Department for Transport

Government Response to Call for Evidence

The Last Mile – Delivering goods more sustainably

Moving Britain Ahead

March 2019

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Department for Transport
Great Minster House
33 Horseferry Road
London SW1P 4DR
Telephone 0300 330 3000
General enquiries https://forms.dft.gov.uk
Website www.gov.uk/dft

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1. Foreword

The “last mile” is the moment where trunk freight deliveries are distributed to businesses and consumers across the UK’s towns and cities. Over the past decade, in large part due to the rapid growth of Internet shopping, it has become dominated by the smaller diesel vans. This in turn has had a major effect on urban air quality and traffic congestion.

Now, however, we have a huge opportunity: to transform the “last mile” into an integrated, clean and sustainable delivery system, using zero-emission e-cargo bikes and ultra low-emission electric vehicles.

Accordingly, In July 2018 I launched a Call for Evidence designed to help the Government understand and assess the true scale and potential of that opportunity. The Department for Transport received almost eighty responses from a wide range of organisations ranging from e-cargo delivery start-ups to multi-national logistics companies. I would like to thank everyone who took the time to respond with their ideas, opportunities and challenges.

It was clear from the responses received that sustainable last mile deliveries have a huge potential role in helping to create the liveable, thriving and healthy towns and cities for the 21st century. By 2040 traffic on England’s roads is forecast to increase by between 19% and 55%. The need to reduce congestion and improve air quality was a recurrent theme from respondents, supporting the targets to reduce emissions of air pollutants outlined in the Government’s Clean Air Strategy published in January 2019.

We immediately noticed the strong support for the Government to incentivise the uptake of e-cargo bikes, and we took the lead before the Consultation had finished. I was delighted that the Prime Minister announced £2m in new funding to support this emerging market at the world’s first Zero Emissions Vehicle Summit in Birmingham in September 2018.

In October 2018, following the close of the Call for Evidence, the Department announced in outline how the funding will be used. The funding will contribute 20% of the purchase price of a new e-cargo bike up to the first £5,000 of any purchase price. This gives a maximum grant of £1,000 per bike, regardless of the purchase price of the bike.

The e-cargo bike grant programme will be delivered by the Energy Saving Trust, and funding will be conditional on recipients signing up to a code of practice. This has been developed with the UK Cycle Logistics Federation and the Bicycle Association and will include cycle safety good practice. Furthermore, given the importance of proper training, which was highlighted by respondents, we expect that recipients will be asked to ensure their riders are trained to at least level three of the Bikeability scheme, or its equivalent.

In order to support the development of the e-cargo bike sector the Government has also set aside £100,000 for capacity building in the industry to support the sharing of good practice based on work already taking place in the UK and overseas, and we are looking to stimulate the growth of new leasing mechanisms for e-cargo bikes in order to release capital to this important new industry.

It is clear that investment in sustainable forms of last mile delivery can also support the Government's Industrial Strategy and Future of Mobility Grand Challenge by providing opportunities for UK industry and for economic growth. These include the development, manufacture, operation and servicing of a range of cleaner delivery vehicles such as e-cargo bikes and, potentially, a new generation of light electric vehicles.

Respondents also highlighted the cost of electric vans and charging infrastructure as the main barriers to the take up of electric vans. The Government remains committed to supporting the increased uptake of electric vans. In December we announced continuing support for the sector through the Plug in Van Grant, which provides 20% of the purchase price of an eligible van, up to a maximum of £8,000, or £20,000 for the first 200 eligible large vans or trucks. We will make a further announcement on the future Plug-in Van Grant rate shortly. We will also consider extending the Workplace Charging Scheme entitlement from 20 sockets per company to 20 sockets per site to increase the availability of charging infrastructure.

Our important new Future of Mobility: Urban Strategy has been published in tandem with this Government response. It highlights both the opportunities and the challenges involved in a radical shift to new electrical technologies, ranging from clarifying the status of electrically assisted handcarts on the footway, to the regulatory boundaries to power and speed for Electrically Assisted Pedal Cycles.

There is a great potential prize here. We want to create new markets, and the legal, cultural and economic conditions needed to encourage all operators, from global logistics companies to e-cargo bike delivery start-ups, to play their part in supporting more sustainable last mile deliveries. Thank you again for your support.

