

# Energy UK written evidence: Zero emissions vehicles and road pricing

## Introduction

Energy UK is the trade association for the energy industry with over 100 members spanning every aspect of the energy sector – from established FTSE 100 companies right through to new, growing suppliers and generators, which now make up over half of our membership. We represent the diverse nature of the UK's energy industry with our members delivering over 80% of both the UK's power generation and energy supply for the 28 million UK homes as well as businesses.

The energy industry invests over £13bn annually, delivers £31bn in gross value added on top of the £95bn in economic activity through its supply chain and interaction with other sectors, and supports 911,000 jobs in every corner of the country.

Energy UK members are very active in the electric vehicle (EV) space, offering EV tariffs, smart charging and vehicle to grid, leasing and selling EVs either directly or in partnership with other companies, and installing and operating chargepoints in homes, businesses and in the public domain. As such, we hope our input to this inquiry is helpful. We have focussed our responses on where we have most to input.

## Key points

- Phasing out petrol and diesel vehicles from 2030 is not only feasible but has wide energy industry support.
- The opportunities for the UK economy of being at the forefront of the ZEV revolution are significant. They include high skilled jobs, economic growth and new trade opportunities.
- The UK Government has largely already recognised and is addressing barriers to the deployment of EV charging infrastructure, as seen by funding announcements over the past six months. The priority for EV charging infrastructure has now become the pace of delivery which we hope will be supported by the publication of the Transport Decarbonisation Plan. Policy to support the uptake and supply of vehicles needs to be strengthened however. Energy UK recommends:
  - Introducing a Zero Emission Vehicle mandate to require vehicle manufacturers to increase the proportion of ZEVs they sell.
  - Reforming the purchase grant and vehicle tax system to make it revenue neutral for Government and enable purchase grants to be extended until ZEVs reach price parity with internal combustion engine vehicles.
  - Tightening and reforming CO2 emissions standards to ensure that emissions from ICE sales out to 2030/35 continue to improve, reversing recent trends.

## Accelerating the shift to zero emission vehicles

***The feasibility, opportunities, and challenges presented by the acceleration of the ban of the sale of new petrol and diesel vehicles to 2030***

### Feasibility

Energy UK strongly supports bringing forward the phase out of new petrol and diesel vehicles to 2030. As part of the Department for Transport's consultation on this issue Energy UK in fact called on

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Government to ensure that from 2030 all new cars and vans sold are zero emission vehicles (ZEVs), which we believe is achievable and desirable.

Plug-in hybrid electric vehicles (PHEVs) have only a limited role to play as we decarbonise cars and vans. While they could function as a transition technology they are not compatible with the longer term decarbonisation of road transport. PHEVs offer only limited emissions reductions benefits relative to petrol and diesel cars. Evidence to date<sup>1</sup> (using a sample size of 104,709 PHEVs) shows that in practice PHEVs are only used in their zero-emission mode for around 37% of kilometres driven, with real-world emissions up to four times higher than the test levels. In contrast, emissions from battery electric vehicles continue to reduce over their lifetime as the electricity that powers them continues to be decarbonised.

In 2020 ZEVs bucked the overall trend of a drop in vehicle sales, with ZEV sales growing by 184% relative to 2019<sup>2</sup>. This shows there continues to be a strong appetite among drivers to switch away from petrol and diesel. Furthermore, the move away from petrol and diesel is permanent with only 1% of EV drivers expressing a desire to switch back<sup>3</sup>. As vehicle choice increases, upfront cost drops and public charging grows over the coming years, we are confident that ZEVs will continue to grow in popularity and rapidly become the default choice for new purchases. We expect the upfront cost of ZEVs to match that of petrol and diesel cars this decade making their phase out in 2030 uncontroversial.

### Opportunities

A 2030 phase out date for petrol and diesel cars and vans is not only feasible, but is in line with direction the market is heading and what other forward-thinking Governments around the world are pursuing.

