



**Trade Forum Meeting  
December 20 2017**

**Low Emissions Policy Response**

**Background**

At the July Trade Forum Meeting it was mentioned 'in passing' that the council were looking at a LEP.

At the October Trade Forum Meeting the trade was told the LEP was going to the Licensing Committee meeting in November effectively meaning that a 'Snap Policy' had taken place

At that meeting the trade were stunned that this was being put forward because initially there had only being a brief mention of this at the previous meeting and there had not been any consultation whatsoever let alone even a discussion on the contents of the LEP and the trade strongly protested about this at the time.

We remind the council that under 'Best Practise Guidance' such full consultation must be made.

Within a short time the trade was informed that consequently the LEP would not be put forward to the November Licensing Committee and that an extraordinary Trade Forum Meeting would be called for December 20 2017 and the trade was invited to put forward questions.

**Trade Forum Meeting December 20 2017**

The trade would like to make it very clear that this meeting is for a Discussion only and should not be considered as a Consultation in any shape or form and that this document is officially recorded to reflect this.

Questions have been submitted by the trade by two parties being the Companies and the GMB and these received replies.

**Economical and Evasive**

The conclusion of this is that the response was economical and evasive to the say the least being not at all helpful in supplying any details on how the LEP can be rolled out in the proposed format.

Consequently the collective trade has no confidence in the aspirations in the policy and it must be recorded that the process of the LEP has been undemocratic and rushed.

The following are certain initial points which must be debated at the meeting but are not exclusive and the trade reserves the right to bring forward any other point deemed necessary.

- 1: Why has the date of 2022 been proposed?
- 2: What evidence has been produced that would indicate that taxis/phv's are an issue?
- 3: Whilst it is easy for any council to inflict conditions of use for taxis/phv's the trade needs to know what plans the council has to introduce a fully electric vehicle policy on all of its own vehicles and contracted parties that are approved council partners?
- 4: What consultation has taken place or is due to take place regarding other local transport providers within the City and what is their date to comply in full i.e. bus companies (Brighton & Hove, Stagecoach, Big Yellow, Cedar Bus,



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Metrobus, Rail Replacement Busses, National Express etc), Car Hire companies, Removal companies, Supermarket delivery vans, Couriers, Deliveroo Mopeds...?

5: What plans have been produced with UK Power Networks to construct the infrastructure to supply charging points to allow a fleet of some 1200 taxis/phv's that will allow those vehicles to offer a full 24 hour service as it presently does.

6: What consideration has the council given to proprietors of taxis/phv's living in places where no driveway is available for charging

7: The trade has been consulted on the Valley Gardens project and was supplied detailed plans for this. However no charging points are showing in this massive area?

8: With regards to 'Air Quality' What investigation has the council made with regards to the impact of:

- A) The blanket 20mph zones across the city.
- B) The Lewes Road bus lane scheme

9: With the current situation of uncontrollable out-of-town taxis/phv's invading the city what impact does the council consider will have on the local trade with such a policy.

### **Trade Concerns**

At the moment the trade has grave concerns about being able to function as it currently does with the majority of vehicles being double shifted.

When a driver is approached at a rank and asked to undergo a journey leaving the city, currently all that driver has to consider is how much fuel is in the tank to reach the destination.

With the introduction of fully electric vehicles such a driver will also have to consider if he/she will actually be able to return to the city based on the point of not knowing where any charging point is accessible.

We understand that there may be the provision of charging points in the future but currently this is an unknown entity.

### **WAV's**

The trade knows of no electric vehicle that is capable of providing access to all the various wheelchairs other than the £60,000 TXe. The cost of which is well beyond the average cab driver. The trade does not mind taking out loans for vehicles but taking out a mortgage for one is not acceptable thus the trade is deeply concerned about the effect of transporting wheelchair users.

The following is provided by:

**Mr Robert Sansom BSc MSc DIC MBA CEng FIET**

### **Member of the Energy Policy Panel**

"Robert Sansom has nearly 30 years' experience in the UK electricity industry. This includes power station operations and maintenance, engineering consultancy, networks (transmission and distribution), energy strategy, power project development, energy procurement and risk management. In 2010 he commenced a PhD at Imperial College, London University which he completed in 2014. His specialist area of research is the decarbonisation of low grade heat for space and water heating.

