Call for evidence on Government measures to support uptake of ultra-low emission vehicles from 2015-2020

LowCVP Membership Response from Stakeholder Workshop - 17th December

Overall Position:
Please give a brief summary of your organisation's interest in ultra-low emission vehicles (ULEVs), as well as any overarching points you would like to make.

The Low Carbon Vehicle Partnership (LowCVP) was established by UK central government in 2003 specifically to accelerate the uptake of low carbon vehicles and fuels. LowCVP is a well-respected and highly effective public-private partnership with over ten years of experience and success working directly in this area. Around 180 organisations are currently engaged in the LowCVP from diverse backgrounds including automotive and fuel supply chains, vehicle users, academics, environment groups and others. The secretariat and membership are fully committed to supporting this continuing agenda and welcome both the opportunity to contribute to the call for evidence and to continue to work closely with OLEV to develop the detailed plans.

The LowCVP held a members workshop on Tuesday, 17 December to develop a response to the current call for evidence from the Office for Low Emission Vehicles (OLEV). This response is based on the knowledge and experience of LowCVP's members attending the workshop and the wider membership who provided written comments to the LowCVP.

The members of LowCVP made the following overarching comments to encourage the further uptake of ULEVs and to encourage inward investment across the ULEV sector.

- *LowCVP agrees with the vision expressed in 'Driving the Future Today - a strategy for ultra low emission vehicles in the UK', that by 2050 almost every car and van in the UK will be an ULEV, with the UK at the forefront of their design, development and manufacture, making us one of the most attractive locations for ULEV-related inward investment in the world. However, LowCVP believes this should extend to all vehicle sectors to create a spectrum of mobility options allowing the most efficient vehicles to be applied effectively.*
- *LowCVP agrees that Government needs to maintain a consistent policy framework targeting the barriers to adoption and hastening the normalisation of ULEV technology. However to be effective, policies need to be communicated in advance and be consistent over the long-term to provide confidence for investors and ULEV operators.*
- *LowCVP see a clear benefit in more clearly defining the overarching policy targets for government in the three identified areas of Air quality, Carbon emission and Growth in order to coordinate better the policies from different departments and communicate clear long term objectives to vehicle operators, manufacturers and investors.*
- *As a priority OLEV needs to develop a much more comprehensive framework defining what an ULEV is and how the thresholds will evolve over time. Targets must be established which are technology neutral, clearly understood, accurately predict real world emissions and are consistent yet challenging across all vehicle sectors. These should be based on a well-to-*

wheel measurement of CO2 and to ensure tailpipe air quality emissions are also reduced (until legislation delivers effective real world benefits).

- *The long term trajectory for defining an ULEV should be to incorporate true life-cycle emissions as the ultimate metric and should consider how the vehicle will be utilised to truly evaluate the most effective mobility solutions across the transport sector. Further research and analysis should be undertaken to facilitate this trajectory for defining all ULEV's.*
- *LowCVP understands that financial support for ULEVs is limited and therefore must be focussed efficiently to create a self-sustaining market. Therefore, support for ULEVs should be related to the emission improvements achieved against a threshold. The threshold and/or level of support should evolve over time as ULEVs become commercially sustainable.*
- *To complement and reduce the reliance on, grants, supporting policies which ease the payback period of ULEVs should be adopted at national, regional and local levels. Supporting policies could range from VED rates, to parking charges, congestion or low emission zones and ultimately road user charging mechanisms but should be based upon the common definition of an ULEV.*
- *LowCVP welcomes the commitment in the Autumn Statement the Government gave on fuel duty rates for road fuel gases for the next decade. LowCVP believes similar or even longer term clarity is required for these and advanced fuels, biofuels and all energy used as a road fuel. Consideration of well-to-wheel impact and overall energy efficiency measures for transport should be included.*
- *A consistent means of providing financial value to CO2 and air quality emissions avoided should be addressed to help overcome the market failure to value these damaging emissions. A necessary step is to provide a clear assessment of the emissions avoided through the purchase of each ULEV.*
- *The emission factors published through the NAEI should be urgently updated to better reflect real world emissions and distinguish the benefits through uptake of ULEVs.*
- *LowCVP supports the work of TSB and the Advanced Propulsion Centre, however our members believe the criteria for funding could be refined to better fit the demand for funding from the broad industry and support all vehicle sectors.*
- *LowCVP believes Government should set an example in the procurement of ULEVs. In particular the Government Procurement Service should review the Government Buying Standards to support ULEVs better and to lead the uptake.*
- *LowCVP's members recognise the UK has developed a good package of support for ULEVs, which in the case of cars is strongly linked to CO2. We believe policies supporting: R,D&D, vehicle purchase, infrastructure and usage measures are necessary. These policies need to be designed to provide a comprehensive package of complimentary measures in order to make the UK a world leader in the design, development, manufacture and use of ULEVs.*