ZEVs will enable us to decarbonise road transport as well as offering the opportunity for the UK to be at the forefront of a rapidly growing new market, if appropriate action is taken. Germany, China, the United States and others are pursuing aggressive policies to grow their domestic markets and secure investment and jobs. The UK will have to at least match these countries' ambitions if it hopes to become a significant player. High skilled job creation, economic growth and new trade opportunities are at stake. Conversely, the UK could see its existing automotive sector hallowed out if manufacturers do not see the UK as an attractive place to do business.

### Challenges: ZEVs

Upfront cost, vehicle range and choice are all set to improve considerably<sup>4</sup> over the coming years with new models, better batteries and increased competition all playing a part. The vehicle development cycle inevitably means that vehicle manufacturers are not able to respond to changes in policy and consumer demand immediately however vehicle manufacturer announcements and investments, as well as the changes already in train, demonstrate a clear shift. As such while cost, range and choice are prominent barriers at the moment that will not be the case for long, providing that we continue to have a supportive policy framework.

Vehicle supply is a barrier at present as suppliers ramp up production of their most in-demand ZEVs. There are more variables here, as global vehicle manufacturers allocate their stock to different markets based on a number of variables, including consumer demand, tariffs, regulatory compliance and profit margins. Appropriate regulation will play an essential role in ensuring that global vehicle manufacturers prioritise the UK market.

### Challenges: EV charging

It will also be essential to continuing growing the public EV charging network. The sector is already growing rapidly with a high level of competition. While public awareness and visibility of chargepoints

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<sup>1</sup> <https://theicct.org/publications/phev-real-world-usage-sept2020>

<sup>2</sup> <https://www.smmf.co.uk/vehicle-data/evs-and-afvs-registrations/>

<sup>3</sup> <https://www.zap-map.com/new-survey-reveals-ev-switchers-dont-look-back/>

<sup>4</sup> <https://about.bnef.com/electric-vehicle-outlook/>

tends to lag deployment, the key barrier for the companies rolling out charging infrastructure is asset utilisation.

There is a considerable amount of work underway looking at EV charging infrastructure. OZEV is currently consulting on the consumer experience of public charging<sup>5</sup>, with proposals on payment options, reliability, pricing transparency and information on public chargepoints. The Competition and Markets Authority is also currently undertaking a market study<sup>6</sup> into the EV charging as part of which it is considering how to develop a competitive sector while also attracting private investment to help the sector grow and how to ensure people using electric vehicle chargepoints have confidence that they can get the best out of the service. Energy UK is confident in the growth of the sector, especially given the many encouraging policies in place to support deployment announced in the Spending Review such as confirmation of £1.3bn for EV charging infrastructure, followed by recent funding announcements for on-street, workplace and home charging.

#### Challenges: The energy system

EV charging is a flexible load which can be shifted to off-peak times, reducing the required generation capacity and demands on the system. As such Energy UK does a considerable amount of work with our member companies and the regulator Ofgem to deliver what's needed for a smart, flexible energy system – the importance of which cannot be overstated.

As Energy UK assured the Government last year, we do not anticipate any problems in delivering the additional electricity that will be required with a 2030 phase out target, providing that the appropriate frameworks are in place to support low carbon generation, deliver flexibility markets and incentivise smart charging. Further details on how we reached that conclusion can be found in [Energy UK's response to the 203X consultation](#).

#### ***The actions required by Government and private operators to encourage greater uptake of electric vehicles and the infrastructure required to support them***

There are many very welcome pieces of work underway from both Government and the regulator to encourage the uptake of ZEVs and the necessary infrastructure. However to meet our 2030 and 2035 targets, and our legally binding emission reduction targets, new policies will need to be introduced and existing policies strengthened.

#### EV charging infrastructure

Energy UK believes that by and large the private sector is best placed to fund, deliver and operate EV charging in the UK. Public subsidy can however be important where it is not commercially viable to invest but there is an unmet need. EV charging in these instances represents a public good.