Jesse Norman
Minister of State for Transport

2. Summary of responses

Overview of respondents

2.1 80 organisations and members of the public responded to the call for evidence. Those responding to the call for evidence were asked to identify how they categorised themselves. The majority of responses were received from those organisations categorising themselves as micro, small or medium enterprises (22), followed by local government (15), representative organisations (14) and large organisations (13). The remaining responses came from the category ‘other’, interest groups and members of the public.

2.2 The majority of responses received responded to questions one to four (opportunities and challenges) followed by e-cargo bikes (questions 5-15), ultra low emission vans and trucks (questions 20-28) and micro vehicles (questions 16-19).

3. Opportunities and Challenges

Summary of responses

3.1 The first four questions in the Call for Evidence concerned the opportunities and challenges for sustainable last mile delivery. There were a wide range of responses received regarding the scale of the opportunity for e-cargo bikes, micro vehicles and e-vans to reduce congestion and pollution in towns and cities.

3.2 The most frequently referred to benefit was the opportunity to improve air quality. This was closely followed by reducing congestion. There was also a view that increased use of e-cargo, micro vehicles and e-vans could provide increased job opportunities. However, a small number of respondents believed that there could be additional costs from the increased use of e-cargo bikes due to the lower maximum weight and/or volume resulting in increased congestion.

3.3 There were a wide range of responses regarding the barriers to sustainable last mile delivery but the most frequently cited response was the lack of infrastructure and logistics such as charging infrastructure and cycle infrastructure. A high number of respondents agreed that there was a need for Government financial support such as through funding. The challenge of changing the culture and 'normalising' the use of e-cargo bike was also a recurrent theme.

3.4 There were many lessons to learn from the experiences of other countries in rolling out sustainable last mile delivery modes. These ranged from international research to case studies. One common theme was the need to provide sufficient supporting charging infrastructure in the case of e-vans and improved cycle infrastructure in the case of e-cargo bikes. Several respondents highlighted that high levels of e-cargo bike usage occurred in countries that already had high levels of cycling.

3.5 The main success factors highlighted by respondents were:

- The use of incentives for the purchase of electric vehicles and e-cargo bikes;
- Adopting a strategic and holistic approach to last mile deliveries and ensuring an appropriate regulatory regime was in place;
- Co-operation and partnership working both between local bodies to share lessons and between local bodies and logistics operators to align infrastructure and encourage the sharing of facilities such as micro distribution hubs.

Pedal & Post - Oxford

Pedal & Post delivers about 10-25% of Yodel's parcels, about 200 a day, into Oxford by 2 wheeled cargo bikes. They are now working on larger e-assist cargo trikes to deliver the larger items and deliver 100% of parcels the last mile.

Government response

3.6 The Government recognises many of the opportunities for increasing the uptake of e-cargo bikes, micro vehicles and e-vans and the barriers to delivery. The actions to make the most of these opportunities are detailed in the following chapters for each mode, with the Government's response to the issues raised by respondents. Many of the international examples highlighted by those responding to the Call for Evidence have shaped the Government's response in the following chapters.

4. E-Cargo Bikes

Summary of responses

4.1 Questions five to fifteen of the Call for Evidence concerned e-cargo bikes. Respondents identified a range of opportunities presented by e-cargo bikes for delivery organisations, manufacturers and retailers. However, there were three broad areas of opportunity identified:

- First, the opportunity to reduce vehicle emissions and improve air quality, through their use as an alternative to conventional delivery vehicles;
- Secondly, job creation in emerging sectors through such things as the servicing of e-cargo bikes and in design and manufacture of e-cargo bikes; and
- Thirdly, the opportunities for market growth and increased productivity through the use of e-cargo bikes compared to other modes, due to the lower capital and overhead costs associated with e-cargo bikes as highlighted by evidence submitted by Transport for London (Table 1).

	Cargo bike Non EAPC[1]	Cargo bike EAPC	Cargo trike (EAPC)	Small van
Vehicle load capacity	100kg	100kg	300kg	600kg
Vehicle cost	£1,900	£4,100	£7,500	£20,600[2]
Annual running costs	£295	£305	£328	£5,930
Fuel cost[3]	£0	£11	£33	£680
Vehicle Excise Duty	£0	£0	£0	£150
Insurance	£135	£135	£135	£800
Servicing	£160	£160	£160	£270
Congestion charge	£0	£0	£0	£2,530
Parking penalty charge	£0	£0	£0	£1,500[4]

Table 1 Costs of procuring and operating cargo cycles compared to vans (Transport for London, response)

Financial incentives

4.2 There was clear support from respondents for financial incentives to make e-cargo bikes more commercially viable and increase the speed of uptake. This was in addition to support for a range of tax incentives, the use of loans and the development of a wider support programme.