Robert's career started with the Central Electricity Generating Board in 1979 followed by a period in consultancy with Ewbank and Partners Ltd. He joined SEEBOARD plc in 1989 and had a number of roles encompassing energy trading, generation and network infrastructure projects and strategy and regulation. In 2002 he was appointed Managing Director - Energy Portfolio Risk Management with EDF Energy where his responsibilities included electricity and gas asset portfolio strategy, hedging and tariff strategy, regulation, energy policy and risk control. In June 2008 he was appointed Director of Strategy and Sustainable Development where he was responsible for EDF Energy's corporate strategy and sustainability agenda.

He's been a member of the Energy Policy Panel since 2011 and is a Fellow of the Institution of Engineering and Technology?.

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**From:** Robert (  
**Sent:** 19 December 2017 16:24  
**To:** 'Andrew Peters'  
**Subject:** RE: Brighton Council/Electric Taxis Policy

Hi Andrew

In the long run this will happen but in 5 years it would not be possible without severe inconvenience, costs and limitations. Using today's technology a 7kW charging facility (the maximum size that can be installed in a house/on a driveway) would probably take 8 hours to give 200 miles. Rapid charging could reduce this to less than an hour but these are very expensive and would probably need to be installed close to a reasonable size substation. Also rapid charging should not be used too frequently as it would damage the battery. Cold weather reduces the range by about 25% and motorway speeds hits the range severely, particularly above 60mph. When the range gets down to less than 20 miles then charging is needed. Note: range is solely an estimate and a function of temperature, driving conditions and so 20 miles might turn out to be 10 or less. Range is also affected by air conditioning and heating. I would estimate that in winter the usable range for an "up to 200miles" vehicle is probably about 130miles.

~~I would expect that battery cost to reduce significantly so that an electric car is comparable in price to a petrol car with comparable range (350 miles) within 10 years. However, it is difficult to see that much can be done about charging. Such a car would have a 80kWh battery and so charging at 7kW will take 11 hours. It may be that the degradation problems with rapid charging might be overcome but they would still need to be located close to a substation and take up to an hour to be fully charged.~~

There is also the issue for drivers that do not have access to a private drive. They would then be dependent on a public network.

In my view the first step in decarbonising taxi transport is a hybrid vehicle. Range is presently limited to around 30 miles but I expect this will increase possible up to 100miles as battery costs come down. I see that Skoda is bringing out a PHEV in 2019 but there are no details of the range yet. From a town driving perspective, particularly stop/start then this is always on battery only unless the battery is completely flat. The battery can be charged from the engine if needed for subsequent slow town driving. The hybrid design allows engine running to be optimised raising running efficiency. Running cost wise battery operation is much cheaper than petrol/diesel and drivers are thus incentivised to keep their battery charged.

My advice to the council is that they have got to get this right. They certainly need to do a technical/ economic study along with a trial to ensure all the issues have been identified and resolved. This probably needs to be done in conjunction UK Power Networks, taxi drivers, prospective EV manufacturers, etc. There's a lot that can be learnt with hybrid vehicles and this would be a good first step.

As you know I say this as an EV enthusiast and the owner of both a EV and PHEV.

I've attached my summary CV.

If I can be of any further help, please let me know.

Robert

**We would trust that the council will take this information on board.**

### **Conclusion**

Whilst the trade is sympathetic to the council in introducing a 'Low Emissions Policy' the aspiration of this cannot be decided on what 'maybe' available to the trade to run a sustainable business for a 24/7/365 business in 2022 compared to what is available now in 2017.

### **Alternative Low Emissions Policy**

In order to assist the council the trade is offering the following alterations to the conditions of vehicles:

The 'Blue Book' states the following for conditions of licensing vehicles for hackney carriages and private hire vehicles.



## Part I

### Procedure for licensing a Hackney Carriage Initial Inspection

- 89.2** In the case of a first application for a hackney carriage vehicle licence the vehicle must not normally exceed 7 years of age from date of initial DVLA registration and not more than 10 years of age in the case of any subsequent application for renewal of licence or no more than 13 years for petrol, petrol hybrid or electric vehicles with an initial registration of 2009 onwards and not to be left-hand drive.
- 89.3** In the case of a vehicle which conforms to the Conditions of Fitness as prescribed by Transport for London, (i.e. purpose built London type hackney carriage vehicles), or is M1 ECWVTA (EC Whole Vehicle Type Approved) and wheelchair accessible, the vehicle must not normally exceed 12 years of age from date of first registration, and not more than 12 years of age in the case of any subsequent application and not be left hand drive.

