

The Road to Zero Strategy

Stuck in second gear?

19 July 2018



Headline summary

- The Road to Zero Strategy provides the first comprehensive strategy – a detailed 46 point plan with £1.5bn in funding – for decarbonising road transport
- It reaffirms the UK’s 2040 ‘conventional car and van’ ban and includes a 2030 ‘ambition’ for 50-70% of new car sales and up to 40% of new van sales to be ultra low emission (ULE)
- ‘Ending sale of new conventional petrol and diesel cars and vans’ and the lack of clear emission targets in 2040 implies that non plug-in hybrids will be exempt from the ban
- Lack of clarity remains on the Government’s aims for the fuel mix to tackle freight emissions, which constitute c. 30% of transport emissions²
- Countries and cities around the world have set bans ranging from as soon as 2019 to 2030. Given the Strategy’s timelines, the question remains whether UK can truly be a ‘world leader in the low emission and electric vehicle industry’¹

The Road to Zero is a step in the right direction in terms of providing a timeline to 2050 and stimulating investment. It:

- reaffirms the UK’s industrial ambition to be a ‘world leader’ specifically around design and manufacturing of Zero Emission Vehicles (ZEV)
- adds a 2030 ‘expectation’ for 50-70% of car sales and up to 40% of van sales to be ultra low emission. KPMG analysis indicates this would imply a ULE car and van parc of between c.5m to 7m³ (see Figure 1)
- reaffirms the 2040 ban on new ‘conventional petrol and diesel’ cars and vans and the 2050 ambition of ‘almost every car and van to be zero emission’
- commits a £1.5bn support package to deliver these ambitions, predominantly focused on R&D and the development of EV charging infrastructure
- introduces a review on progress in 2025 to assess Government interventions required.

Commitment on a significant number of small but important steps, including:

Reducing existing vehicle emissions

The strategy commits to doubling the use of low carbon fuels to 7% of supply by 2032.

Driving uptake of clean new vehicles with consumer incentives

The strategy commits to (i) match EU vehicle emissions standards, (ii) extend the £4,500 plug-in car grant to consumers until 2020 and beyond (in some form) and (iii) reform Vehicle Excise Duty in order to incentivise van drivers to choose cleaner vehicles. Significantly, it also intends to legislate compelling vehicle manufacturers to recall vehicles for environmental non-conformity or failure.

Putting the UK at the forefront of design and manufacturing zero-emission vehicles

There is clear commitment from the Government to support ZEV design, battery research and investment demonstrated by: (i) R&D investment to reach 2.4% of GDP by 2027, (ii) R&D tax credit to increase to 12%, (iii) £246m in research for next generation battery technology, and (iv) up to £40m for wireless and public on-street charging solutions.

Supporting development of a world leading EV infrastructure network

The funding package focuses on home and workplace charging developments with the view that these will dominate charging behaviour in 2040:

- launching a £400m Charging Infrastructure Investment Fund to accelerate deployment

Sources:

¹ HM Government, ‘Clean Growth Strategy’, 2018; ² Department for Business, Energy and Industrial Strategy (2018), Final UK greenhouse gas emissions national statistics 1990-2016; ³ KPMG Mobility 2030 analysis;

- ‘intention’ that all appropriate new homes should have chargepoints
- investment of £4.5m in the On-street Residential Chargepoint Scheme and all new street lighting to include chargepoints in order to support the 68% of city centre households without off-street parking¹²
- increasing the grant level of the Workplace Charging Scheme to a maximum of £500 per socket.

Preparing the electricity system and supporting local action

The strategy aims to better prepare the electricity system by working with Highways England, the EV Energy taskforce and fleet operators to understand network barriers and ensure the energy system is future proofed.

The strategy also supports joined up thinking e.g. conducting roadshows for local authority best practices and funding local authorities a minimum of £48 and £6m for bus and taxi charging infrastructure, respectively.

Looking at the bigger picture, are we stuck in second gear?

Level of ambition

Countries and cities around the world have set bans on the sale of petrol and diesel cars and/or vans ranging from as soon as 2019 to 2030, with only France and the UK aiming for 2040.

Table 1: Global targets to ban sale of ‘conventional or ICE’ vehicles

Country - City	Date of proposed ban	Vehicle type
Norway – Oslo	2025 - 2019 ¹	Cars
Madrid	2020 ²	Cars, vans
Rome	2024 ³	Cars
Mexico (diesel)	2025 ¹	Cars, vans
France – Paris	2040 – 2030 ¹	Cars, vans
Netherlands	2030 ⁴	Cars
India	2030 ⁵	Cars
UK	2040 ⁶	Cars

Additionally, transport emissions have increased by 4% between 2012-16 and it has now become the largest GHG emitting sector in the UK⁷. The power sector has carried the burden of emissions reductions over recent years but transport now needs a 44% emission reduction by 2030⁸, if the Government is to meet its legally-binding targets on carbon emissions.

Government, industry and consumers will need to look at the level of ambition in this Strategy against and the Government’s industrial ambition of wanting the UK to be a ‘world leader in low emission and electric vehicle industry’⁹.

Exemption of hybrids

The wording on ‘technology neutrality’ and ‘significant zero emission capabilities’ without an emission limit implies that non plug-in hybrids (that would continue to use petrol and diesel and have c.3.5x the emissions of ULEVs¹⁰) are exempt from the 2040 ban.

