

## Written evidence submitted by Robert Bosch Ltd (EVP0017)

### *Bosch – our contribution to decarbonisation*

Bosch has long understood that climate action is crucial. In 2020, all Bosch locations worldwide became carbon neutral, making us the first global industrial concern to achieve carbon neutrality for our direct emissions. We are now focusing on indirect emissions, decarbonising our supply chain as well as ensuring the carbon neutrality of our products by 2030.

In the UK, as well as supplying specialised technology for the UK wind turbine industry, Bosch continues to invest in hydrogen technologies for transport and fuel cells for stationary power. We understand that through partnership between government and private industry, the UK has the potential to establish itself as the world's leading hydrogen economy, and is keen to invest in knowledge, skills and manufacturing in the UK.

We welcome this Inquiry into zero emission vehicles and road pricing. We are committed to improving air quality and solve the problem of climate change.

We support the ambitions of the UK Government to achieve net zero by 2050. Hosting the COP26 conference in Glasgow in November 2021 provides a unique platform for the UK to showcase how it can lead the world and promote practical technological solutions.

Below we set out our thoughts on the two aspects of this call for evidence.

#### *1. Accelerating the shift to zero emission vehicles*

##### **A holistic, technology neutral approach**

Achieving net zero will require a holistic approach, using a range of technologies and solutions across different sectors. There is no “one size fits all” solution to decarbonisation, and this is as true in the automotive sector as everywhere else.

The automotive industry has made great advances in recent years to reduce carbon emissions and improve air quality. Different solutions work best for different types of vehicles depending on its use case. Bosch is involved in all sectors of road transportation and it gives us a strong overview perspective in this area. More than 2,500,000 electric and hybrid cars fitted with Bosch components are on the world's roads, we are heavily involved in hydrogen fuel cell development, and we are also working on solutions relating to the decarbonisation of the “legacy” fleet – which will still be millions of vehicles by 2030 - and developing other solutions for decarbonised transport such as modal shift and Connected and Autonomous Vehicles.

The average age of a vehicle on the road is getting older. Conventional vehicles being driven today will still be in use in a decade's time, so as well as focusing attention on new powertrains, policy makers need to consider the best means of reducing emissions from existing vehicles.

The Internal Combustion Engine (ICE) itself is not the problem –the true source of emissions is fuel that drives the vehicle, and this is where decarbonisation efforts should be focused.

Renewable synthetic fuels or “E-Fuels” are an essential way to reduce the carbon footprint of vehicles in the legacy fleet without the need for retrofit, as well as enabling the decarbonisation of the aviation and maritime sectors.

### **Potential to be world leader**

The UK has great potential to be a world leader in creating and supplying renewable energy. This creates a range of possibilities for driving forward a new green industrial age – especially in the field of green hydrogen generated through off-shore wind. Green hydrogen can and should be regarded as an essential tool in the journey to decarbonise road transport – especially as replacement for diesel used in HGVs. This is a golden opportunity for the UK given our robust existing gas infrastructure, and will also assist in the decarbonisation of domestic heat.

All vehicles should be powered by renewable energy, whether renewable synthetic fuel, green electricity or green hydrogen. A well-to-wheel approach for measuring CO2 emissions for all vehicles is vital, and construction and decommissioning needs to be taken into account. It is vital that decarbonisation is actually achieved, rather than the UK merely “offshoring” emissions or moving them to a different sector.

### **The EV network needs to be reliable and long lasting to provide public reassurance**

The target to end the sale of new petrol and diesel vehicles by 2030 is challenging for the industry and consumer alike. Transition is only possible if drivers are brought along. It is imperative that Government invests in the charging infrastructure and regulates to make the customer experience of charging as transparent and easy as possible.

Consumers will only embrace EVs if the charging experience is as simple and transparent as their current experience filling up at a petrol station. While current investment is helpful, Government needs to invest in the network to a much higher level than at present, ensuring a greater variety of destination charge points, a baseline of coverage and reliability in the national network, and additional support for local authorities to ensure no areas are left behind. Government must also spend more on consumer awareness to drive the transition.

The Government should consider introducing a coordinated and holistic National Charging Infrastructure plan involving all key stakeholders to ensure a national network of public chargers of the right types are found in the right places. Implementation and tactical decisions may be devolved to local authorities. The London EV Infrastructure Delivery Plan is a good model of such an approach.