4.3 In response to questions seven and eight regarding the definition and verification of the purchase of e-cargo bikes, in the advent of financial incentives, respondents agreed that the current definition of Electrically Assisted Pedal Cycles (EAPC) from the EAPC Regulations[5] would form a sufficient basis for defining e-cargo bikes (in addition to weight and load capacity). This was followed by the concept of introducing some form of certification scheme or national standards.

4.4 There were mixed views regarding how to verify the purchase of e-cargo bikes. However, there was support for basing any system of financial incentives on existing schemes in other countries such as Germany. The next most frequent responses were certification or invoice based system of verification.

4.5 When asked about the definition of e- cargo bikes there was a strong view from respondents that the current Electrically Assisted Pedal Cycles (EAPC) Regulations were sufficient to regulate e-cargo bikes though some respondents did not believe

[1] EAPC refers to Electrically Assisted Pedal Cycle.
[2] Typical purchase cost of a small van (e.g. Transit Connect). Load factors for vans versus cargo bikes are not taken into account.
[3] Calculated based on cycles and vans covering the same distance per day (30 miles); diesel fuel for vans (53 miles per gallon), electricity cost for EAPC cargo cycles, based on one charge per day.
[4] Average figure per van, calculated using the median annual cost of penalty charges reported in the *FTA PCN Survey 2012* divided by the average fleet size of fleets registered under the Fleet Operator Recognition Scheme (FORS), reported in *Van travel trends in Great Britain*, RAC Foundation, 2014.
[5] https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/482015/electrically-assisted-pedal-cycles.pdf - this covers maximum assisted speed, maximum power and the presence of pedals.

these regulations were sufficient primarily relating to restrictions regarding speed and power. There was also support for the introduction of some form of national code of practice. Specifically, many respondents highlighted work already underway on a code of practice by the UK Cycle Logistics Federation.

4.6 The majority of respondents to question twelve highlighted the importance of training whether through Bikeability or employer led training schemes.

4.7 Insurance was also highlighted as a consideration in the context that organisations should have insurance in place before operating e-cargo bikes. In some instance this was linked to a code of practice.

Regulation and emerging technologies

4.8 There were mixed views regarding parking policy and e-cargo bikes. Some respondents highlighted the need to ensure clarity regarding parking standards and how they apply to e-cargo bikes whilst others believed that the relatively small number of e-cargo bikes did not necessitate the introduction of new regulations at the present time.

4.9 In terms of emerging technologies which could support the deployment of e-cargo bikes, route mapping and batteries were the most frequently cited responses.

4.10 With regards to batteries, responses ranged from the performance of batteries through to reuse and disposal. The continued development of route mapping systems which support the use of e-cargo bikes was most frequently cited as being important to support the deployment of e-cargo bikes. In particular the need to ensure the digital availability of local cycling infrastructure data for such systems to enable e-cargo bikes to deliver to their maximum potential in terms of productivity and efficiency.

Royal Mail

GLS is Royal Mail Group's ground based, deferred parcels business in 41 countries across Europe as well as Canada and the US. GLS takes an approach of innovative and intelligent urban logistics to reduce the number of journeys made within cities and to make these journeys using green power train technologies. GLS uses e-cargo bikes in a number of countries, in particular in Italy where they have been used since 2008, and Germany.

4.11 There were mixed views regarding regenerative energy storage. Whilst most respondents agreed it could support energy management there were differing views as to the level of impact it could deliver against the extra cost and weight of such systems though it was remarked that the technology is still evolving. Other

technological opportunities included the use of lightweight materials to reduce the weight of e-cargo bikes and the opportunity for improved delivery technology compatibility through delivery and collection apps on mobile devices.

Infrastructure and design

4.12 The most frequently cited infrastructure changes to support the increased use of e-cargo bikes were an increase in the number of micro distribution hubs and improved cycle infrastructure.

4.13 Regarding cycling infrastructure, the importance of segregated cycle lanes which could be used by e-cargo bikes was repeatedly cited, as was the role of measures to restrict motor vehicle traffic from certain areas. This is in addition to changes to road layouts to support e-cargo bikes and the provision of designated loading areas for use by e-cargo bikes and charging facilities.