Implications of the lack of urgency could be differing action and investment

Alternative drivetrains require significant investment in both research but, more importantly, production lines. A combination of the 2040 timeline and the exemption of non plug-in hybrids is unlikely to generate a sense of urgency in industry and amongst consumers.

Further, if the option remains to continue providing non plug-in hybrids it enables deferring any significant investment into alternative drivetrain production. Consequently, without OEM investment in scale, cost reduction and model availability will be impacted and the whole transition could slow down.

A progress review has been set for 2025 – but given the pace of technological change and the delayed impact from investment to infrastructure to consumer behaviour, this might be too late to impact a 2030 or even a 2040 outcome.

If there is low uptake of ULEVs, the UK may struggle to achieve its target of having ‘majority of the vehicle sales being zero-emission’ in 2040 (see Figure 1).

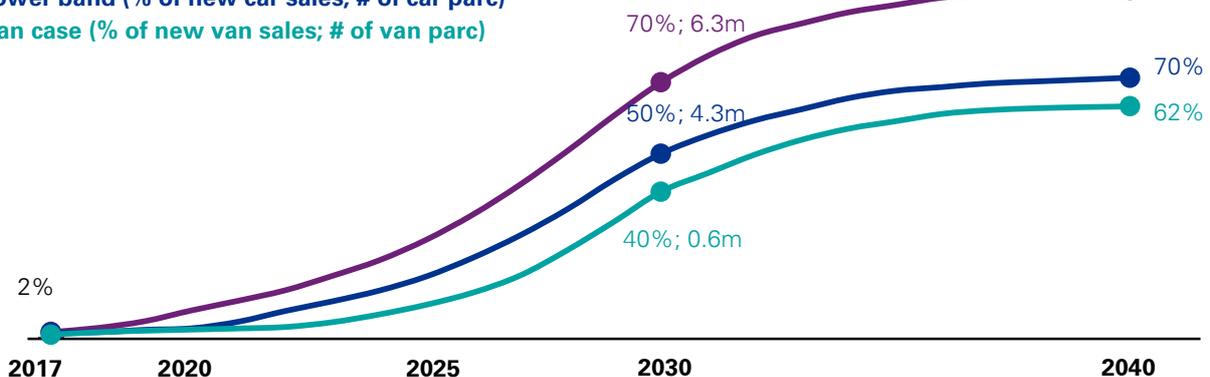
Figure 1: Road to Zero Strategy’s 2030 ULEV sales ‘ambition’ with KPMG analysis on the potential ULEV^a parc penetration and the eventual 2040 impact

Key:

Upper band (% of new car sales; # of car parc)

Lower band (% of new car sales; # of car parc)

Van case (% of new van sales; # of van parc)



Note: a) KPMG analysis includes Battery Electric Vehicles, Plug-in Hybrids and Hydrogen Fuel Cells within ULEVs

Sources: ¹ Businessinsider.com, ‘Oslo Norway will implement its car ban by 2019’, June 2018; ² Four major cities to move to ban diesel vehicles by 2025, BBC.co.uk, March 2016; ³ Reuters.co.uk ‘Monument-filled, traffic-clogged Rome to ban diesel cars by 2024’, February 2018; ⁴ Electrek.co, ‘Dutch Government confirms plan to ban new petrol and diesel cars by 2030’, October 2017

⁵ Weforum.org, ‘India will sell only electric cars within the next 13 years’, May 2017; ⁶ Gov.UK, ‘Plan for Roadside NO2 Concentrations’, 2017; ⁷ Department for Business, Energy and Industrial Strategy (2018), Final UK greenhouse gas emissions national statistics 1990-2016; ⁸ Meeting Carbon Budgets: Closing the policy gap, Committee on Climate Change, June 2017; ⁹ HM Government, ‘Clean Growth Strategy’, 2018;

¹⁰ Annex, HM Government, ‘The Road to Zero’, 2018; ¹² National Housing Survey – Department of Communities and Local Government, 2014

Lack of clarity on freight emissions

In 2017, HGVs and freight accounted for c.30% of road transport emissions¹. Ultra low emission vehicles in 2021 will be cars or vans that emit less than 50g of CO₂/km (down from current 75gCO₂/km threshold)² while emission limits for trucks and buses are still yet to be developed.

Apart from 15% voluntary emission reductions by 2025 and further testing on the benefits of Gas drivetrains, there is a lack of direction on how emissions from freight will be tackled. There is a lack of clarity on the Government's aims for the future fuel mix but also limited support for investment in alternative drivetrains.

Fuel duty reform fiscal implications

The Government will review petrol and diesel duty rates in the Budget this November, but concrete plans to substitute the fiscal hole left by a fuel duty decline over time will need to be developed.

Concluding remarks

The Road to Zero Strategy provides a clear step in the right direction towards decarbonising UK's transport. The question remains on whether it is ambitious enough to make the UK a 'world leader in the low emission and electric vehicle industry' and whether the commitment is sufficient to drive the scale of investment and degree of behavioural change needed to truly tackle the issue of rising transport emissions.

Key recommendations for Government and city regions to consider include:

- bringing forward the ban to 2030
- city specific bans
- setting emission limits for both 2030 and 2040
- increasing the 2040 van sales 'ambition'
- clear targets for emissions reduction in freight either through technological efficiencies or alternative drivetrains
- supporting innovation in lowering freight emissions.

Sources:

¹ Department for Business, Energy and Industrial Strategy (2018), Final UK greenhouse gas emissions national statistics 1990-2016; ² Road to Zero Strategy, July 2018

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