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Going Ultra Low: Demand side policy in the UK

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Abstract Summary

This paper will set out how the UK's Office for Low Emission Vehicles (OLEV) is delivering a suite of policies to maintain the UK's status as a market leader for both the sale and manufacture of Ultra Low Emission Vehicles (ULEVs). It will consider how OLEV has used an evidence and experience based approach to refine and develop the programme over time. It will also consider how OLEV has developed its analytical capability to help policy development, model the impact of the programme, and demonstrate its strong value for money as a Government investment.

1 Introduction

The UK Government has committed to invest at least £600 million to support the development, manufacture, purchase and use of ultra low emission vehicles (ULEVs) to 2020. It also set a stretching policy goal that almost all cars and vans would be zero emission by 2050, and is one of the fastest growing major markets in Europe.

The Plug-in Grants include appropriate technology neutral performance criteria. The UK Government believes that its role is to set standards and it is for industry to decide how to meet the requirements. This is one of the reasons why the UK uses the term "ultra low emission vehicles" as it includes, battery electric, plug-in hybrid and fuel cell electric vehicles.

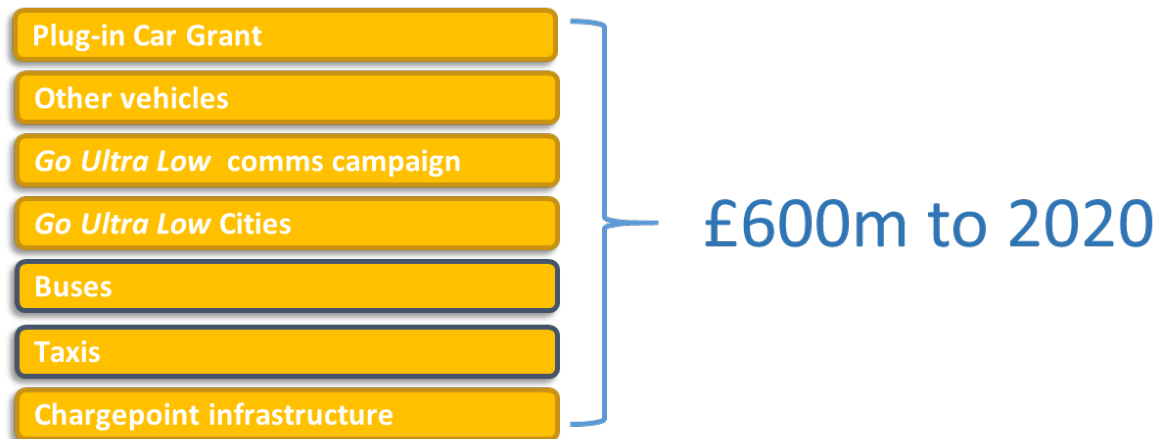
The Office for Low Emission Vehicles (OLEV) is a cross-departmental policy unit composed of staff and funding from three Government departments: Transport; Business, Innovation and Skills; and Energy and Climate Change. OLEV is delivering a comprehensive package of measures designed to support ULEV uptake, develop a robust, self-sustaining ULEV market, and create the conditions for inward investment to the UK for the design and manufacture of ULEVs.

There are five key elements to OLEV's work on the demand side of the market. These are designed to address the main barriers to ULEV uptake and position the UK as an industry leader, each including a number of targeted workstreams:

- Consumer grants (up to £4,500 for eligible cars and up to £8,000 for eligible vans) to address the upfront cost of ULEVs and stimulate market demand, combined with a package of tax benefits
 - Strong fiscal incentives to move to ULEV technology for both private motorists and fleets
 - Infrastructure support (both plug-in vehicle charging and hydrogen) to kick start delivery of networks that can support mass ULEV take up and address concerns about range
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- A unique joint industry and government communications campaign to address misconceptions, improve public knowledge and help normalise ULEVs
- Competitions for local authorities to support innovation, break down local barriers, support cleaner public transport including buses and taxis, and become exemplars in driving ULEV uptake up