## Part K

### Procedure for the Licensing of a Private Hire Vehicle Initial Inspection

- 135.1** Vehicles must be M1 ECWVTA (EC Whole Vehicle Type Approved) and in the case of conversions hold a National Small Series Type Approval (NSSTA) or Individual Vehicle Approval (IVA) Certificate.
- 135.2** In the case of a first application for a vehicle licence it must be under 10 years since date of first registration, not more than 10 years in the case of any subsequent application for renewal of licence or no more than 13 years for petrol, petrol hybrid or electric vehicles with an initial registration of 2009 onwards and not to be left-hand drive. In the case of a first application for a wheelchair accessible vehicle that is M1 ECWVTA under 12 years since date of first registration and not more than 12 years in the case of any subsequent application for renewal of licence.

### **Trade Proposal**

That the initial age limit for both hackney carriage and private hire vehicles is removed and that the following conditions are added:

All vehicles must comply with Euro Type specifications of Euro 4 for Petrol vehicles and Euro 6 for diesel vehicles when replaced.

Requirements for Euro 6 compliance for diesel engines took place in September 2014 which would... at the date of this document...mean that no vehicle being either a hackney carriage or private hire.. would be more than three years other than those vehicles which met the Euro 6 standard prior to the date.

The council revisits this matter in 2022 when all the infrastructure is in place to cater for the 1200 taxis/phv's plus all the councils owned/ partner vehicles and all the other electric vehicles that may also be around

Andrew Peters

Secretary

Brighton & Hove Taxi Section

THE UNIVERSITY OF CHICAGO  
DIVISION OF THE PHYSICAL SCIENCES  
DEPARTMENT OF CHEMISTRY

RESEARCH REPORT  
NO. 1000  
BY  
J. H. GOLDSTEIN

THE THEORY OF THE  
EFFECT OF TEMPERATURE ON  
THE RATE OF REACTION

BY  
J. H. GOLDSTEIN

RESEARCH REPORT  
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**Discussion Points Submitted by Brighton and Hove Streamline Taxis for the Trade Meeting to be held on 20 December 2017**

- Can the Council direct the Trade as to where individual self-employed Brighton and Hove licensed taxi and PHV drivers can apply for grants and/or subsidies from local or central government or the EU or otherwise, relating to the control of emissions from their vehicles and any proposed policy changes being currently contemplated by the City Council and in the earlier renewal of their vehicles than otherwise would have been contemplated?

Assistance to buy electric can be found at: <https://www.gov.uk/plug-in-car-van-grants>. Home chargers can be included in the cost of an electric vehicle. Lease car agreements are competitive with diesel. There will be a cost for older diesel cars to enter Ultra Low Emission Zones for example London, Paris and many other cities. No maintenance on engine and exhaust, brakes are simple to maintain. Running costs are much lower than for petrol or diesel. No road tax. Without an engine there is extra luggage and cab space. Electric vehicles have excellent acceleration performance without pollution. No complaints for engine idling and popular with clients and the local community. Second hand electric vehicles are now available.

- What reports has the Council received from Transport and the Air Quality officers by which the Council is considering implementing a low emission policy vehicle requirement to improve the air quality within the City. If so, what proposed criteria, standards, evidence and further reports would be applied or relied upon?

Annual Status Report for AQ updates the air quality action plan each year. Joint Air Quality Unit of DfT and Defra is more likely to fund to cities with Clean Air Zones. 2017 motion from green Cllrs and the *Breath Brighton* group to include taxis in a Brighton & Hove Clean Air Zone. Report on the bus LEZ is due to go to ETS committee in March 2018.

- When considering criteria to be applied to future first registrations of vehicles, or in relation to renewals, as to their emission control and age, when is the Council considering such implementation?

Currently seeking comments and then likely to report to Licensing Committee in March 2018 proposing from April 2018 for Euro 4/Petrol and Euro 6/Diesel.

Electric from 2022 but can licence before that.

- Does the Council recognise the significant investment that has been made by drivers/owners of WAVs and low emission saloon diesel cars, there is no current production of emission-controlled WAVs and how is it proposed to take this into account in the Council's proposed emission policies?