LowCVP has for the last decade provided a forum for public and private sector to share views and develop actions to accelerate the shift to lower carbon vehicles and fuels. LowCVP is uniquely

positioned to support Government in developing policies and would welcome the opportunity to work closely with OLEV on any of the issues raised in this response.

Section 1: Core elements of the current support package
Consumer grants for cars and vans

Government currently offers plug-in grants to eligible ULEVs at a flat rate of 25% per car (capped at £5000) and 20% per van (capped at £8000). There remains a cost gap between ULEVs and traditionally-fuelled vehicles and Government is exploring the options for continuing some form of vehicle-based subsidy beyond 2015. OLEV is expecting uptake of ULEVs to reach about 5% of new car sales by 2020. A grant model that promotes increased market penetration and effectively incentivises purchase as ULEVs become more mainstream needs to be considered. If current grant levels were maintained, there would be minimal incentive to reduce prices. Grants beyond 2015 need to be affordable, as targeted as possible in order to incentivise manufacturers to invest in the UK as well as early adoption, whilst also incorporating an exit strategy away from Government support to adapt to a maturing market. The importance of introducing ULEVs into other high emitting segments such as HGVs is recognised.

1. Should government continue to provide upfront consumer grants for cars and vans? Should this continue to be on a national basis?

Upfront grants are seen as an effective means of supporting the purchase of ULEVs and should be continued in the near term. Abrupt 'cliff edge' changes in policy (such as those seen for LPG vehicles or feed-in tariffs) cause significant market turbulence in the short-term but undermine support policies in the long-term by reducing market confidence. A step change in the Plug-In Car Grant (PiCG) in 2015 would cause significant concern to a number of stakeholders. Changes should therefore be announced as early as possible and be graduated to allow markets to respond.
While nationally consistent support across the UK market would be desirable the LowCVP recognises that this may not be possible and that the devolved administrations may wish to make separate policy decisions. However, the LowCVP would encourage OLEV, other departments and the devolved administrations to make clear their plans for support at least to 2020, if not beyond, with a clear framework of the target objectives.

2. Should OLEV continue to incentivise vehicles with less than 75g CO_2/km emissions, or focus subsidy support on vehicles below a different threshold, and if so what should the threshold be? Are there additional or more appropriate ways of distinguishing between which vehicles to support?

The LowCVP believes that the threshold for vehicles receiving grant subsidy should be reviewed and a grant structure adopted that would allow OLEV to manage the grant budget effectively as the market for ULEVs develops, but that is transparent and clearly understood by manufacturers. Conventional vehicles are now achieving CO2 levels approaching the 75g target (e.g. Toyota Yaris hybrid 79g/km) and luxury sports cars are emerging (e.g. Porsche Panamera 71g), for which the upfront grant could less appropriate given the price point of the vehicle. Additionally the simple target of 75g over the NEDC legislative cycle does not reflect and stretch the maximum potential of ULEV technology. LowCVP believes targets should be challenging.

The current threshold is based on a tailpipe measure of CO2. In order to allow different technologies to be treated on a comparable basis the LowCVP proposes that a challenging well-to-wheel threshold be adopted, similar to that used to define Low Carbon Emission Buses (ref: LowCVP, What is a low carbon emission bus?). LowCVP would propose that the current 75 CO2 g/km could be adopted as a well-to-wheel threshold and that a target of 50g CO2/km (reducing to 35g CO2/km in 2020) would be a more appropriate for tank-to-wheel (tailpipe) efficiency (consistent with the EU super credit threshold).

