	496,773	37,292	7.5%	473,932	36,363	7.7%
2015	506,211	85,217	16.8%	483,361	83,236	17.2%
2016	517,144	134,312	26.0%	493,638	131,141	26.6%
2017	523,336	181,694	34.7%	499,353	177,327	35.5%
2018	524,566	225,528	43.0%	500,287	219,798	43.9%
2019	525,753	270,296	51.4%	501,477	263,047	52.5%
2020	531,536	320,044	60.2%	506,993	311,570	61.5%
2021	537,383	370,855	69.0%	512,570	361,128	70.5%
2022	543,294	422,744	77.8%	518,208	411,740	79.5%

Sources: Vehicle Licensing Statistics, Table VEH0511, DfT, April 2020

Logistics UK projections based on historical trends in Table VEH0511, August 2020