Yes. There is a business opportunity for production of a no emissions WAV. Trend is towards smaller WAVs.

- Has the Council any policy views upon implementing hybrid vehicles within the city?

Toyota Prius and Auris are already licenced. Petrol-hybrid is a good option over the next few years.

- Has the Council any policy views upon implementing electric vehicles within the City before 1st April, 2022? And if so when and upon what basis and will there be designated taxi and PHV only recharging points?

Brighton & Hove welcomes electric vehicles now. Charging points are available at supermarkets <https://www.zap-map.com/zap-analysis-supermarkets/> car parks and fuel stations. The number of charging points continues to show rapid growth <http://www.chargeyourcar.org.uk/>. Cars can be slow or fast charged at home and most manufacturers can install an upgrade when the electric car is bought or leased.

- How would the Council propose implementing and enforcing any such change of policy on locally licenced vehicles, pre and post 1st April 2022?

If and when the vehicle is replaced or a new licence issued. Council has licenced an electric taxi and the feedback from the driver is positive.

- Would the Council, pre or post 1st April, 2022 be likely to consider electric taxi only ranks and if so, when and where are these likely to be implemented? Is the Council proposing to undertake a detailed consultation upon any proposed emission policy? If so, when is this likely to be undertaken and will a draft be provided to the Trade in advance for comments and input and discussed in advance at the Taxi Forum(s), as the topic of emissions has not been an agenda item to date.

Ranks are for all licenced vehicles. The need for electric taxi only ranks will be reviewed.

- Could the Council provide the fullest possible particulars by which it considers it practical, desirable or economical for PHV and taxi vehicles effectively to become all electric from 1<sup>st</sup> April 2022?

Desirable for local air quality, more viable when industry is well established. Whilst not yet as high as it was 2011-2014 the Diesel price is 123% what it was two years ago. A modern diesel has a lot that can go wrong with the exhaust system. There is an expense to maintain diesel particulate traps, selective catalytic reduction and for ad-blue. The cost of pollution on the population including children is highest in Air Quality Management Areas and City Centres. NOx has a cost per tonne <https://www.gov.uk/guidance/air-quality-economic-analysis>

- Whilst the trade may agree that no PHV or taxi vehicle should be a left-hand drive, having identified it as a potential issue (not necessarily relating to an emission policy) why is this not being included as a proposed amendment to the Blue Book and as a result to be effective in 2018?

No change to policy on left hand drive.

- Are any of the changes in the policy of the Council proposed to be included in any forthcoming draft of the Blue Book?

Yes

- Is the Council considering any zoning in relation to any proposed emission policy and if so please provide full particulars?

Yes. Bus Low Emissions Zone is Western Road and North Street.

Areas in Central Brighton where we continue to have nitrogen dioxide problem at roadside residences:

- Railway Station approach-Queens Road and Terminus Road
  - York Place-London Road-Cheapside
  - Viaduct Terrace and Grand Parade
  - ~~Approach roads to Preston Circus (especially Beaconsfield Road and New England Road)~~
  - Approach roads to Vogue Gyratory (especially Lewes Road and Hollingdean Road)
  - Eastern Road outside the hospital
- Has the Council/Licensing Committee received any report from the Environment, Transport and Sustainability Committee, requested at the Licensing Committee meeting on 29<sup>th</sup> June, 2017 and if so, can a copy be circulated to all Trade Forum groups?

Notice of Motion from Green councillors to consider options for improving local air quality.

- Did the Chief Executive write to Greg Clark, the Business Secretary, as proposed at the Licensing Committee Meeting of 29<sup>th</sup> June, 2017, for financial assistance to be provided to taxi drivers switching to more environmentally friendly vehicles? If so, can a copy of the request and response be circulated to all Trade Forum groups?

We do not recall this proposal but happy for it to be suggested at the next extraordinary Forum on the 20<sup>th</sup> Dec. BHCC officers participate in Joint Air Quality Unit (cross government) meetings in Westminster where ultralow emissions options are being discussed. 2018 government is expected to announce £ 1 billion investment in electric vehicles. There is also expected to be private investment in infrastructure and developments across Brighton and Worthing.

- When is the unmet demand survey proposed to take place in 2018 and as referred to by Councillor O'Quinn at the Licensing Committee meeting on 29<sup>th</sup> June, 2017?

