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DEBATE PACK

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Debate on a Motion on Ending the Sale of New Petrol and Diesel Cars and Vans

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Debate initiated by the Backbench Business Committee

Related information:

House of Commons Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, *Fourteenth Report of Session 2017–19*, **HC 383**

House of Commons Library Brief, Electric vehicles and infrastructure

Contents

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1. Ending the sale of petrol and diesel vehicles

1.1 Background: from diesel incentives to 'dieselgate'

Past governments incentivised ownership of diesel vehicles through lower Vehicle Emissions Duty (VED) on such vehicles. In 2001, the Labour Government reformed VED. These reforms provided incentives for diesel ownership because of the lower CO2 emissions associated with diesel vehicles. Increasing the number of diesel vehicles on the road was seen to be an effective means of reducing CO2 emissions. As of 2017, transport was the largest-emitting sector of the UK economy accounting for 28% of UK greenhouse gas (GHG) emissions (see box 1 for more details).[1]

Box 1: Transport emissions

Transport accounted for 126 MtCO2e in 2017 or 28% of all UK GHG emissions that year. The Committee on Climate Change (CCC) – the statutory advisors on emissions reductions for Government – has recommended that if the UK is to remain on a 'least cost' pathway to the 2050 target, 60% of all new cars and vans sold should be electric by 2030.[2]

Progress in reducing emissions in the transport sector have been slow. Average vehicle emissions from the UK fleet have fallen; a 2018 car has on average CO2 emissions 31.2% lower than in 2000.[3] However, the CCC says that most action to reduce emissions from the transport sector had been driven by EU regulations, rather than domestic policy.[4] Since 2015, the EU has set mandatory emission reduction targets for new cars.[5] Over that period, average UK fleet emissions has fallen, but in 2017 average new car CO2 intensity rose. This was driven by consumers buying bigger vehicles, the CCC says this indicated more efforts are required to encourage consumers to buy more efficient vehicles.[6]

Although diesels produce less CO2 than petrol cars, they emit more nitrogen dioxide (NO2) and particulate matter (PM). Heating air in an engine produces nitrogen oxides (NO_x) which reacts with oxygen to form NO_2. In a petrol car, these can be cleaned up by a three-way catalytic converter so that it emits on average around 30% less NO_x than a diesel car, without after-treatment.[7] Emissions of NO2 and PM

1 CCC, Reducing UK emissions 2018 Progress Report to Parliament, June 2018, p. 147
2 CCC, Reducing UK emissions 2018: Progress Report to Parliament, June 2018, p. 161
3 Society of Motor Manufacturers and Traders (SMMT), Facts & Figures, [accessed: 17 June 2019]

have been linked with a range of health conditions including respiratory failure, strokes, heart attacks, dementia and premature death.[8]

Although non-transport sources of NOx are considerable contributors, road transport is responsible for some 80% of NOx concentrations at roadside, with diesel vehicles the largest source in these local areas of greatest concern.[9]

UK levels of NO2 in some areas have breached European legal limits in part due to heavy traffic and the associated emissions. This has led to increasing pressure on the UK Government to take action to reduce air pollution by (amongst other things) banning diesel vehicles. The UK's continuing failure to meet air quality targets has led to ClientEarth, a UK charity, taking the Government to court successfully several times since 2014 over the lack of an effective plan to reduce NO2 levels. This pressure was compounded by the diesel emissions testing scandal in 2015 – so-called 'dieselgate'. This showed that Volkswagen had manipulated emissions test results with sensors that detected when the vehicle was being tested in the lab and altered performance to improve results.

1.2 Government action

Air quality plan

The Government published its Draft UK Air Quality Plan for tackling nitrogen dioxide and associated consultation document in July 2017. This plan included the commitment (made two months earlier) that "it will end the sale of all new conventional petrol and diesel cars and vans by 2040."[10] The Government stopped short of a complete ban.

The Government stopped short of a complete ban [on petrol and diesel vehicles].

As part of the Government's efforts to improve air quality, it has enabled local authorities to implement clean air zones. These can either be: **Non-charging Clean Air Zones** - geographic areas used as a focus for action to improve air quality; or **Charging Clean Air Zones** – where, in addition to the above, vehicle owners are required to pay a charge to enter, or move within, a zone if they are driving a vehicle that does not meet the particular standard for their vehicle type in that zone.[11]

The Government initially required five cities to introduce a Clean Air Zone by 2020: Birmingham, Derby, Leeds, Nottingham[12] and Southampton.[13] These cities all have NO2 levels that have breached European legal limits; the clean air zones are intended to address this. The Government has also named 23 local authorities where it expects

8 CE Delft, Health impacts and costs of diesel emissions in the EU, Nov 2018
9 HM Government, UK plan for tackling roadside nitrogen dioxide concentrations, July 2017, para 19
10 Department for Environment, Food & Rural Affairs and Department for Transport, Air quality plan for nitrogen dioxide (NO2) in UK (2017), July 2017
11 Department for Environment, Food & Rural Affairs and Department for Transport, Air quality plan for nitrogen dioxide (NO2) in UK (2017), July 2017, p. 33-34
12 Nottingham is no longer required to introduce a clean air zone. The council is carrying out alternative measures.
13 Department for Environment, Food & Rural Affairs and Department for Transport, Air quality plan for nitrogen dioxide (NO2) in UK (2017), July 2017

pollution levels to reach illegal levels by 2021. They must all carry out a feasibility study to determine whether or not a Clean Air Zone is required. A further eight areas were identified in an October 2018 supplement to the 2017 Air quality plan for nitrogen dioxide (NO2) in UK, as having persistent, long term exceedances of NO2.[14] These areas must now submit plans to the Government by 31 October 2019 showing how they will address these exceedances in the shortest possible time. In addition, London has already introduced an Ultra Low Emissions Zone (ULEZ).