4.14 The provision and availability of micro distribution hubs and a supportive planning environment to ensure the roll out of such facilities were highlighted by several respondents. Specific challenges within urban environments include land availability and sustainable funding support for micro distribution hubs. This is in addition to the importance of safe storage for e-cargo bikes and the adoption of a multi-agency partnership approach which brings together planners and the logistics and freight sector.

City of London Corporation – Use of Section 106 agreements

With the Square Mile's working population expected to increase by 25% between 2018 and 2036, rising to nearly 650,000 people, the City of London Corporation are taking steps to ensure that the additional freight movements of new developments will not detrimentally impact the City's streets.

Major new developments in the Square Mile are subject to S106 agreements that mandate use of off-site consolidation centres. Use of these services to deliver business supplies and personal deliveries can reduce deliveries by over 80% as well as facilitate retiming. The occupiers can receive all the goods required to operate whilst reducing road danger and air quality impacts of freight movements. 22 Bishopsgate will be the first development to be served by an off-site consolidation centre and is expected to be ready for occupation in late 2020.

The City Corporation's draft Transport Strategy and Local Plan (City Plan 2036) propose to retrofit last mile logistics hubs into underutilised car parks and introduce last mile facilities as part of major developments. These new logistics spaces will be leased to operators to enable a shift from diesel vans to cargo cycles and small City appropriate electric vehicles. The draft Transport Strategy proposes delivering two hubs by 2022 and a further three by 2025.

Image - City of London skyline 2026

4.15 There were mixed views regarding standards for e-cargo and cargo bike design in response to question thirteen. Whilst some respondents felt there was a need for common standards there was a strong view that e-cargo bike design was still in its infancy and therefore it was too early to prescribe standards without stifling innovation, and that any standards should be developed in line with the emerging evidence base. Furthermore, it was noted that common standards were already in development at the European level (e.g. EN 15194) which could inform the development of standards at a later date whilst others felt that the current Electrically Assisted Pedal Cycles (EAPC) Regulations were sufficient. Respondents also highlighted the need for standards around refrigeration and container design.

4.16 In response to question fifteen regarding fleet size and maintenance costs, it was evident that the e-bike sector is starting from a low base with the majority of e-cargo fleets under ten bikes. It is important to note that the majority of responses were received from companies already using e-cargo bikes, therefore, there may need to be further work to highlight the opportunities of e-cargo bikes to freight and logistics companies. However, as highlighted in Table 1 e-cargo bikes have relatively low maintenance costs with the average cost reported by respondents being between £100-£200 per month.

Government response

Financial incentives

4.17 The Government recognises the opportunities presented by supporting the growth of e-cargo bikes to improve air quality and support economic growth through the development of a new sector and opportunities in research and development.

4.18 The Government has responded to the call from the e-cargo bike sector for financial support and has announced £2m of funding to support uptake which was announced by the Prime Minister at the world's first Zero Emissions Vehicle Summit in Birmingham in September 2018.

4.19 In October 2018, following the close of the Call for Evidence, the Department announced further details of how the funding will be used. The funding will contribute 20% of the purchase price of a new e-cargo bike up to the first £5,000 of any purchase price. This gives a maximum grant of £1,000 per bike, regardless of the purchase price of the bike.

4.20 The funding will be conditional on individual businesses following a code of cycle safety good practice. The Government acknowledges the work undertaken to date by the UK Cycle Logistics Federation cited by several responses and will work in partnership with them and the Bicycle Association to develop a Code of Practice which will include cycle safety good practice. The Government will promote its adoption by making e-cargo bike grant funding conditional on individual businesses following the Code.

4.21 Furthermore, in light of the responses received to the Call for Evidence regarding the importance of training there will be an expectation that organisations in receipt of funding will ensure that their riders are trained to at least level three Bikeability. The Government will also work with the Bikeability Trust and the e-cargo bike sector to explore the potential for the development of a new e-cargo bike training module.

4.22 The Government recognises the need to support the sharing of good practice in the e-cargo bike sector based on work already taking place in the UK and overseas and has set aside £100,000 for capacity building in the industry. As part of this work it will also be reviewing the opportunities and potential measures to encourage commercial leasing of e-cargo bikes to support widespread uptake over the long term.