Figure 1 Office for Low Emission Vehicles Support for ULEVs



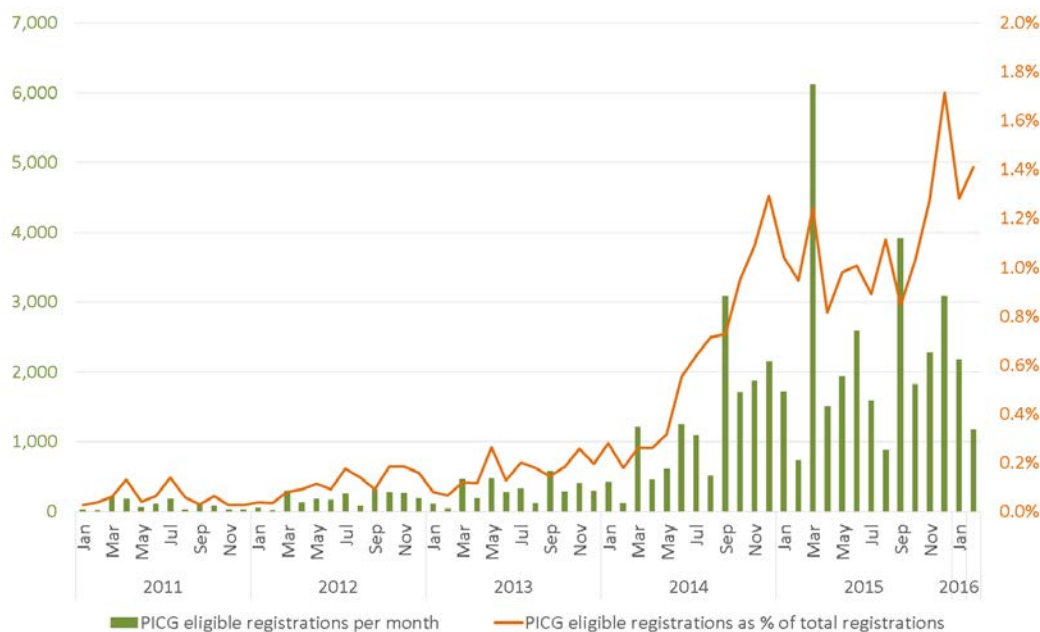
By taking a rounded approach that addresses both supply and demand side constraints, the OLEV programme has helped the UK become one of the fastest growing ULEV markets in Europe. It has also supported a number of inward investment decisions from major automotive businesses.

2 Vehicle Grants: The Plug-in Car and Van Grants:

A key tool in the Government's package of measures to develop the early market for ULEVs in the UK has been the plug-in car and van grants. The plug-in car grant (PICG) and plug-in van grant (PIVG) were introduced in 2010 to offset the higher cost of ultra low emission vehicles (ULEVs), and encourage both private and business users to choose ULEVs. Originally it reduced the price of an ultra-low emission car by 35%, capped at £5,000. On 1 March 2016 new grant levels of £4,500 for fully electric and fuel cell electric vehicles and £2,500 for plug-in hybrids were introduced. For ultra low emission vans the grant reduces the cost by 20%, capped at £8,000.

When the schemes started in 2010 there were only a handful of vehicles eligible for the grant. There are now over 35 car and van models that grants can be claimed for, with many more cars and vans in the product pipeline.

Figure 2 Plug-in Car Grant Uptake 2011- 2016



Following steady early progress at the start of the decade, in the last 24 months there has been a sharp increase in the uptake of ULEVs, making the UK a lead market for ULEVs globally. It took 45 months for the first 15,000 plug-in car grants to be claimed; and only six months for the second.

Between January and December 2015, there were 20,992 ULEV sales, a growth of 138.5% against 2014. ULEVs now account for a more than 1% share of the new car market in the UK. Demand for plug-in vans also increased 85% in the first six months of 2015 with registrations totalling 525 units versus 284 in 2014.

High uptake, and ongoing work to strengthen the UK's R&D and manufacturing base has already contributed to the selection of the UK for significant inward investments in the last 12 months, including an announcement by Geely of a £250m taxi plant in the West Midlands to produce a plug-in hybrid model of the iconic London black taxi. If uptake continues to grow strongly it will put the UK on the path to meeting its targets for reduction of carbon dioxide emissions and the long term goal to achieve total ULEV uptake. Crucially, ULEVs will also provide a long term solution to the UK's transport air quality problems.

3 Vehicle Grants: Reacting to changing market conditions

The speed at which uptake has increased has, however, presented the UK with a challenge in how to target available Government funding to ensure ongoing and sustainable growth in the ULEV market.

In April 2015, three grant categories were introduced in the UK which differentiated both by level of CO₂ emissions and by zero emission mileage. This would allow the option to vary the grant levels for each category to control spend in future. A commitment was then made to maintain the £5,000 grant until the end of February 2016, and to announce future grant levels in advance to provide as much certainty as possible to the market.