Some of these clean air zones will charge vehicles that do not meet emissions standards a fee to drive there (see box 2 for more information on Euro emissions standards), while others will be non-charging. For instance, in Derby the council has consulted on its clean air plans which involved introducing several traffic management measures to manage the flow of traffic in and around roads closest to the exceedance location. The proposal does not include a clean air zone or any form of charging.[15] Whereas in Leeds and Birmingham a charging clean air zone is planned. In June 2019, the BBC reported that implementation of the charging zone would be delayed because of delays in the Government providing vehicle checking software required to make the zones operational and enforceable.[16] Further, in London, in the ULEZ any petrol vehicle that doesn't meet Euro 4 standards and any diesel vehicle that doesn't meet Euro 6 standards are charged a fee on top of the Congestion Charge.[17]

Box 2: European vehicle emission standards and testing

EU vehicle emission targets

Since 2009, EU legislation has set mandatory emission reduction targets for new cars.

- Since 2015, a target of 130 g CO2/km applies for the EU fleet-wide average emission of new passenger cars.
- From 2021, phased in from 2020, the EU fleet-wide average emission target for new cars will be 95 g CO2/km.

There are penalties for manufacturer's if the average CO_2 emissions of a manufacturer's fleet exceed its target in a given year. This excess emissions premium for each car registered is set by the Commission as follows:

- €5 for the first g/km of exceedance
- €15 for the second g/km
- €25 for the third g/km
- €95 for each subsequent g/km.

From 2019 on the penalty will be €95 for each g/km of target exceedance.[18]

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14 HM Government, Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations, October 2018, para 3
15 Derby City Council, Preferred Option Announcement, [accessed: 21 June 2019]
16 Leeds and Birmingham Clean Air Zones 'delayed by government', BBC, 18 June 2019
17 Transport for London, Ultra Low Emission Zone: Cars, [accessed: 21 June 2019]
18 European Commission, Reducing CO2 emissions from passenger cars, [accessed: 5 June 2019]

What is Euro 6?

Since 1992, the European Union has imposed increasingly strict limits on emissions from cars through what are called 'Euro' standards. Euro 6 is the latest version of these standards, and from 1 September 2015 all new cars have had to meet its limits. A Euro 6 car produces just a tiny fraction of the pollutants emitted by a Euro 1 car, and much less than those from a Euro 5.

A second stage of Euro 6 is being introduced progressively between September 2017 and January 2021, so that all newly approved cars are tested to meet the limits in a variety of on-road conditions – proving that the huge reductions in emissions are delivered outside of the lab and on the road

Euro 6: the cleanest cars in history

Euro 6 standards impose the toughest vehicle emissions limits yet, pushing the boundaries of emissions technologies to produce ever-lower levels of the exhaust pollutants that impact air quality.

Diesel particulate filters (DPFs) capture 99% of all soot particulates, and have been fitted to every new diesel car since the introduction of Euro 5.

NOx emissions have also been drastically reduced, with innovative emissions technologies seeing levels fall 84% since 2000.

Source: Society of Motor Manufacturers and Traders (SMMT)

You can read more about the historical overview of the development of the Government's air quality plan in the Commons Library Brief, Air Pollution: Meeting Nitrogen Dioxide Targets.

For more recent updates you can read the Commons Library Brief, Brexit and air quality.

Road to Zero Strategy

A year after the Air Quality Plan was published, the Government released its Road to Zero Strategy. This sets out how it would end the sale of all new conventional petrol and diesel cars and vans by 2040.[19] The Strategy largely relies on Electric Vehicles to replace conventional petrol and diesel vehicles. The Strategy says the Government is investing nearly £1.5 billion between April 2015 and March 2021, with grants available for plug-in vehicles and schemes to support chargepoint infrastructure. Parliamentary Under-Secretary for Business, Energy and Industrial Strategy, Andrew Stephenson described these measures as "one of the most comprehensive support packages in the world for zero emission vehicles."[20]

Further information on measures to increase the rollout and uptake of EVs is available in the Library briefing, Electric vehicles and infrastructure.

The Government describes the strategy as "long term in scope and ambition, considering the drivers of change, opportunities and risks out to 2050 and beyond".[21] There have been critics of the plan, including the Business, Energy and Industrial Strategy Select Committee.[22] The

19 DfT, Reducing emissions from road transport: Road to Zero Strategy, July 2018
20 PQ 259935 [Electric Vehicles: Taxation] 10 Jun 2019
21 DfT, Reducing emissions from road transport: Road to Zero Strategy, July 2018
22 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, Fourteenth Report of Session 2017–19, **HC 383,** para 24-25

Committee and other critics have suggested the targets in the Strategy were neither clear nor ambitious enough. Witnesses, including Nissan, told the BEIS Committee that the 2040 deadline establishes the UK as a "second tier" country in the EV race.[23] (see box 3 for further information on international comparisons).

Box 3: EVs in Norway

Norway has been by far the most successful country in achieving EV market penetration. The International Energy Agency's (IEAs) 2017 EV outlook highlighted that Norway had the fourth largest volume of sales of EVs in the world in 2017 (behind only much larger countries: the US, China and France) and the largest market share.[24] The UK by comparison is ranked fourth worldwide by market share, and seventh by volume. Projections by National Grid suggest that the UK stock of EVs could reach between 2.7 and 10.6 million by 2030, and could rise as high as 36 million by 2040.[25]

The number of electric passenger cars has increased substantially over the last decade: in 2008 the number of cars which were Battery Electric Vehicles (BEV) was around 1,500. In 2019 there were just under 183,000. This is around a 14,600% increase. If we include Plug-in Hybrid Vehicles (PHEV) the number of cars which were powered (at least in part) by electricity numbered 274,000 in 2019. In 2018 around 50% of all new car registrations were either BEV or PHEV. According to the Norwegian equivalent of the ONS, there were 2.7 million registered cars in 2018, this means that BEV and PHEV cars accounted for around 10% of the total car stock.