4.23 The £2m e-cargo bike grant programme builds on the lessons of the German e-cargo bike grant programme and will be delivered by the Energy Saving Trust which has a track record of delivering a similar programme in Scotland. The programme will ensure the funding is split between larger fleets and smaller operators to ensure benefits are available to and spread between all sizes of business.

4.24 The e-cargo bike grant programme will be open for applications from 1st April 2019 and engagement and awareness raising of the opportunity for the e-cargo bike sector is already underway. Prospective applicants can also register their interest[6] prior to the 1st April 2019. The online application process will provide further details of

[6] www.energysavingtrust.org.uk/transport/ecargo-bike-grant-fund

eligibility but in line with the responses received to the Call for Evidence only e-cargo bikes meeting the current definition of Electrically Assisted Pedal Cycles (EAPC) in the relevant regulations (see paragraph 4.3) will be eligible for funding through the e-cargo bike grant programme.

Emerging technology

The Government welcomes the suggestions for further research into emerging technologies including battery technologies and the use of open data for the purposes of route mapping. It will look to support ongoing research and development to support the growth of lower cost and lightweight battery technologies and emerging last mile solutions through research streams including the Faraday Battery Challenge and the Department for Transport's Transport-Technology Research Innovation Grants (T-TRIG) and as part of the wider Future of Mobility Grand Challenge within the Industry Strategy.

Infrastructure and design

4.25 The Government wishes to support the development of design standards for e-cargo bikes which builds on the work already taking place elsewhere in Europe. Therefore, it will work with stakeholders such as the Bicycle Association to explore the future applicability of emerging European standards being developed by the CEN Technical Committee for e-cargo bikes in the UK.

4.26 The Government will seek to tackle the barriers to increased uptake of e-cargo bikes. It will shortly be publishing a revised Local Transport Note regarding designing cycle infrastructure which will recognise the need to consider e-cargo bike in the design of such infrastructure.

4.27 The Government will also seek to support the increased provision and availability of micro distribution hubs whilst recognising the importance of ensuring such facilities are supported by local bodies. It will explore the opportunities to consider the challenges of last mile delivery as part of the Future of Mobility: Urban Strategy Grand Challenge and how Government can support the development of micro distribution hubs. In terms of promoting the use of micro distribution hubs the National Planning Policy Framework (NPPF), in particular Paragraph 82 supports the provision of storage facilities that may be required. It states that planning policies and decisions should recognise and address the specific locational requirements of different sectors – this includes making provision for storage and distribution operations at a variety of scales and in suitably accessible locations.

Hereford Pedicargo

Hereford Pedicargo collect business waste for recycling on a weekly or ad hoc basis. They use cargo trikes to gather the city's paper, cardboard and plastic and then shred, compact and send it for recycling.

Among the other services they provide are last mile delivery and first mile collection for logistics chains, local post and same day deliveries.

5. Micro Vehicles

Summary of responses

5.1 Questions sixteen to nineteen of the Call for Evidence concerned measures to support micro vehicles and the current use of micro vehicles in last mile deliveries. Micro vehicles include a broad range of light vehicles, including e-cargo bikes over 250W, Powered Two-Wheelers (PTW) such as mopeds and milk floats.

5.2 Respondents highlighted that they would welcome support for micro vehicles though there was little detail provided regarding the form of support. In response to question 17 respondents sought clarification regarding the regulations surrounding the use of trailers towed behind cycles and e-bikes. Clarification was also sought regarding the status of electrically assisted hand carts on the footway. Some respondents also believed that there was a need to review regulatory boundaries concerning power and speed for Electrically Assisted Pedal Cycles.

5.3 No respondents provided details regarding the number of micro vehicles in their fleet though some respondents were planning on adding micro vehicles to their fleet for last mile deliveries.

Government response

5.4 Alongside this Government response the Government has published its response to the Future of Mobility Call for Evidence. As part of that response the Government has announced a regulatory review of transport modes including micro mobility. As part of this review the Government will examine the status of electrically assisted hand carts on the footway, electrically assisted trailers towed behind pedal cycles and the regulatory boundaries surrounding power and speed for Electrically Assisted Pedal Cycles.

5.5 In the meantime, the Government will consider whether guidance should be published to clarify the current legal situation of certain vehicles or devices, in particular guidance on the regulations covering electric scooters and on the use of trailers towed behind cycles and e-bikes.