In order to target grant funding most effectively, LowCVP would propose that grant support should be correlated with the degree to which a vehicle undercuts the threshold. This might be continuous (£x per g/km below the threshold) or through bands (e.g. Band A 75-50 g/km, 50-25 g/km etc). OLEV would then be able to manage the budget by either reducing the support grant or reducing the carbon thresholds over time, as the ULEV market grows. This approach is consistent with EU guidelines (ref: EU, Guidelines on financial incentives for energy-efficient cars) on incentivising energy efficient vehicles.

LowCVP believes it is appropriate to have a cap on the maximum grant available per vehicle and that the current cap is at an appropriate level. However, LowCVP would recommend the introduction of a vehicle retail price cap to avoid supporting very expensive vehicles where the grant will be less influential to the purchase decision.

LowCVP has worked closely with DfT to advise on thresholds and methodologies to calculate well-to-wheel emissions in the past. LowCVP would be happy to assist OLEV in working up the detail of a new framework for grant support for ULEVs.

3. Vehicle manufacturers are targeting 2015 for commercial deployment of hydrogen fuel cell electric vehicles in the UK. Should the incentive offered to consumers continue to be technology neutral and therefore the same amount regardless of whether the vehicle is a battery or fuel cell electric vehicle or is there evidence that a dedicated grant regime to support the roll-out of hydrogen fuel cell electric vehicles is required?

LowCVP believes that grant support should be technology neutral and aimed at achieving real world WTW emission reductions. However, LowCVP also recognises that differing levels and types of support are appropriate for technologies at different stages of development. Therefore it might be appropriate for a demonstration grant, of a higher value, to be made available for the initial hydrogen fuel cell electric vehicles entering the UK market in specific sectors (for example taxis). This could be time limited to be available for manufacturers for the first 12 months after the launch of a fuel cell model anywhere in the world.

This approach could be adopted for any technology which might come forward in the future rather than be limited to hydrogen fuel cell electric vehicles. This could encourage manufacturers to make advanced vehicles available in the UK as early as possible.

4. Two possible exit strategies from ongoing consumer incentives as the market nears maturity would be to reduce the value of the grant for each vehicle year-on-year, or limit the number of vehicles to which the grant could be awarded. Which of these strategies would best facilitate the

development of ULEV sales models without the need for grant support, or can you suggest an alternative?

The LowCVP would propose to set out a grant framework which would lend itself to managing the grant budget as the market developed and so would offer a strategy for transition to sustainable market (exit strategy). Such a framework would focus grant support on those vehicles which offer the greatest emissions' reductions with ramped targets to continue to challenge the engineering community.

This framework should be transparent and make clear to manufacturers that those vehicles offering the greatest emission reductions will receive the greatest support for the longest time. This will provide an incentive to manufacturers to bring to the UK market those models which are the most sustainable. Conversely those models offering the least emission reductions will receive the least support for the shortest period of time.

The LowCVP's suggestion is predicated on a variable grant for each model dependent on the emission reductions achieved compared to a threshold level. LowCVP would be happy to assist OLEV in working up the detail of a new framework for grant support for ULEVs.

LowCVP would not recommend limiting grants by number due to high level of management this requires to make it work satisfactorily. Experience from the EST's grant programmes, which were limited by number, was that it led to distortions in the market which were unhelpful to suppliers and customers. It led to purchases being postponed until the next tranche of grants were made available and to grant applicants queuing electronically for the EST website to open to accept grant applications. The BIS vehicle scrappage scheme avoided such distortions but required a high degree of management. For these reasons LowCVP would not recommend an exit strategy which was based on limiting the number of grants available.

5. Should Government be doing more to support the second hand market for ULEVs, for example through incentivising second owners of the cars, or guaranteeing residual values? What form could this support take?