The most important incentives driving Norway's success have been long-term and financial. Altogether, this approach makes the total cost of ownership less expensive for Plug-In Electric Vehicles than for a comparative internal combustion engine vehicle.[26]

Responding to the publication, the CCC said the targets lacked clarity and were inconsistent with the UK's climate change commitments.[27] There were particular concerns that the targets left open the possibility of sales of conventional hybrids and very short range plug-in hybrids in 2040 and following years.[28] Further, Dustin Benton, policy director of Green Alliance, told *Business Green* there was widespread agreement across "the oil industry, mayors and environmentalists" that the 2040 target to end the sale of all new conventional petrol and diesel cars and vans was too late, and that:

> "Moving it to 2030 and setting a zero emissions vehicles mandate, as both China and California have done, would encourage car companies to build electric cars in the UK, and give the country a head start on its competitors across Europe."[29]

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23 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, *Fourteenth Report of Session 2017–19*, **HC 383,** para 20
24 As quoted in Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, *Fourteenth Report of Session 2017–19*, **HC 383,** p.7
25 National Grid, Future Energy Scenarios, July 2018
26 Dr. Karoline Steinbacher, Minke Goes, Korinna Jörling, Incentives for Electric Vehicles in Norway: Fact Sheet, September 2018
27 CCC, Government's Road to Zero Strategy falls short, CCC says, 10 July 2018
28 CCC, Government's Road to Zero Strategy falls short, CCC says, 10 July 2018
29 As quoted in: Road to Zero: Green economy reacts, *Business Green,* 9 Jul 2018

Later in the year, Lord Deben, CCC Chairman, wrote to the Secretaries of State for Transport and Business, Energy and Industrial Strategy (BEIS), to share the CCC's full assessment of the Strategy. In this letter, Lord Deben said "the commitment to end sales of conventional petrol and diesel vehicles should be brought forward to 2035 to ensure road transport emissions are near-zero by 2050."[30] The Government has stated that its ambitions "strike the right balance between conflicting environmental, industrial and consumer priorities."[31]

the commitment to end sales of conventional petrol and diesel vehicles should be brought forward to 2035 to ensure road transport emissions are near-zero by 2050

There is some evidence that sales of diesel vehicles are already on the wane. A study by UBS in 2016 predicted that diesel would "almost disappear" from the global car market within 10 years if competition from cheaper electric cars and tougher stances by regulators come to pass.[32]

The DfT reported that Ultra Low Emission Vehicles (ULEVs)[33] made up 1.7% of all newly registered vehicles in 2017, up from 0.9% two years before. However, these vehicles still only make up a very small fraction of the overall fleet. As of the end of 2018, there were some 32.5m licensed cars on the road, of which just under 1.7m were registered ULEVs. The first quarter of 2019 saw a further 198,000 ULEV cars sold and registered.[34]

In February 2019, Transport Minister, Jesse Norman, stated that "the Government is actively tracking market developments and will review progress towards our ambitions by 2025."[35]

1.3 Diesel bans around the world

The BEIS Committee published the findings of its inquiry into the Government's policy towards Electric Vehicles in October 2018. In this report the described the UK's targets to: (i) phase out diesel and petrol vehicles and (ii) increase EV ownership as unambitious.[36] The Committee compared these targets to those in other countries around the world and found the UK risked falling behind which may result in the UK having "to accept vehicle emission standards set by more ambitious international regulations."[37] Further, the Committee urged the Government to align its target date for new sales of cars and vans to be

30 Letter to Chris Grayling and Greg Clark – assessment of the Road to Zero Strategy, 11 October 2018
31 PQ 214099 [Motor Vehicles: Exhaust Emissions] 4 Feb 2019
32 "Diesel faces global crash as electric cars shine", *Financial Times*, 11 December 2016
33 ULEVs can be **All-electric EVs**, where the battery is the only power source. **Plug-in Hybrids (PHEVs)** can switch between running on electricity or fossil fuels. **Hybrids (HEVs)** which do not plug in, such as the Toyota Prius. **Fuel Cell Vehicles** generate their own electricity on-board from a fuel such as hydrogen, and do not need to plug in to the electricity grid to recharge. Re-fuelling is similar to a petrol car.
34 TSGB0918 (VEH0130): Ultra-low emission vehicles licensed
35 PQ 214099 [Motor Vehicles: Exhaust Emissions] 4 Feb 2019
36 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, Fourteenth Report of Session 2017–19, **HC 383,** para 22
37 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, Fourteenth Report of Session 2017–19, **HC 383,** para 24

zero emission with the 2032 target in Scotland.[38] The Committee concluded that:

> "The current 2040 target for 'effectively zero emissions' vehicles places the UK in the passenger seat, leaving us to accept vehicle emission standards set by more ambitious international regulations. Stronger ambitions are also needed to ensure that the Government delivers on its goals to mitigate climate change and improve air quality." [39]

The Committee referred to the CCC's analysis of bans on petrol and diesel vehicles in other countries that shows the even within the UK separate countries had more ambitious targets:

Table 1: Government commitments to the end of sales of conventional vehicles

Country	Timing
Norway	2025
India, China, Slovenia, Austria, Israel, the Netherlands, Ireland	2030
Scotland	2032
UK, France, Sri Lanka, Taiwan	2040

Source: Reproduced from CCC, Reducing UK emissions: 2018 Progress Report to Parliament, June 2018, Table 5.3

38 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, Fourteenth Report of Session 2017–19, **HC 383,** para 24-25

39 Business, Energy and Industrial Strategy Committee, Electric vehicles: driving the transition, Fourteenth Report of Session 2017–19, **HC 383,** para 24-25

2. Press articles

The ban on the combustion engine for 2040, a very bad law (Part II)

European Scientist

28 June 2019

The ban on internal combustion vehicles for 2040: a case of bad law (Part One)

European Scientist

24 June 2019

Is the UK's electric future grid-locked?