6. Ultra Low Emission Vans and Trucks

Summary of responses

6.1 Questions twenty to twenty eight concerned ultra low emission (ULEV) vans and trucks. The questions sought to understand: barriers currently preventing further uptake of ULEV vans and trucks in the UK; potential Government actions or policies to promote uptake of ULEV vans and trucks in the UK and the current status of ULEV van and truck adoption by industry and plans for future adoption.

Key barriers to uptake

6.2 Through questions twenty to twenty three a number of barriers to the uptake of electric vans and trucks were raised by respondents. These fell into four main categories: vehicles currently available and their cost, charging infrastructure and the energy network, the operating models of fleets, and insufficient or unclear regulation.

Barriers from current vehicles and their cost

6.3 The most commonly cited barrier to uptake of electric vans was high vehicle purchase cost. The short electric range of ULEV vans on the market was also highlighted as a barrier by many. Respondents noted that there are currently few options for those requiring a van in the 2.5-3.5t segment or above. Some respondents also flagged as a barrier the reduced payload or size that electric vans may present in comparison to a traditionally fuelled vehicle. Supply issues of those vans currently on the market were also flagged as a barrier to uptake.

Infrastructure and energy barriers

6.4 Charging infrastructure and the energy network were also highly cited as barriers to ULEV van adoption. On the UK's current public infrastructure network respondents suggested there are not enough public chargepoints (including in residential areas), the geographical spread of chargepoints is insufficient, that many public chargepoints are inaccessible to vans, and that there are insufficient rapid chargepoints. Private charging infrastructure was also cited as a barrier to ULEV van uptake with: the cost and hassle of installing chargepoints, the space required to store and charge vehicles, and issues for tenants looking to install charging infrastructure. Respondents highlighted the energy network and the potential need to reinforce a grid connection as a barrier to ULEV van uptake. Most respondents suggested they have evidence of where a grid connection has been a barrier to uptake, although many cited the same widely publicised example.

Barriers resulting from operating models

6.5 A number of respondents cited their current operating models as a barrier to the adoption of ULEV vans. For some this was a result of having home-based employees or vehicles that employees take home with them. Perceived barriers were the issues associated with installing chargepoints at employees' properties and recompensing them for energy used to charge the vehicle, or that employees do not have off-street parking nor regular access to a chargepoint. For others the issue was that their fleet is owned by their employees. To move the fleet to electric they would need either to change their operating model so the company owned its own fleet, or stipulate the vehicles their employees should use.

Regulatory barriers

6.6 Further barriers to the uptake of ULEV vans related to a perceived lack of sufficient or sufficiently clear regulation relating to charging infrastructure. Barriers cited included the inability of customers to access chargepoints between network providers and the lack of a code of practice for vehicle charging and energy use.

Policy suggestions

6.7 Question twenty four asked for suggested Government policies or actions that would help respondents to increase the number of electric vans in their fleet. Respondents most frequently referred to higher incentives or tax breaks. They also sought greater clarity from Government, particularly on the form Clean Air Zones will take in English cities, or a longer term commitment to incentives. Respondents also suggested a range of other actions, including guidance for fleets installing charging infrastructure or the standardising of costs associated with upgrading a connection to the energy grid.

State of the sector

6.8 Questions twenty five to twenty eight asked about respondents' current fleet and their plans to move to ULEV vans in the future. The size of respondents' fleets varied greatly with both micro, small or medium enterprises, and large organisations completing the consultation. Most respondents either had no ULEV vans in their fleet or only a very small proportion, although two micro/small companies had a fully electric van fleet. The majority of respondents currently using ULEV vans for their business were courier services using the vehicles to deliver to their customers. There was a mixed response regarding plans to introduce electric vans into fleets, though the majority of respondents have been or are considering it.

Government response

6.9 The Government recognises some of the barriers raised by respondents and has policies and actions in place to help address many of these. Without yet reaching the end of the financial year we have already received 92% more Plug-in Van Grant orders in 2018-19 than we saw in the whole of 2017-18. The increased zero emission range of a number of van models looks to be proving popular with purchasers. With even more new products planned for launch by van manufacturers in the coming years this pattern should continue and translate to increased registrations of ultra low

emission vans in the UK. While this is positive news, the market for ULEV vans and trucks is still at a very early stage, with registrations representing less than 0.5% of all new van registrations.