Electric charging regulation is currently inadequate. Existing regulations on payment (AFIR) are not enforced and customers do not currently have price transparency, consistency of what they are paying for or the assurance that their charging point will be reliable. This is stunting the growth of the network and discouraging customers from switching to EVs. More regulation is also required surrounding data sharing, service quality and pricing transparency to make the charging system more consumer-friendly. This should be backed up by the creation of a new regulatory body with enforcement and compliance powers to ensure these standards are kept.

The network must also be compatible with international standards, otherwise development will be stunted and investment wasted.

### **The social impact of transition needs to be considered**

The social impact of the transition to EVs needs to be considered. People on lower incomes are more likely to have legacy vehicles or first generation EVs that cannot use rapid chargers, and will find it more difficult to buy a new vehicle. They should not be penalised for this. Similarly, in a period where Local Authorities are facing increased pressure on their budgets, it is imperative that Councils are not forced to choose between providing good quality EV charging infrastructure and meeting their other commitments. The undesirability of connectivity blackspots by Local Authority has already been recognised in the rollout of UK5G and smart roads; the same issue must not occur for EV charging infrastructure.

Finally, the economic disruption of the transition needs to be borne in mind. Manufacturing EVs is very different to the process for producing ICE vehicles; EV production requires less manpower. There needs to be an awareness that the transition towards EVs will cause some industrial disruption and potentially job losses if handled carelessly.

## ***2. Road Pricing***

### **Change is needed**

When it comes to road pricing, the case for reform is clear – the current system of fuel duty and VED is not sustainable. The amount of money raised by taxes on motorists far exceeds the amount spent on roads (the original purpose of Vehicle Excise Duty was to pay for the construction and maintenance of roads) and the Exchequer is understandably concerned about a loss of revenue in the years ahead. Currently fuel duty and VED generate a combined £40 bn for the Exchequer annually.

The argument is therefore about the type of change, not whether change is needed.

RAC research has suggested that drivers are open to new form of motoring taxation – but there is concern that it will end up costing drivers more. About 40% of drivers believe that some form of “pay-per-mile” system would be fairer than the current system.

We believe that the Government should look to reward and incentivise good behaviour, rather than penalise all drivers.

### **But what type of change?**

The Centre for London has developed an interesting concept calling for a “City Move” scheme that would charge drivers per mile driven and apply in areas of high demand and poor air quality. Rates would vary by vehicle class and emissions, by local levels of congestion and pollution and what alternative options exist at particular times to use public transport. This is a scheme that deserves further consideration by Ministers.

Of course there are limited road pricing initiatives already to be found in the UK – the M6 toll road for instance or London’s Congestion Charge are different models for charging motorists to use certain roads at certain times of the day. There have been suggestions in

recent weeks that London could either expand the Congestion Charge zone, or amend the scheme so that only non-London residents are eligible to pay.

### **National or local?**

The Government needs to initially decide whether it will encourage more cities and local areas to take their own initiatives or whether a national, uniform approach to road pricing is required. There is an argument that urban centres should consider higher road prices to reflect the greater level of demand to use roads in these areas. Equally, could road pricing be higher in the “rush hour” (if this still exists post-pandemic) to reflect greater levels of demand at certain times of day? Road prices could also be set at a higher level in areas suffering from relatively high rates of air pollution.

What is clear is that there would be significant issues around public understanding and awareness if different conurbations operated significantly different road pricing strategies. At the very least there should be a consistent approach within each mayoral combined authority region across England.

### **Technology can deliver different types of solutions**

Technology can and will play a central role in delivering whatever type of road pricing schemes are brought forward – for example vehicles could be fitted with telematic “black box” devices which report on the road prices prevalent in a particular area, so motorists can make informed decisions about where to drive. Mobile phones could also provide such information. Such devices, which would be able to receive dynamic pricing data on the road network, could provide guidance for motorists on routes they can take to reduce road charges.

### **Getting the incentives right**

A fundamental policy objective with any road pricing initiatives will be to ensure public transport options become more appealing and less expensive. New technologies could create some opportunities here - for instance through the rollout of “smart city” and “smart town” monitoring devices, such as internet-connected traffic lights which would make public transport the fastest way to travel around.

The Social Market Foundation has highlighted the example of Barcelona where smart traffic lights and traffic control cameras are being used to ensure buses encounter as many green lights as possible when travelling – improving the quality and speed of public transport as a result.

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