Fleet Point

19 June 2019

Mayors call for ban on diesel and petrol cars to be brought forward a decade

Independent

18 June 2019

Switch to electric cars hit by 'poor' charging infrastructure

Financial Times

11 June 2019

Towns need rapid chargers if drivers are to go electric

The Times

1 June 2019

UK has more electric car charging sites than fuel stations

Auto Express

29 May 2019

Poor range will hamper sales of electric cars 'for a decade'

The Times

27 May 2019

Ban petrol and diesel vehicles before 2040, urges industry insider

The Times

8 May 2019

Climate change: Electric car target 'needs to be sooner'

BBC News

27 April 2019

Ban new diesel HGV sales by 2040 to help make UK freight carbon free

National Infrastructure Commission

17 April 2019

Nearly 75% of car buyers are considering an electric car as their next vehicle

Auto Trader

1 March 2019

Banning petrol and diesel cars by 2032 too soon, say UK dealers

Fleet News

25 February 2019

Government rejects calls to pull EV target date forward to 2032

Business Green

14 January 2019

'Intensive' R&D needed on electric cars if petrol and diesel ban starts early in 2032

Institution of Mechanical Engineers

22 October 2018

How will the petrol and diesel ban work?

BBC News

19 October 2019

In Practice: will government meet its 2040 EV ambition?

Environment Journal

10 September 2018

UK Government confirms ban on conventional petrol and diesel cars in 2040

The Sunday Times

11 July 2018

The pot-holed Road to Zero

Energy & Climate Intelligence Unit

10 July 2018

Road to Zero: NFDA comments

National Federated Dealers Association

9 July 2018

UK Automotive committed to zero emission ambition but barriers must be addressed together

Society of Motor Manufacturers and Traders

9 July 2018

Road to Zero: Green economy reacts

Business Green

9 July 2018

Shell would support UK bringing forward petrol ban from 2040

Guardian

5 July 2018

Letter calls for faster action to cut CO2

Campaign for Better Transport

26 June 2018

Ban petrol cars by 2025, says Branson

The Times

8 June 2018

Luxury brands condemn ban on petrol and diesel as absurd

The Times

27 July 2017

3. Further reading

Road to Zero Report Card

British Vehicle Renting & Leasing Association

18 June 2019

Should All Cars Be Electric by 2025? The Electric Car Debate in Europe

Sustainability

28 March 2019

If electric cars are the answer, what was the question?

British Medical Bulletin

7 January 2019

Electric Vehicles: Driving the Transition

Business, Energy and Industrial Strategy Committee

19 October 2018

The Road to Zero

Department for Transport

9 July 2018

Ending Petrol and Diesel Vehicle Sales by 2030

WWF

18 June 2018

Air Pollution: Meeting Nitrogen Dioxide Targets

House of Commons Library

13 December 2017

Brexit and air quality

House of Commons Library

21 May 2019

4. Parliamentary material

4.1 Oral questions

Electric Vehicles
11 Jun 2019 | Vol 661

Asked by: Antoinette Sandbach
What recent steps his Department has taken to support the development of electric vehicles.

Answering member: Greg Clark | Department: Business, Energy and Industrial Strategy
In May I announced an additional £28 million, from the £250 million Faraday challenge, for the UK Battery Industrialisation Centre, where industry will test next generation world-leading technologies.

Electric Vehicles: Charging Points
7 May 2019 | Vol 797

Asked by: Baroness Randerson
To ask Her Majesty's Government what measures they plan to introduce to encourage local authorities to install more charging points for electric vehicles.

Answered by: Baroness Vere of Norbiton | Department: Transport
My Lords, the private sector has funded the majority of the UK's 17,000 public charge points, and we want this to continue. The Government's role is to provide the right policy environment to encourage private sector investment and limited support when necessary. We provide guidance and some funding to local authorities: around £4 million to the on-street residential scheme, £40 million to eight Go Ultra Low cities and further funds for taxi and bus infrastructure funding.

4.2 Written questions

Electric Vehicles
27 June 2019 | 267735

Asked by: Grahame Morris
To ask the Secretary of State for Transport, if he will allocate additional funding to (a) encourage and (b) support people to purchase electric vehicles.

Answering member: Michael Ellis | Department : Transport
We are investing nearly £1.5bn between April 2015 and March 2021, with grants available for battery electric and hydrogen vehicles, alongside schemes to support charge point

infrastructure at homes and workplaces and on residential streets. Along with other measures in the Government's Road to Zero strategy, this adds up to one of the most comprehensive support packages in the world for the transition to zero emission vehicles. As part of the forthcoming spending review Government will be laying out funding and other measures for future years across all departments.

Electric Vehicles: Charging Points
20 Jun 2019 | 265457

Asked by: Paul Farrelly
To ask the Secretary of State for Transport, what steps is he taking to ensure a uniform method for electric car drivers to access public charging points.

Answering member: Michael Ellis | Department: Transport
Our vision is to have one of the best electric vehicle infrastructure networks in the world. This means current and prospective electric vehicle drivers are able to easily locate and access charging infrastructure that is affordable, reliable and secure. A better consumer experience of using public chargepoints is central to this vision. The Alternative Fuel Infrastructure Regulations requires that all public chargepoints provide ad-hoc access which means EV drivers can charge at any chargepoint without having to enter into a contract with an infrastructure operator nor be in the possession of multiple RFID cards. The Automated and Electric Vehicles Act goes further by providing the government with a range of powers to improve the charging experience for current and future including the powers to specify a uniform method of payment. The Government continues to monitor market developments closely. If the market fails to continue to deliver further improvements across the entire network or takes too long, the Government is prepared to intervene using the powers in the Automated and Electric Vehicles Act to ensure a good deal for consumers.

Cars: Sales
18 Jun 2019 | 263084

Asked by: Paul Farrelly
To ask the Secretary of State for Business, Energy and Industrial Strategy, what discussions he has had with Cabinet colleagues on bringing forward the 2040 deadline to end the sale of new conventional petrol and diesel cars.

Answering member: Andrew Stephenson | Department: Business, Energy and Industrial Strategy
BEIS Ministers and officials regularly engage with their counterparts in other departments on clean growth matters including ultra low and zero emission vehicle policy. We set out in our Road to Zero strategy published last year our mission to put the UK at the forefront of the design and manufacturing of

zero emission vehicles, and for all new cars and vans to be effectively zero emission by 2040.

Following the Prime Minister's announcement on legislating for net zero, we will build on the strong frameworks of the Clean Growth Strategy and Industrial Strategy to deliver on that target in all sectors of the economy, including transport. The Government is committed to supporting the transition to zero emission vehicles, which can cut carbon, reduce air pollution, and help us grow the economy as part of our Industrial Strategy.