6.10 The Road to Zero Strategy published in July 2018 sets out the Government's long term ambitions for zero emission vehicles and the measures proposed to achieve them. The Government's ambition is that by 2030 ultra low emission vans should represent up to 40% of new vans purchased, and by 2040 zero emission vans should represent 100% of new vans purchased. The Government also set out in the Road to Zero Strategy that its long-term ambition is the development and deployment of zero emission HGVs.

Barriers from current vehicles and their cost

6.11 The Government recognises that there remains a cost gap between ULEV vans and internal combustion engine vans. The Plug-in Van Grant helps to bridge this cost gap, providing 20% of the purchase price of a van up to a maximum grant amount of £8,000, or up to £20,000 for large vans and trucks. The Government has provided more than £20m funding since 2012 through the demand-led scheme and recently committed to the current grant rate until at least April 2019. We will make a further announcement on the future Plug-in Van Grant rate shortly. The first 200 eligible large vans or trucks registered will receive up to £20,000 support. The Government expects to see van purchase prices fall in the coming years as battery prices continue to fall. For some users, electric vans will already provide cost savings over internal combustion engine vehicles when the total cost of ownership is accounted for. HMT used Budget 2018 to publish a response to the consultation they ran between May and July 2018 on reforming Vehicle Excise Duty (VED) for vans. One of the key decisions arising from the consultation will see ongoing VED incentives, beyond the first-year, for new zero emission, ultra low emission and other alternatively fuelled vans from April 2021.

6.12 The Government also understands that the development of a healthy market for used ultra low emission vehicles is critical to making electric motoring affordable for more people and is therefore taking a number of steps to support that market including: tax benefits, chargepoint grant schemes and local initiatives available to purchasers of second-hand ULEVs; ensuring that vehicle dealerships have the right knowledge, equipment and systems to be able to sell used ULEVs; and committing to review the information included on the V5C for ULEVs to ensure that it includes the information consumers need.

6.13 The Government recognises that the current selection of ULEV vans available does not meet the needs of all users. Manufacturers have scheduled the launch of a number of new ULEV vans and trucks, including medium and large vans (the most popular UK segment), in the UK for the next few years. In 2017, OLEV and Innovate UK awarded £20 million of grant funding to 20 research and development projects through the Low Emissions Freight and Logistics Trial (LEFT) and £18m for the 14th round of its Integrated Delivery Programme earlier this year for projects that focus on clean technologies for commercial vehicles. The latest £22m R&D funding round also makes funding available for freight projects. Government has appointed Transport

Research Laboratories to conduct a research project to assess and identify suitable zero emission HGV technologies for the UK and appropriate research and development to progress these technologies.

Policy development

6.14 The Government recognises that ULEV powertrains can negatively impact the payload of vans. To address this, in summer 2018 it laid legislation increasing the weight limit of electric vans, from 3.5t to 4.25t, that can be driven with an ordinary (Category B) driving licence. Drivers who wish to take advantage of this weight increase will need to complete a minimum of 5 hours training. We are now working with LGV training registers to develop a system of certification that will allow drivers to prove that they have completed this training.

6.15 The EU published a proposal to introduce a carbon dioxide emission standard for heavy-duty vehicles in May 2018. This proposal includes mandatory targets for manufacturers to reduce the average carbon dioxide emissions for large trucks and also incentives for supplying zero and low emission vehicles. The UK is discussing the proposal with Member States and will seek to ensure that it is sufficiently ambitious to help deliver the Government's goals of decarbonising road transport and developing zero and low emission commercial vehicles. The Government will collaborate with industry in the coming years to help the sector fulfil the commitment to reduce HGV carbon dioxide emissions by 15% by 2025: by providing relevant information on different measures and technologies that can deliver these carbon dioxide reductions and ensure hauliers realise the commercial benefits of fuel savings. In particular, the Government welcomes the Freight Transport Association's recent launch of its new Logistics Emissions Reduction Scheme and this scheme's adoption of the commitment to reduce carbon dioxide emissions by 15% by 2025.