Consultants will be appointed to carry out the survey during 2018 and reported back to the November Licensing Committee. The dates of the survey will not be known to officers and will not be published to insure the survey is an accurate representation.



## Brighton & Hove Emission Standards Consultation | Uber Submission

### Exec Summary

- *Uber supports the council's low emission standard policy proposal and believes there is scope to be even more ambitious*
- *Adopting an incremental approach to new emission standards could increase impact of the policy whilst maintaining equity*
- *Including hybrid vehicles within the policy would deliver an air quality benefit through being an effective bridge for drivers between ICE (Internal Combustion Engine) and Ultra Low Emission Vehicles (ULEVs)*
- *To encourage EV adoption, greater coordination is required with wider plans to develop appropriate charging infrastructure for taxi and private hire vehicles*
- *Consideration should be given to how existing licensing requirements within the Blue Book impact on the speed of ULEV adoption*

Uber is committed to facilitating lower emission mobility. Action must be taken to reduce harmful emissions - particularly of Nitrogen Oxides (NOx) and Particulate Matter (PM) emitted from primarily diesel vehicles operating within city centres.

Around 50% of miles travelled via Uber in the UK each week are already made in hybrid or electric vehicles. More than 100 fully electric cars are already available through our app and we are currently working with charging companies to install rapid chargers to support these vehicles.

We therefore support Brighton and Hove City Council's overall aim of reducing emissions from licensed vehicles and welcome reform to existing vehicle licensing standards. We would also welcome a collaboration with Brighton and Hove on practical pilots to improve adoption of electric vehicles in the Taxis and Private Hire industry - both on the Uber app and amongst the wider Taxi and Private Hire trade.

### Background

Uber is an app which allows people to book a safe, affordable, and reliable journey from a licensed private hire driver. We operate in over 25 towns and cities across the UK, and in more than 600 cities and 80 countries globally. In Brighton and Hove alone, more than 125,000 people have used our app to travel in the last year.

Since our launch in the UK in 2012, Uber has lead the way in encouraging greater adoption of low and zero emission vehicles within the private hire industry. We believe in a future where every journey is a shared journey, made in a highly efficient vehicle - reducing congestion, improving air quality and offering a genuine alternative to private vehicle ownership in urban areas.

We therefore welcome the recent political focus on improving urban air quality in the UK and fully support the aims of the type of policy changes currently proposed by Brighton and Hove City Council.

### Uber's Clean Air fund and commitment

Improving air quality must be a priority for cities across the UK and we recognise that businesses have a significant role to play. Earlier this year, Uber launched our Clean Air Plan - a series of measures designed to help transition all vehicles using Uber in the UK to be either low or ultra-low emission within a short time frame.

The Plan is built on a series of measures to help drivers, passengers and cities bring about a meaningful improvement in Air Quality.

These include commitments that:

- Vehicles using Uber in the UK will be 100% hybrid or fully electric on uberX by the end of 2021 with no diesel vehicles on the app. In London, we will meet this goal with 2 years.
- By 2025 in London and by 2028 across the UK, we aim for all vehicles using our app to be ULEVs.
- In London, we will launch a diesel scrappage scheme aimed at removing 1,000 of the most polluting cars from the roads. The first 1,000 people to scrap a pre-Euro 4 diesel vehicle and provide an official scrappage certificate will receive £1,500 of Uber credit.

To achieve these ambitious goals:

- Uber is in the process of creating a dedicated Clean Air Fund to allow licensed drivers who use our app to access up to £5,000 towards the cost of upgrading their car to a hybrid or fully electric vehicle.
- Over the life of the fund, it is expected that drivers will claim around £200m to help transition to a greener car.
- Uber is kickstarting the fund with a £2m investment and a fee will be added to each ride to help fund the scheme - every penny of which will be dedicated and ring-fenced.
- A network of Uber-branded rapid chargers will be installed (initially in Central London) which will be dedicated for use by drivers of electric vehicles. Uber is also looking at opportunities to expand the network of chargers in cities across the country (for use of PHVs and Taxis of all operators) where local policies are designed to enable a clean air environment.

By committing operationally and financially to greener travel for millions of people, Uber's Clean Air Plan is an example of the constructive role Private Hire can play to the transition to cleaner mobility.

Given this long term commitment to reducing emissions from vehicles using our app, we welcome the chance to respond to this consultation.