Motor Vehicles: Exhaust Emissions
13 Jun 2019 | HL16196

Asked by: Lord Jones of Cheltenham
To ask Her Majesty's Government by what date they aim to remove all petrol- and diesel-powered vehicles from the UK's roads.

Answering member: Baroness Vere of Norbiton | Department: Transport
Cars and vans account for the majority of road transport emissions. By 2050 we want almost every car and van in the UK to be zero emission. We will end the sale of new conventional petrol and diesel cars and vans by 2040.

The Government's 2018 Road to Zero Strategy sets out a clear pathway to achieving this, to give clarity and certainty to both industry and motorists. By 2030 we want at least half of new cars sold, and as many as 70%, to be ultra low emission, alongside up to 40% of new vans.

The Government's long term goal is the development and deployment of zero emission technologies for all road vehicles, including HGVs and buses, and zero emission technologies are starting to emerge even for the largest vehicles.

Electric Vehicles: Charging Points
24 May 2019 | 255647

Asked by: Jim Fitzpatrick
To ask the Secretary of State for Transport, what discussions his Department has had with local authorities on (a) improving the availability of electric car charging points and (b) funding for those charging points.

Answering member: Michael Ellis | Department: Transport
In 2018 Office for Low Emission Vehicle Ministers wrote to Local Authority leaders encouraging them to support the uptake of electric vehicles and apply to the On-street Residential Chargepoint Scheme. This scheme provides grant funding to Local Authorities to install chargepoints at on-street locations for residents that lack off-street parking. Ministers also announced a

further £4.5m for the scheme (£2m for 18/19 and £2.5m for 19/20). In addition, OLEV and the Energy Savings Trust have hosted a series of on-street charging workshops providing over 200 Local Authorities with more information on the scheme. The Office for Low Emission Vehicles have regular discussion with Local Authorities on recharging infrastructure.
We have also provided £40m to eight Go Ultra Low Cities, around £20 million for dedicated taxi infrastructure and recently announced over £12.5 million for bus recharging infrastructure under the ultra low emission bus scheme.

Electric Vehicles: Batteries
20 May 2019 | HL15733

Asked by: Lord Mendelsohn
To ask Her Majesty's Government what estimate they have made of the number of electric vehicle batteries in the UK that will need to be recycled in (1) 2020, (2) 2030, (3) 2040, and (4) 2050; and what assessment they have made of the UK's capacity to meet this demand for battery recycling given that there are no lithium-ion recycling facilities in the UK.

Answering member: Lord Gardiner of Kimble | Department: Environment, Food and Rural Affairs
The Government has not made an estimate of the number of electric vehicle batteries in the UK that will need to be recycled in the future. However, the Government's Road to Zero Strategy, published last year, set out the ambition that by 2030 50%-70% of new cars sold and up to 40% of new vans sold are ultra low emission and that by 2040 those percentages rise to 100%. Presently, cars and vans have an average lifespan of around 14 years before they become end-of-life vehicles, and figures published by the Society of Motor Manufacturers and Traders show that in 2018 there were new car registrations of 2,367,147 units and for light commercial vehicles 357,325 units. Of these, 141,234 units were for plug-in and hybrid vehicles.

Second life applications are being explored for batteries which are no longer able to perform as required in electric vehicles. An example is in energy storage solutions, which will delay the point at which the battery has to be recycled.
Electric car batteries are classified as industrial batteries and covered under the Waste Batteries and Accumulators Regulations 2009. This bans the disposal to landfill of such batteries and their incineration. It also establishes take-back and recycling obligations for industrial battery producers.
The UK's £246 million Faraday Battery Challenge is playing a leading role in promoting the reuse and recycling of battery components. One of the eight technical challenges set is to be able to recycle 95% of an electric vehicle battery pack by 2035.

A number of live projects are exploring this area including a £10 million Faraday Institution research project. This is developing the technological, economic and policy framework that would

allow high percentages of the materials in lithium-ion batteries at the end of their first life to be reused or recycled. In addition, several collaborative research and development projects are looking at reusing, remanufacturing or recycling end-of-life, automotive lithium-ion batteries.

Electric Vehicles: Charging Points
9 May 2019 | HL15487

Asked by: Baroness Smith of Gilmorehill
To ask Her Majesty's Government what assessment they have made of the number of electric car charging points in each county in England and Wales; and what plans they have to increase the number of such charging points.

Answering member: Baroness Vere of Norbiton | Department: Transport
Highways England has reviewed chargepoint provision within 20 miles of the strategic road network across relevant counties in England to determine the gaps in charge point availability and to identify locations of potential sites for new charge points to meet their commitment that motorists will be no more than 20 miles from a charge point on 95% of the strategic road network. Highways England has so far given grants to 5 local authorities (Mid Suffolk, Ryedale, South Somerset, Worthing and Shropshire) to deliver 19 chargepoints and is working with BP Chargemaster and Swarco to deliver a further 59, which will all be installed by Spring 2020.

The UK now has over 17,000 publicly accessible chargepoints, including more than 1,700 rapid devices – one of the largest networks in Europe. Our vision is to have one of the best infrastructure networks in the world for electric vehicles, and we want chargepoints to be accessible, affordable and secure. In addition to the Highways England funding, the Government provides grants to fund chargepoints at homes, workplaces and on residential streets. These measures, along with the £400m public-private Charging Infrastructure Investment Fund, will see thousands more chargepoints installed across the UK.

Electric Vehicles: Environment Protection
8 Feb 2019 | 214576

Asked by: Chris Law
To ask the Secretary of State for Transport, whether he has made a whole life assessment of the overall environmental impact, including vehicle construction, power generation and disposal, of the scrapping of small, medium and large internal combustion engine powered vehicles and their replacement by equivalent electrically powered vehicles; and if he will make a statement.