A bespoke modelling tool has been developed to forecast sales under a variety of different incentives scenarios. This draws on a number of empirical inputs, including latest information on consumer preferences, vehicle attributes and availability, infrastructure provision, regulation and energy prices, and allows the identification of the optimal level and distribution of subsidy support within available funding. Key components in developing this tool were drawing on the evidence from other countries who have used this type of grant as well as consulting key players in the automotive sector.

Recognising the known risks of withdrawing support for ULEVs too quickly and by too great an extent, the UK Government sees the importance of continuing to provide efficient subsidy support to encourage consumers and business to purchase ULEVs, and to sustain the UK's position as a world leading ULEV market.

In December the UK announced the new differential rates for the Plug-in Car Grant. From 1 March category one vehicles (battery electric and FCEVs) would receive a grant of up to £4,500 and category 2 and 3 cars would attract a grant of £2,500. To encourage zero emission vehicles, a price cap for category 2 and 3 vehicles was also introduced from 1 March. Vehicles that cost £60,000 and above will no longer be eligible for the grant. There will be a derogation for category 1 vehicles, which will remain eligible for the full grant.

Figure 3: Plug-in Car Grant Categories



It was anticipated that there would be a significant spike in sales as customers brought forward purchases to take advantage of the higher rates. In consultation with vehicle manufacturers a cap for the total numbers of sales per manufacturer was agreed, within an overall envelope of total sales. This was to ensure that the funding allocated to the grant was not used up in a short period. To manage the caps grant uptake was monitored on a daily basis against anticipated sales. As grant caps were approached individual manufacturers were contacted to let them know when they would be in breach the cap and that sales from that point on would only attract the post 1 March level of grant.

6 Communications: the Go Ultra Low campaign

The 'Go Ultra Low' campaign, launched in January 2014, aims to build awareness of the Office for Low Emission Vehicles' Plug in Grant scheme and the wider benefits of ULEVs. The campaign was developed in response to clear insight that "category-level" consumer information barriers needed to be overcome if ULEVs were to gain traction in the UK. Uniquely, vehicle manufacturers came together with government to joint fund Go Ultra Low to promote the concept of ULEVs as they recognised that while they had clear skills in selling cars individually, joint activity was required across government and industry combining messages about the vehicles with wider messages about infrastructure to overcome consumer barriers.

The campaign is now well in to its third year with increased industry participation and increased funding. Following detailed analysis of consumer feedback of the scheme this year's creative elements will be targeting both the rational and emotional factors that impact on the decision to opt for ultra low emission vehicles.

Figure 5: Example creative work for Go Ultra Low Campaign



The campaign's key objective, informed by insight and developed in partnership with marketing experts in the vehicle manufacturers, is simple: to establish ULEVs as 'normal' not 'novel', by raising awareness and addressing common misconceptions.

7 Communications: measuring success

The campaign has enjoyed two successful years and is intended to continue to operate until the ULEV market reaches maturity. It has raised awareness of ULEVs, addressed consumer concerns and in doing so, has outperformed other government and industry advertising in stimulating interest and motivation and scored strongly against its objectives. For example: - 75% of those intending to buy a new car shortly surveyed have taken action as a result of seeing the campaign – seeking out more information, speaking to friends or visiting the Go Ultra Low or manufacturer websites - 50% of campaign recognisers are thinking about buying an ULEV, compared to 20% of the sample of all new car buyers.

8 The Go Ultra Low City Scheme

The City Scheme is being run in conjunction with the UK's 'Go Ultra Low' partnership. Go Ultra Low is jointly funded by Government and several major car manufacturers to promote the benefits of ULEVs to drivers and fleet managers. Winning cities will be named official 'Go Ultra Low' Cities, and feature in the campaign's ongoing work over the coming years.

Local authorities in the UK are uniquely positioned to deliver things which central government cannot. They have control over local transport routes, local planning requirements and substantial car parking assets. They are also best placed to improve local air quality. For example, they are able to designate bus lanes and open them up to ULEV vehicles, require ULEV charging infrastructure as part of granting local planning permissions and provide free or discounted parking for ULEVs. All of these measures can create attractive incentives for their local residents to purchase ULEVs. International evidence is clear that visible usage incentives at a local level – alongside financial and infrastructure support – are essential to growing the ULEV market. The UK Government's City Scheme will therefore support ambitious local regions and authorities to deliver such innovative and enabling measures.