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Infrastructure

Electric: Between 2010-2013 government funded charging infrastructure installation through eight pilot projects in the UK - the 'Plugged-in Places'. These projects gave insight into the charging behaviour of ULEV drivers and the different business models for managing infrastructure schemes. In 2013 OLEV launched a series of infrastructure grants to reflect these charging preferences in the form of a nationwide domestic chargepoint grant; a grant to install chargepoints in train stations; a grant to local authorities to install rapid chargepoints and chargepoints on residential streets; and a grant to public sector bodies to install workplace chargepoints. Lack of sufficient charging infrastructure is still one of the most cited reasons for not purchasing battery powered vehicles, so OLEV is exploring options for continuing to direct funding support to infrastructure installation in the period 2015-2020. The Government wants to enable a sustainable market to emerge and to scale back its provision of direct funding support by 2020.

Hydrogen: Vehicle manufacturers are targeting 2015 for commercial introduction of hydrogen fuel cell electric vehicles into the UK. A joint industry-Government project - UKH2Mobility - was launched in January 2012 to evaluate the potential and develop a roadmap for the roll-out of hydrogen fuel cell electric vehicles and the associated hydrogen refuelling infrastructure. OLEV is are exploring options for Government funding to encourage private investment in the initial network of refuelling stations required in the period 2015-2020.

Gas: There are several hundred gas HGVs already in use in the UK. Some operators have undertaken their own trials and are using the vehicles. The DfT/TSB/OLEV low carbon truck trial is supporting around 300 more vehicles (of which over 100 are now on the road) and providing 11 open-access gas refuelling points, which will be open to other operators, as part of the trial. A barrier to the wider use of gas vehicles is the availability of refuelling infrastructure. Better public refuelling infrastructure would provide confidence to the market and allow operators who generally refuel at base to increase payloads or cover longer distances.

6. What should be the focus of future charging infrastructure funding support? It would be helpful to consider both the state of the market and driver requirements (i.e. chargepoint type, location, payment mechanisms) in your answer.

LowCVP believes there should be continued support for charging and other infrastructure. This should be focused on home, work and other key destination locations and not be allowed to develop indiscriminately. Evidence of specific demand prior to installing infrastructure would enable more robust selection. One option to tackle the issue of a perceived 'lack of sufficient charging

infrastructure' is to focus recharging infrastructure provision in locations as the PIP programme did, by funding support in specific regions, cities and towns. In order to ensure the widest possible support it is proposed that OLEV explore opportunities to link charging infrastructure support with DfT's funding of Local Transport Plans.

7. Two possible exit strategies for charging infrastructure funding would be to decline grants year on year, or cap the number of chargepoints to which the grant could be awarded. Which of these strategies would best facilitate the emergence of a sustainable market, or can you suggest an alternative?

The LowCVP believes that capping the number of charge points eligible for grant funding might cause market distortions and management problems, for the reasons given in the response to question 5. Therefore would propose reducing the grant year-on- year as a strategic network is established. To ensure confidence in the market the intended profile of the decline in grants should be announced; this would not preclude amending the profile in light of events but would provide as much certainty as possible. Alternatively a more focussed delivery of charging infrastructure would allow a strategic network to be developed with central government support. However care should be taken to ensure individuals are not dissuaded from fitting robust charging points at home to ensure the highest safety standards are still applied.

8. What are the emerging technologies and should OLEV incentivise uptake (wireless, dynamic wireless, battery swap, flash charging, etc)? Please provide projected costs and differentials to plug-in infrastructure where possible.

LowCVP doesn't have a specific view on which technologies are emerging and which should be incentivised. However, LowCVP believes that infrastructure grants should be provided on a technology neutral basis and that different recharging technologies are likely to be best suited to different applications.

Currently OLEV has focused on encouraging ULEV cars and vans. LowCVP believes OLEV should look to encourage ULEVs across all transport sectors. In the bus sector there are a number of trials of electric buses currently in progress and should these prove to be successful OLEV should extend the infrastructure grants to include those appropriate for bus recharging. Trucks are likely to require very heavy duty charging networks but light vehicles can continue to use domestic levels of power. A significant concern has been raised over the increasing incompatibility between vehicle types and charge networks. Urgent action is needed to establish common systems for the consumer vehicle market in particular.