Government has largely already recognised and is acting where Energy UK believes subsidy is needed. These include: grid connection costs to allow ultra-rapid charging along the strategic road network – where the capital costs are high and utilization is likely to be low at first; on-street charging – where there is not currently much privately funded activity and where it is difficult to make the business case stack up. There may also be a case for supporting the provision of charging in rural locations / seasonal hotspots – where again utilisation is low. These segments are important to build driver confidence in the public charging network but are difficult to fund through private funds alone as utilisation is low. Low utilisation makes the business case challenging.

As such, we welcome and support Government's plans and recent commitments on EV charging infrastructure. This includes £950m to support grid connections for high powered chargers at motorway service areas, the continuation of the on-street charging scheme and an additional £90m for on-street

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<sup>5</sup> <https://www.gov.uk/government/consultations/the-consumer-experience-at-public-electric-vehicle-chargepoints>

<sup>6</sup> <https://www.gov.uk/cma-cases/electric-vehicle-charging-market-study>

charging and rapid charging hubs. The extension of the workplace charging scheme and EV homecharge scheme were also recently confirmed<sup>7</sup>, in a very welcome move.

### Zero emission vehicle adoption

Energy UK believes that strong action needs to be taken now to unlock the benefits of the ZEV transition, through strengthened regulation and changes to subsidy and taxation, i.e. both 'carrots' and 'sticks'. In addition to the current policies in place, such as the reduced benefit-in kind rate for company cars – which is a very effective incentive, Energy UK believes that Government should:

- Introduce a Zero Emission Vehicle mandate to require vehicle manufacturers to increase the proportion of ZEVs they sell.
- Reform the purchase grant and vehicle tax system to make it revenue neutral for Government and enable purchase grants to be extended until ZEVs reach price parity with ICE vehicles.
- Tighten CO2 emissions standards to ensure that emissions from ICE sales out to 2030 continue to improve.

Addressing these in turn, a ZEV mandate requires an increasing share of vehicle manufacturers' sales to come from ZEVs, either through their own sales or by purchasing tradable credits. This provides certainty to the market while increasing the supply and market share of ZEVs at no cost to the public purse. The policy is effectively being used in California, China and British Columbia (Canada). Allowing credits from the sale of ZEVs to be traded between manufacturers creates an efficient mechanism that provides flexibility to companies while ensuring that the ZEV market as a whole grows in line with our 2030/35 targets.

A ZEV mandate sends a strong message to businesses, consumers and other Governments that the UK is serious about meeting its phase out targets and decarbonising road transport. It offers a clear trajectory to meeting the 2030 and 2035 phase out dates and ensures a steady growth in ZEV sales over the next decade and a half. There is wide support for the introduction of a ZEV mandate<sup>8, 9, 10</sup>, which is increasingly seen as a necessary intervention to ensure that the UK can deliver on its new ICE phase out commitments.

To make sure that ZEVs are accessible to all, Government should reform the plug-in grant scheme and vehicle taxation system, through the introduction of a bonus-malus scheme. By reforming the vehicle excise duty system so that drivers pay a first-year registration tax that is proportional to the emissions of their vehicle, purchase grants for ZEVs can be extended without an additional cost to Government. The tax would only apply to new vehicles which avoids penalising second hand car buyers, thus minimising any negative distributional impacts. As it applies only at point of purchase it also means that drivers have the opportunity to avoid it by purchasing a cleaner vehicle, to avoid any perception of shifting the goalposts. Through this bonus-malus scheme, purchase grants can be maintained until ZEVs reach upfront price parity with ICE vehicles. This will be important to help make ZEVs more affordable. As ZEV prices continue to drop so can the level of purchase grant.