There was a tremendous appetite from the local government sector in the UK to take up the opportunity presented by the City Scheme. The competition for funding attracted 33 bids which after an initial assessment resulted in 12 final bidders (Figure 1). The 12 include several large consortia of authorities covering whole regions. For example, the North East of England bid covers 7 authorities including 3 cities.

Figure 6: Shortlisted bids for the *Go Ultra Low* city scheme



9 Delivery and dissemination

The final bids from the cities included a whole range of innovative measures to drive up take of ULEVs, including city centre demonstration centres offering test drives of a range of ULEVs, opening up high occupancy vehicle lanes to ULEV drivers and transformative free and discounted parking initiatives for ULEV drivers. The City Scheme will also support local authorities in upgrading and increasing their local chargepoint infrastructure to further increase local incentives for ULEV uptake. Several bids also had a strong focus on trialling new on street charging technologies, including working closely with local communities and large social housing providers.

The winners were chosen by an assessment of the bids against a set of pre-published weighted criteria. The winning cities were London, Milton Keynes, Bristol and Nottingham.

The winning cities will deliver a rollout of cutting edge technology, such as rapid-charging hubs and street lighting that double as charge points, along with a range of innovative proposals that will give plug-in car owners extra local privileges such as access to bus lanes in city centres. Around 25,000 parking spaces will also be opened up for plug-in car owners saving commuters as much as £1,300 a year.

The funding has been awarded to cities which have designed schemes that will help encourage thousands of people to consider switching to a plug-in car. These proposals will support the UK's thriving low emission vehicle sector, improve air quality in urban hotspots and help the government meet its emission cutting targets.

The winning cities will be expected to actively share their experiences and act as ULEV ambassadors both to other local authorities and globally to other cities and regions.

Figure 7 Go Ultra Low winning cities and their headline measures



The scheme is also providing £5 million of development funding for specific initiatives in Dundee, Oxford, York and North East regions to help them play their part in kick-starting a country-wide clean motoring revolution. New commuter charging hubs in Dundee will open up links across the region for plug-in vehicle owners, while solar-canopied park and ride hubs in York will help reduce air pollution in and around the city.

10 Ultra low emission taxis scheme

It was announced in April 2014 that OLEV would make at least £20m available for an Ultra Low Emission Taxi Scheme. The scheme is open to local authorities UK-wide and funding will be made available through a competitive process in which local authorities will submit bids which will be evaluated against a published set of defined criteria.

OLEV will provide funding to successful bidders for three elements:

Feasibility Phase

- Feasibility studies for local areas, to identify how funds can be used strategically and in a value for money way to best suit taxi and private hire drivers, users and the local population;

Delivery Phase

- Taxi Top-up Grants to provide funding above the level of the plug-in car grant towards eligible, purpose-built, ultra low emission taxis in winning local areas, to support the purchase of vehicles; and
- Infrastructure for ultra low emission taxis and private hire vehicles, to support drivers and fleets in the local area.

OLEV provided funding for eight feasibility studies which are currently being assessed. OLEV will then issue a call for bids later in 2016 for consortia to submit proposals. All bids will be assessed against published criteria.

11 Low emission bus scheme

The Low Emission Bus scheme was announced in April 2014. It is a competition for local authorities and bus operators to support the rollout of low and ultra-low emission buses in England and Wales. Bids were submitted in October 2015, and have been assessed by an assessment panel. In total 35 bids were submitted

requesting funding for both the vehicles and the associated refuelling or recharging infrastructure. Winners are expected to be announced in 2016.

The UK ran a similar competition (known as the Green Bus Fund) from 2009-2013. However, the new scheme raises the bar and gives greater weight to more ambitious, zero emission technologies. The bids were assessed against the following criteria: ambition; contribution to improving air quality; deliverability and; value for money. The bids covered a range of technologies, including battery electric, hydrogen, bio-methane and hybrid buses.

12 Conclusion

The UK is committed to supporting the development of a flourishing market for ULEVs. It will not be easy, there are challenges in helping to bring technologies to market that are affordable, accepted by consumers and have the necessary infrastructure in place to enable them to be used to their full potential. A mass market shift to ULEVs will also bring challenges and opportunities for the energy sector, which will need to be prepared for and managed.

Efficient transport is vital to the UK's economic wellbeing and road transport remains the dominant transport mode in the UK. Increasing use of ultra low emission vehicles therefore has a very important role to play in supporting mobility while reducing the carbon and air quality impact of road transport.