Answering member: Jesse Norman | Department: Transport
The Government has carried out a relative assessment, in terms of air pollutants and greenhouse gas emissions, of different fuel and powertrain options based on outputs from the Transport Energy Model. The modelling makes clear that, even with the current electricity grid emissions, battery electric vehicles are estimated to have greenhouse gas emissions 66% lower than a petrol car and 60% lower than a diesel car. Between now and 2050 the Government project that grid emissions will fall by around 90% with total emissions from electric vehicles falling in parallel.

As well as considering the greenhouse gas emissions from energy production, the Government have also considered the emissions from battery production. As battery production is an energy intensive process, the Government would also expect these emissions to fall over the period to 2050. The results are clear that battery electric vehicles have substantially lower greenhouse gas emissions than conventional vehicles even when taking into account the electricity source and electricity used for battery production.

Motor Vehicles: Exhaust Emissions
4 Feb 2019 | 214099

Asked by: Helen Hayes
To ask the Secretary of State for Transport, what assessment he has made of the viability of bringing forward to 2030 the target year for phasing out diesel and petrol-fuelled cars.

Answering member: Jesse Norman | Department: Transport
The Road to Zero sets out the Government's long-term ambitions to clean up road transport, and the measures now in place to help industry and consumers to make the transition to electric vehicles. It was developed following extensive consultation with environmental groups, the automotive industry and academia.

The Government believes its ambition for at least half of new cars and as many as 70% to be ultra low emission by 2030 strikes the right balance between conflicting environmental, industrial and consumer priorities. However, the Government is actively tracking market developments and will review progress towards our ambitions by 2025.

Motor Vehicles: Exhaust Emissions
19 Nov 2018 | 189553

Asked by: John Spellar

To ask the Secretary of State for Transport, what recent assessment his Department has made of the difference in emissions from Euro 6 diesel engines and petrol engines.

Answering member: Jesse Norman | Department: Department for Transport
The Department for Transport published the outputs of the Transport Energy Model in July 2018 alongside the Road to Zero strategy.

The model estimates the average tailpipe emissions of air pollutants, the greenhouse gas emissions and the energy consumption of a range of fuel, powertrain and Euro class options, which includes Euro 6 diesel and petrol engines for cars, vans, buses and heavy goods vehicles (HGVs).

More information on the development and outputs of the model is available here: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739462/transport-energy-model.pdf.

Electric Vehicles: Grants
24 Oct 2018 | 181645

Asked by: Peter Kyle
To ask the Secretary of State for Transport, for what reason his Department has taken the decision to reduce the plug-in car grants for electric vehicles; and if he will make a statement.

Answering member: Jesse Norman | Department: Transport
The Plug-in Car Grant was first introduced in 2011 to help to stimulate the early market for ultra-low emission vehicles. So far, it has supported the purchase of over 160,000 new cars. The market share of these vehicles is now 2-2.5% of new car sales and growing.

Increased uptake of the grant, whilst positive, brings higher costs to the taxpayer, and the changes to the grant reflect the Government's commitment in the Road to Zero strategy to deliver a managed exit from grant funding over time. Their effect is to allow the grant to support the purchase of 35,000 more of the cleanest vehicles.
With plug-in hybrid models becoming popular among consumers the Government is focussing its attention on zero emission models. Plug-in hybrid vehicles are among the cleanest on the road, and can deliver significant savings compared to petrol/diesel cars. These vehicles will continue to receive support through lower car tax rates, grants for charging infrastructure and local incentives (such as free parking). The Government has also separately extended its support for electric vehicles with a new scheme to support e-cargo bikes.

Electric Vehicles: *Sales*
20 Jul 2018 | 164448

Asked by: Andy McDonald
To ask the Secretary of State for Transport, what plans he has to encourage the purchase of electric and hybrid vans.

Answering member: Jesse Norman | Department: Transport
We want all new cars and vans to be effectively zero emission by 2040, and we will end the sale of new conventional petrol and diesel cars and vans by 2040. Our Road to Zero strategy sets out a clear pathway to zero emissions, to give clarity and certainty to industry and consumers. By 2030, we want up to 40% of new vans sold to be ultra low emission.

We are continuing to offer the Plug-in Van Grant (PiVG) until at least 2020, with current grant rates maintained until at least October 2018. The PiVG offers 20% off the price of a qualifying vehicles up to a maximum of £8,000. Up to £20,000 per van is available for the first 200 vans over 3.5t and HGVs.

The strategy sets out commitments to expand charging infrastructure significantly in order to support the roll out of electric vehicles, including consulting on proposals for chargepoints to be installed with all newly built homes in England, where appropriate. We also want all new lampposts to include charging infrastructure.

Van owners can also benefit from grant schemes to assist with the cost of installing chargepoints in the home and workplace. We will continue to ensure the tax system incentivises the purchase of the cleanest vehicles, in particular zero emission vehicles.

We have launched a consultation on a new Vehicle Excise Duty approach for vans to ensure this system incentivises the cleanest options. In addition, zero emission vans only pay a small proportion of the van benefit charge, and electric vans are not subject to van fuel benefit charge.

Transport
27 Jun 2018 | 155184

Asked by: Mr Barry Sheerman
To ask the Secretary of State for Transport, what steps the Government is taking to facilitate increased uptake of (a) ultra-low emission vehicles and (b) active travel.

Answering member: Jesse Norman | Department: Transport
This Government is investing nearly £1.5bn between April 2015 and March 2021 in one of the most comprehensive global programmes of support for ultra-low emission vehicles. Our

ambition is for almost every car and van to be zero emission by 2050 and to achieve this we will end the sale of new conventional petrol and diesel cars and vans by 2040. The Government's forthcoming Road to Zero strategy will provide further detail on our ambitions and how we plan to achieve this transition.

We want to make cycling and walking the natural choices for shorter journeys, or as part of a longer journey. The Cycling and Walking Investment Strategy, published in April 2017, sets out how the Government intends to do this, and identifies £1.2bn which may be invested in cycling and walking from 2016 to 2021.