#### **Our recommendations to Brighton and Hove City Council**

1. *Uber supports the council's low emission standard policy proposal and believes there is scope to be even more ambitious*
2. *Adopting an incremental approach to new emission standards could increase impact of the policy whilst maintaining equity*

We support the Council's objective to adopt stricter emission standards for Taxi and Private Hire vehicles. Specifically, we support the decision to restrict new vehicle registrations to Euro 4 Petrol and Euro 6 Diesel vehicles in the short term, and encourage adoption of ULEVs by 2022.

We also believe there is scope for the Council to consider going further - with additional restrictions on existing licensed vehicles to deliver greater air quality improvements. Providing adequate notice is given to existing licensed drivers about forthcoming changes to emissions standards, we would support a phased tightening of emission standards for such vehicles.

Brighton has long been a leader on environmental issues and it would seem logical that a robust environmental policy towards limiting vehicles emissions should be part of the Council's future policy in this area.

In order to achieve a significant improvement in air quality, the Council should implement a phased policy of vehicle improvement - beginning by removing the very oldest and most polluting vehicles from the City's roads.

Such a policy should begin by limiting the remaining time old diesel taxis and private hire vehicles will be eligible for re-licensing.

Specifically, within the next 2-3 years, we believe it would be equitable for the Council to require all taxis and private hire vehicles on the road to be at least Euro 6 Diesel/Euro 4 Petrol. For newly licensed vehicles, we support the current 2022 target, but believe the Council could go further by requiring all vehicles presented for licensing for the first time to be either petrol-hybrid or ULEV in 2020.

Within the next 18-24 months, the price of ULEVs and other low-emission vehicles (eg. hybrids) is expected to fall significantly and move towards parity with existing ICE models. It is therefore reasonable to expect increased adoption of these vehicles post 2019.

Adopting this type of policy would offer significant air quality benefits whilst giving potentially new drivers - or drivers of older diesel vehicles - enough time to plan to purchase, lease or rent a ULEV or hybrid in two years time when prices will be lower and charging infrastructure installation significantly advanced. Through this type of approach, there would be scope to entirely phase out existing diesel vehicles from the city's fleet by 2023.

This would set the Council on a clear path to having a purely ULEV taxi and private hire fleet in the mid 2020s - a target that would make Brighton a clear leader in this area compared with other UK cities.

Air quality improvements will, of course, be limited if only applied to commercial vehicles such as taxis and PHVs. To significantly improve air quality in the City, and limit the damage caused by high levels of harmful vehicle emissions, the Council should also consider taking action to limit the access of old, polluting, privately owned vehicles to the most polluted streets in the area.

- 3. Including hybrid vehicles within the policy would deliver an air quality benefit through being an effective bridge for drivers between ICE and Ultra Low Emission Vehicles (ULEVs)*

Uber believes that fully electric vehicles, coupled with a reduction in private car ownership and highly efficient use of vehicles enabled by technology like Uber's, offers the fastest route to reducing harmful emissions.

We recognise, however, that this type of transport system - particularly widespread adoption of EVs - could take some time to realise. Given the severity of the current air quality crisis, we therefore

believe that efficient hybrid vehicles have an important role to play in delivering urgently required reductions in emissions.

This is why our proposed policy outlined in the previous sections includes licensing of hybrids for new vehicles alongside ULEVs in 2020 - as a bridge to the Council only licensing ULEVs from 2022. There are two main reasons this would deliver significant air quality benefits.

First, petrol-hybrid vehicles are already widely driven in cities across the UK. This is because they are affordable, readily available and, unlike ULEVs, do not require supporting charging infrastructure. They therefore offer an immediate, viable and cleaner alternative for drivers of existing older - more polluting - vehicles.

Secondly, in terms of harmful NOx and Particulate Matter tailpipe emissions, hybrid models are substantially cleaner than petrol or diesel models. Some models are even closer to plug-in hybrid or range-extended ULEVs in terms of emissions than they are to ICE vehicles. A typical Toyota Prius Petrol Hybrid (which does not qualify as a ULEV) emits around 25mg/KM of NOx. A 2017 Volkswagen Golf 1.4 GTE Plug-In Hybrid - which does qualify as a ULEV - emits around 17mg/KM. In comparison, a Euro 4 Diesel Skoda Octavia Saloon emits 121mg/KM of NOx and a Euro 6 Diesel Vauxhall Insignia emits 52mg/KM of NOx.<sup>1</sup>