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<sup>7</sup> <https://www.gov.uk/government/news/support-for-small-businesses-landlords-and-leaseholders-government-charges-up-the-electric-vehicle-revolution-with-50-million-boost>

<sup>8</sup> <https://policyexchange.org.uk/wp-content/uploads/Route-%E2%80%989835.pdf>

<sup>9</sup> [https://www.green-alliance.org.uk/resources/How\\_the\\_UK\\_can\\_lead\\_the\\_electric\\_vehicle\\_revolution.pdf](https://www.green-alliance.org.uk/resources/How_the_UK_can_lead_the_electric_vehicle_revolution.pdf)

<sup>10</sup>

[https://www.transportenvironment.org/sites/te/files/publications/2020\\_07\\_Banning\\_cars\\_with\\_engines\\_a\\_UK\\_approach\\_FINAL.pdf](https://www.transportenvironment.org/sites/te/files/publications/2020_07_Banning_cars_with_engines_a_UK_approach_FINAL.pdf)

Finally, CO2 performance standards play an important role in cutting the overall emissions from new vehicle sales. Standards have been in place for a number of years in the UK, they are not however consistent with our legally binding emissions reduction targets. Strengthening them to put us on a trajectory consistent with the 2030 and 2035 targets is therefore needed. Government will publish a green paper on the future of emissions performance standards post-Brexit, offering a fantastic opportunity to build on the existing regulations and make them fit for purpose.

Emissions standards work hand-in-hand with a ZEV mandate, but should exist as separate policies. The latter ensures that the market share of ZEVs grows steadily over time and that the UK market is supplied with ZEVs. The former ensures that overall new vehicle emissions continue to drop leading up to the phase out of ICE vehicles. Given the recent trend for new vehicle emissions to increase<sup>11</sup> (as a result of the popularity of SUVs and crossovers) emissions standards are an essential part of the puzzle.

These three policy proposals present a credible, cost effective and efficient pathway to increasing ZEV adoption in the UK. Combined with the measures to support the uptake of EV charging infrastructure they will ensure we are able to meet our phase out date targets and unlock the benefits of a ZEV revolution.

## Road pricing

Energy UK does not have an official position on road pricing however we do recognise that the current vehicle taxation system is not sustainable in the long term. Road pricing remains a credible option to replace fuel duty and vehicle excise duty, offering various oft-cited theoretical advantages, including improved incentives to reduce mileage, avoid congestion and switch to cleaner vehicles, as well as offering long-term stability<sup>12</sup>. There are a number of significant obstacles to its implementation in the UK however, public perception and concerns around fairness being among the most prominent.

There are a range of proposals for the UK already in existence<sup>13</sup> and lessons could be learnt from Singapore, for instance, if there was political will to explore road pricing more seriously. Fairness and equity would have to be at the forefront of any UK-based road pricing proposals, given existing skepticism in the media and public. Rigorous trialing to develop a thorough understanding of driver impacts and experiences would have to be undertaken, before options could be meaningfully discussed. Road pricing should not be discarded out of hand but it would need to be tackled with caution.

One important point to make is that regardless of the shortcomings of the current system and the challenges of road pricing, fuel duty cannot simply be transferred to electricity bills as the new fuel source, as this would be applied to all electricity – rather than purely to power used to charge a vehicle. Doing so would disincentivise the switch to ZEVs and, indeed, the further uptake of electric heating, which is likely to have an important role to play in decarbonising heat in the UK. In addition, tackling fuel poverty and helping vulnerable customers remains a key priority for both the Government and the energy industry. Levying fuel duty onto electricity bills would be at odds with that goal, affecting all energy users irrespective of their ability to pay.

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<sup>11</sup> <https://www.smmmt.co.uk/industry-topics/emissions/facts-and-figures/>

<sup>12</sup> <https://digital-library.theiet.org/content/books/tr/pbtr008e>

<sup>13</sup> <https://policyexchange.org.uk/news/finalists-for-wolfson-economics-prize-unveiled/>