Infrastructure and energy barriers

6.16 The Government is committed to ensuring the UK has one of the best recharging infrastructure networks in the world. The majority of electric vehicle drivers choose to charge their cars at home, overnight, or at their workplace. The Government will continue to support this through infrastructure grant schemes; and by consulting on changing Building Regulations, to ensure that, where appropriate, every new home has a chargepoint and to set minimum infrastructure requirements for new non-residential developments. The Government recognises the associated costs of installing private charging infrastructure. Three infrastructure schemes are in place to help with costs, supporting the installation of chargepoints in various scenarios. The Electric Vehicle Homecharge Scheme (EVHS) provides up to £500 towards the installation of a domestic chargepoint. The Workplace Charging Scheme (WCS) provides up to £500 per socket to a maximum of 20 sockets per company for the installation of chargepoints for fleet or employee use. The On-street Residential Chargepoint Scheme provides up to £7,500 per chargepoint for local authorities to install chargepoints for those without access to off-street parking. We recently announced that we would maintain the £500 grant rates for the EVHS and WCS schemes until March 2020, or until 30,000 installations in 2019/20 have been supported for the EVHS. The Government will consider extending the WCS

entitlement from 20 sockets per company to 20 sockets per site. We are aware of software packages, such as Hubsta, that assist employers in recompensing their employees for energy used to charge their work vehicle at home.

6.17 The Government wants to encourage and leverage private sector investment to build and operate a self-sustaining public network, supported by the right policy framework. The Alternative Fuels Infrastructure Regulations 2017, which have applied to all public chargepoints since November 2018 will improve the experience of using chargepoints by:

- ensuring that users are able to have ad-hoc access to every publicly available chargepoint; allowing recharging without a pre-existing contract;
- compelling infrastructure operators to make the geographic location of their chargepoints publicly available; and
- mandating minimum technical specifications for chargepoint connectors, ensuring greater interoperability.

6.18 There are already encouraging signs of improvements to the consumer experience of public infrastructure. The Government continues to monitor market developments closely. If the market fails 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, which received Royal Assent in summer 2018, to ensure a good deal for consumers.

6.19 For those who are unable to charge at home, on-street or at work, or who are taking longer journeys, public rapid chargepoints will be vital, whether they be at local hubs on the strategic road network or at destinations. The Government is setting up the Chargepoint Infrastructure Investment Fund to help address this need. Government action also includes running pilots to look at options to increase electrical capacity (which can be a barrier to deployment in rural areas too) at motorway service areas to future-proof the Strategic Road Network. There may be cases where low utilisation rates make the business case for rapid chargepoints in rural and remote areas un-economic in the short to medium term. The Automated and Electric Vehicles Act 2018 provides powers to the Government to mandate the installation of charging infrastructure at key strategic locations if required.

6.20 The Government recognises the potential impact on the energy grid from ULEVs and possible costs to those looking to install electric vehicle recharging infrastructure. The Government is already working closely with the energy sector and Ofgem, as the independent regulator, to understand the impact of EV take-up on the electricity system. To strengthen this dialogue and collaborative approach, Government has established an Electric Vehicle Energy Taskforce to bring together Government and the energy and automotive industries, in order to plan for future electric vehicle uptake and to ensure the energy system can meet future demand in an efficient and sustainable way. The taskforce will report in 2019 with proposals for Government and industry to ensure the energy system is ready for the transition. The Government has shared with the Electric Vehicle Energy Taskforce the feedback regarding a desire for guidance on load management solutions for fleets. In addition in December we

announced that Government-funded home chargepoints for electric vehicles must use innovative ‘smart’ technology from July 2019, which should help to reduce high peaks of electricity demand. The Government will consider what can be done to support finding smart solutions, or where necessary reinforcing grid connections, for fleets installing private infrastructure. It has shared with Ofgem the feedback regarding removing uncertainty of grid costs and distributing costs evenly.

State of the sector

6.21 A number of fleets are leading the way in transitioning to zero emission vans. At the recent Zero Emission Vehicle Summit, and in association with environmental NGO Global Action Plan, sixteen of the UK’s largest van fleet operators joined the Clean Van Commitment, which will see nearly 2,400 zero emission vans join their fleets by 2020. By 2028, their fleets will be completely zero emission in cities. The Government, along with Engie, has provided additional funding to continue the recruitment of fleets to the Clean Van Commitment. It will work with these fleets and the joint Government Industry ULEV communications campaign, Go Ultra Low, to share knowledge and best practice on the transition to ultra low emission. It will also produce media products and host regular working groups for van users and fleet operators, providing guidance and advice on switching to electric and the support available. These products will expand on the main Go Ultra Low campaign, the new round of which will include more content focussed on vans.