4.3 Statements

Roads update
9 Jul 2018 | HCWS839

Chris Grayling (Secretary of State for Transport)
Today I am publishing the Government's Zero Emission Road Transport Strategy 'Road to Zero'. The transition to zero emission road transport is happening now across the world. It will mean fundamental changes to the global automotive market, worth over £1.5 trillion a year, bringing new jobs and growth opportunities for the UK. These include those we are already enjoying through Nissan in Sunderland, producing 1 in 8 zero emission cars bought in Europe in 2017, and the London Electric Vehicle Company near Coventry, which put the world's first electric black taxis on the streets of London earlier this year.

This Government's vision is to build a Britain that is fit for the future. Leading the industries of the future and building the UK's competitiveness in the face of major global economic trends are key parts of our Industrial Strategy. That's why our 2040 mission to put the UK at the forefront of the design and manufacturing of zero emission vehicles is central to the Future of Mobility and Clean Growth Industrial Strategy Grand Challenges.

The benefits are not just economic. Road transport is one of the biggest contributors to poor air quality in some of the UK's towns and cities. And transport is the largest greenhouse gas-emitting sector in the UK. The work we are doing today to make road transport cleaner will mean we are handing the next generation a better, cleaner, greener Britain. It will improve the health and lives of people across the UK. It will help us achieve our statutory long-term greenhouse gas targets and our air quality commitments.

We have already made significant progress thanks to this Government's £1.5 billion investment. Today there are more than

150,000 ultra low emission vehicles in the UK and around 14,000 public chargepoints, with hundreds more being added every month. There is a network of over 1,300 rapid chargepoints - one of the largest in Europe.

But we need action on a number of fronts to give certainty to the market and the consumer that the Government is fully behind this transition. The Road to Zero Strategy sets out both our long term ambitions and the measures we are taking to get there. It builds on our Industrial Strategy, Automotive Sector Deal, Clean Growth Strategy and the UK plan for tackling roadside nitrogen dioxide concentrations.

Government's long-term ambitions

As set out in the Government's NO2 plan, we will end the sale of new conventional petrol and diesel cars and vans by 2040. By then, we expect the majority of new cars and vans sold to be 100% zero emission and all new cars and vans to have significant zero emission capability. By 2050 we want almost every car and van to be zero emission. We expect this transition to be industry and consumer led, supported in the coming years by the measures set out in this strategy. We will review progress by 2025 and consider what interventions are required if not enough progress is being made.

In addition, by 2030, we want to see at least 50%, and as many as 70%, of new car sales being ultra low emission.

Government has a key role to play. The strategy contains a package of measures covering the three key issues: supply of vehicles to the market; consumer demand; and a fit for purpose infrastructure network.

The right infrastructure to support the transition

If we are to help people to make the right choice of vehicle for their journey, then one element will be to reduce range anxiety on electric vehicles. The strategy sets out a package of measures to ensure that electric vehicle drivers will be able to easily locate and access charging infrastructure that is affordable, efficient and reliable. We will continue to provide grants to encourage people to charge at home overnight, both on and off streets. This is how we envisage the majority of charging will take place.

Today we are announcing our intention that all new homes, where appropriate, should have a chargepoint available. We plan to consult as soon as possible on introducing a requirement for chargepoint infrastructure for new dwellings in England. We will look at how to achieve this in the most cost effective way, mindful of the Government's Housing supply objectives. We also want all

new street lighting columns to include charging points, where appropriately located, in residential areas with current on-street parking provision.

Workplace and public infrastructure will also be vital. The strategy contains a range of measures to support the development of these networks. These include an increase to the grant available for workplace charging, a joint pilot with Highways England to increase electrical capacity at a motorway service area, Highways England's commitment to ensuring there is a chargepoint every 20 miles along the strategic road network by 2020 and the £400m Charging Infrastructure Investment Fund announced at Budget 2017 to accelerate the roll out of chargepoints.

In this Parliamentary session we have taken the Automated and Electric Vehicles Bill through Parliament, now only awaiting Royal Assent, to improve the experience and provision of chargepoints. The Bill gives Government powers to ensure that chargepoints are available at motorway service areas and large fuel retailers, with Metro Mayors granted powers in relation to the latter. It also gives powers to ensure that chargepoints are easily accessed and used across the UK. This includes providing a uniform method of accessing public chargepoints and refuelling points; making certain information publicly available in an open and transparent format; and setting reliability standards.

We will also ensure the electricity system now and in the future is ready for this transition. We and the energy sector are confident that existing market mechanisms will be able to meet additional electricity demand. Provisions in the aforementioned Bill to mandate smart charging, and our £30m R&D investment in technologies allowing electricity to pass from vehicles into the grid at times of peak demand, will help alleviate these effects. We have launched an Electric Vehicles Energy Taskforce to bring together the relevant parts of industry and Government to ensure the transition is smooth.

The supply of vehicles and associated technologies to market

In our Automotive Sector Deal, we made major new commitments to research and development in zero emission vehicle technology, and to developing competitive UK supply chains. This included the £246m Faraday Battery Challenge, which is already supporting the development of battery technology in the UK. We will continue to support our established multi-million pound research and development programme for ultra low emission vehicles, which has been estimated to have a rate of return of £8 for every £1 invested.

The industry has an ambition to increase the level of UK content by value in domestically-built vehicles to 50% by 2022. We want

to work with industry to set a target at least as ambitious for the ultra low emission vehicle supply chain as we look to secure investment in UK battery manufacturing.

Consumer and business demand for ultra low emission vehicles

A recent survey indicated that around 38% of consumers considering a new car purchase would consider an electric car. However, only 2% of new car sales are currently ultra low emission.

More models are coming to market, giving consumers greater choice. Battery prices are coming down and we are committed to keeping in place our plug-in car and van grants until at least 2020. The tax system also favours ultra low and particularly zero emission vehicles over conventional ones. The strategy recognises that consumer incentives in some form will continue to play a role in driving uptake beyond 2020. And with industry we are launching the 2018-19 Go Ultra Low consumer campaign to promote the benefits of these vehicles and improve understanding of the choices available. Government will lead consumer uptake with 100% of central government car fleets being ultra low emission by 2030.