	NOx cap	Polluting multiple Cap against Mark III 2009 Toyota Prius Petrol Hybrid
Euro 4 Diesel	250 mg/km	10.0x
Euro 5 Diesel	180 mg/km	7.2x
Euro 6 Diesel	80 mg/km	3.2x
Euro 4 Petrol	80 mg/km	3.2x
Euro 5 Petrol	60 mg/km	2.4x
Euro 6 Petrol	60 mg/km	2.4x

Given the relatively small difference in the amount of harmful NOx emitted from vehicles categorised as ULEVs and hybrids - and the large difference between hybrids and diesel vehicles - it's clear that hybrids provide an immediate air quality benefit. Whilst many drivers are unlikely to consider currently purchasing a full EV for fear of lack of charging infrastructure in Brighton, many more are likely to consider purchase of a hybrid.

It would therefore be a sensible step to include Hybrids within the policy for licensing from 2020.

<sup>1</sup> All figures from Next Green Car.

(<http://www.nextgreencar.com/view-car/53975/vw-golf-1.4-tsi-gte-dsg-plugin-in-petrol-hybrid-automatic-6-speed/>)



4. *To encourage EV adoption, greater coordination is required with wider plans to develop appropriate charging infrastructure for taxi and private hire vehicles*

As the Uber's electric vehicle study with Energy Saving Trust published in February 2017 showed, private hire drivers of electric vehicles are highly dependant on publicly available chargers (both slow and rapid). 99% of drivers who took part in the study used public chargers to recharge their vehicles, with around 75% saying they used fast or rapid charge points most frequently. In focus group sessions of private hire drivers of electric vehicles, there was consensus that "an extensive network of rapid charging was the key issue holding back electric vehicle adoption within the private hire industry."

As of December 2017, there are no rapid chargers in the Central Brighton area. Within the wider Brighton and Hove area, there is just one rapid charger - located at Withdean - and ten slow charging points with very limited coverage in areas of demand for taxis and PH (only one slow charger located at Brighton train station). This makes using a ULEV as a private hire vehicle very difficult.

It is therefore vital that the Brighton and Hove council - alongside new vehicle conditions - make the financing and implementation of charge points across the city a priority in the coming years, before implementing a policy that forces all new registered PH vehicles to be ULEV (likely fully electric). Considering the considerable investment in an ULEV, providing clarity and certainty to drivers of the likely availability of adequate charging infrastructure is essential. Without this, drivers will be wary of adopting EVs which may force more drivers into newer petrol or diesel vehicles. Clearly, this is undesirable as improvements to air quality would be limited.

Given the complications with installing rapid charge networks - such as the complex processes to connect large charging hubs to the grid and the frequent grid upgrades required - installation of a comprehensive charging network in Brighton and Hove should begin as soon as possible.

If EVs are to become the norm for taxi and private hire drivers, the Council's priority should be to ensure that all drivers have access to overnight charging solutions, with on-street (7kWh AC minimum) chargers located in residential areas where Taxis and PH drivers live. These solutions are fast to deploy and affordable. The Council may therefore wish to look into schemes which expedite installation of such charge points in on-street parking bays.

Considering the high number of miles Taxis and PH drivers put on average per day, having a network of public Rapid Chargers (50kWh DC) is also necessary to ensure drivers can top up charging on the go, wherever they are in the city and whenever they need it. Positioning these chargers in areas of demand - such as in the City Centre, Marina and near key centres of retail and commerce - would be beneficial.

5. *Consideration should be given to how existing licensing requirements within the Blue Book impact on the speed of ULEV adoption*

In addition to implementing a policy for installation of charging network infrastructure in the City, if improving air quality is a strategic goal for the council, then it may also be beneficial to consider the impact of existing Blue Book licensing conditions on ULEV use by drivers.

Given the technology they use, ULEVs are typically more expensive to purchase (and therefore rent) than ICE vehicles and experience quicker depreciation. These factors can dissuade drivers from using a ULEV - particularly when considered in addition to the upfront cost of licensing in line with conditions contained in the Blue Book.

The council could therefore look to drive ULEV uptake by finding ways to reduce the cost of licensing for drivers who wish to be early adopters - and reduce their air pollution impact accordingly. One method to achieve this would be by re-examining the Blue Book conditions through this lens to determine where amendments could be offered to drivers of ULEVs.