Reducing emissions from conventional vehicles

However, it's important to recognise that today over 99% of global car and van sales are petrol or diesel. Our strategy sets out how will reduce emissions from the vehicles on our roads now and during the transition to zero emission vehicles. We will do this by increasing the supply and sustainability of low carbon fuels, accelerating the adoption of fuel efficient motoring and ensuring that our future approach to vehicle emissions regulation as we leave the European Union is at least as ambitious as current arrangements.

Cleaner diesel vehicles can play an important part in reducing CO2 emissions from road transport during the transition to zero emission vehicles whilst meeting ever more stringent air quality standards. For diesel vehicles to play their part fully, their air quality impact must continue to be reduced. We welcome the continued innovation and investment by vehicle manufacturers to develop cleaner diesel vehicles that meet the more challenging Real Driving Emissions (RDE) requirements, delivering critical improvements in NOx emissions on our roads.

In addition to working in Europe to set ambitious new EU CO2 emissions standards for HGVs, we also recognise the need to reduce emissions from existing HGVs significantly. Working in partnership with industry leaders, the Government is also

announcing a new industry-wide voluntary commitment for reducing HGV greenhouse gas emissions by 15% by 2025.

The strategy also sets out the results of our assessment of the environmental performance of the road vehicle fuels and technologies available to consumers. It is clear that zero emission vehicle options deliver the greatest environmental benefits regardless of vehicle type or use.

In the transition to zero emission vehicles, clear and consistent consumer information will be essential. We will set up a Road Transport Emissions Advice Group to bring together Government, industry and consumer groups to work together to meet this challenge.

Conclusions

We cannot deliver this strategy alone. We are committed to working in partnership with industry, businesses, academia, environmental groups and others. That includes the Devolved Administrations: Wales, Scotland and Northern Ireland, who are taking significant steps to accelerate the transition. This is a UK-wide strategy and our core package of vehicle and chargepoint grants applies across the UK. We are working with local areas. We are also playing a leading role internationally, bringing together the international community in September's ground-breaking Zero Emission Vehicle Summit.

Other changes are happening to the automotive sector including automation and new business models, which are challenging our assumptions about how we travel. The Future of Mobility Grand Challenge has been established to harness the opportunities presented by these changes and consider their impact on our society. Later this year, we will be publishing our strategy for the Future of Urban Mobility, and we will shortly be engaging on this.

By putting the UK at the forefront of the twenty-first century transport revolution, we can ensure our automotive sector – one of our greatest success stories – continues to thrive and create good jobs across the country. We can set a global standard for managing technological change to maximise economic and environmental benefits. We will work with industry to achieve this ambition, and share the benefits this opportunity presents. Helping us achieve our goals of cleaner air, a better environment, zero emission vehicles, a strong clean economy.

A copy of this document is being placed in the libraries of both Houses.

Outcome of the judicial review of the UK Plan for Tackling Roadside Nitrogen Dioxide Concentrations
22 Feb 2018 | HCWS477

Dr Thérèse Coffey (Parliamentary Under Secretary of State for the Environment)
Clean air is one of the most basic requirements of a healthy environment for us all to live, work, and bring up families. Air pollution has improved significantly since 2010 but we recognise that there is more to do, particularly to improve pollution hotspots in our towns and cities.

Present problems with air quality in the UK are the direct result of the EU's failed emissions testing regime, the actions of certain irresponsible car manufacturers, and the rapid increase in the number of diesel cars on the road since 2001. 21 other EU member states are also breaching legal air quality limits.

In July 2017 we published the UK Plan for Tackling Nitrogen Dioxide Concentrations, and said that we will end the sale of all new conventional petrol and diesel cars and vans by 2040. We are investing £3.5 billion to improve air quality and reduce harmful emissions.

Yesterday the High Court handed down judgment on the judicial review of the 2017 Plan.

The judge dismissed two of the three complaints considered during the case in relation to England. Specifically he found that there is no error in Government's approach to tackling NO2 concentration exceedances in areas with some of the worst air quality problems, and that the national air quality modelling and monitoring that underpin the Plan are compliant with our legal requirements.

In relation to five cities identified in 2015 as having particularly marked air quality challenges, Birmingham, Nottingham, Derby, Southampton and Leeds, the judge found that the Government's approach to tackling their exceedances was "sensible, rational and lawful".

We welcome the fact that the Court has dismissed the complaint relating to these areas with major air quality problems and has found that we are taking appropriate action. We are also pleased that the Court agrees that our evidence in support of the 2017 Plan is sound.

In relation to local authority areas which are expected to achieve compliance between 2018 and 2021, Ministers have already offered significant support, and as recognised in the judgment have "urged and encouraged" them to come up with proposals

to improve air quality. However, the Court found that the Government should have legally required the local authorities to take such steps, but acknowledged that further action will not be required in 12 areas where compliance will be achieved this year.

We had previously considered that it was sufficient to take a pragmatic, less formal approach to such areas. However, in view of the Court's judgment, we are prepared to take a more formal line with the other 33 local authorities.

We have already been corresponding with the relevant local authorities to offer them support in identifying measures to improve local air quality. These authorities had already been asked to provide initial information by 28th February on the action they are taking. They have now been asked to attend a meeting on 28th February to discuss their plans, and whether there are any additional actions they can take to accelerate achieving compliance with legal limits for NO2 concentrations. We also now intend in March to issue legally binding directions requiring these areas to undertake studies to identify any such measures.

As required by the court order, we will publish a supplement to the 2017 Plan by 5th October, drawing on the findings from local authorities' feasibility studies.

The Welsh Government was also a defendant in the judicial review. Air quality is a devolved policy area in the UK; each Devolved Administration has responsibility for meeting its own obligations under the Ambient Air Quality Directive.

The Welsh Ministers indicated that they recognise that the Welsh element of the Air Quality Plan does not satisfy legal requirements. They have undertaken to publish a supplemental plan, following consultation, by 31 July 2018.

As we set out in the 2017 Plan, this Government is committed to improving air quality, and we have pledged to be the first generation to leave the environment in a better state than we inherited it. Later this year we will be publishing a comprehensive Clean Air Strategy which will set out further steps to tackle air pollution.

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