9. What support do you think is appropriate for Government to take to encourage the development of a national network of hydrogen refuelling stations?

LowCVP believes there should only be infrastructure grant support for a publicly available refuelling infrastructure. However, there appears to be conflicting views amongst LowCVP members as to whether support is best focused on the vehicle purchase or infrastructure provision. In our view it is important that the appropriate support is provided to make a compelling case to the vehicle operator. In the case of Hydrogen as a 'new' fuel for which there is no existing distribution or delivery infrastructure, a strong case exists for central government to assist with a 'strategic'

network to allow the adoption of the very early vehicles, likely to be most effective in passenger cars and light vans. Working with industry in a consortium such as H2Mobility the minimum level of investment by central government can be defined to support early market. Thereafter the grants could be removed.

10. What support do you think is appropriate for Government to take to encourage the development of a national network of gas refuelling points for commercial vehicles?

As above LowCVP believes there should only be infrastructure grant support for publicly available refuelling infrastructure. With the gas vehicle market focussed on HGV utilisation there exists a strong case to support a minimum national strategic infrastructure to enable the operation of vehicles nationally.

A creative solution might be for OLEV to encourage consortium building on a regional basis, encouraging truck operators and gas infrastructure providers to work in close collaboration to support a strategic framework. This might best be achieved through a competitive grant bidding scheme. The grant competition would encourage bids covering large sections of the main road haulage freight corridors in the UK. The competitive grant would be for the winning consortium to divide as they felt appropriate, but based on the number of trucks and number of publicly accessible gas refuelling infrastructure installed. All winning bids would have to ensure interoperability between all trucks and all gas infrastructure installed by all winning bids.

This would build on the Low Carbon Truck Demonstration Scheme but require a significantly bigger scale from each consortium.

Opportunities to overcome the barriers to uptake of low emission technologies for each commercial vehicle duty cycle

http://www.lowcvp.org.uk/assets/reports/Opportunities%20for%20low%20emission%20HGVs%20-%20final%20report%202012.pdf

R&D

£82m of funding is being provided to support R&D between 2010-2015. The majority of the funding is directed through the Technology Strategy Board - the UK's innovation agency - on an industry match-funded basis, and focused on tackling three of the five strategic technology themes identified by the Automotive Council. The three themes were electric machines and power electronics; energy storage and energy management; and lightweight vehicle and powertrain structures. Government has also recently announced a £1bn Advanced Propulsion Centre as the cornerstone of R&D investment into the automotive sector.

11. To date much of the funding has been channelled through the Technology Strategy Board. Are there complementary channels to consider for funding? What improvements could be made to the process? Is there a need to target particular vehicle categories or is an 'open to all on-road vehicle categories' approach appropriate?

The LowCVP recognises and applauds the work done and achievements made via funding through the TSB. The challenge of this approach is that access for SMEs to funding is relatively more difficult and could be made more accessible. Consistency in funding approaches and organisations is important and LowCVP would not advocate creation of multiple new mechanisms. However more regional approaches such as the Niche Vehicle Network, appear to have had greater success with the SME community and might be a good template for future programmes.

In addition a number of LowCVP members noted that TSB funding was car manufactuiring focused in terms of budget and technology levels, and should be made more accessible to manufacturers from other vehicle sectors and technology development businesses through lower investment contribution requirements.

12. What support, if any, in addition to the Advanced Propulsion Centre, would make your firm more likely to increase investment in the UK over the next five years?

LowCVP welcomes and supports with the aim of the APC to support the further development of low carbon vehicle technology. A number of LowCVP members stated that participation in APC schemes would encourage further development in the UK by their organisations. However, it was proposed that smaller projects of £1m - £2m in order that heavy duty vehicle or Niche manufacturers and technology development organisations are able to participate. It is also important to link the APC activity into existing initiatives and avoid duplication or fragmentation.

13. Does our support for collaborative R&D support UK industry as well as it could? Are there other approaches that could deliver greater value for UK?

The LowCVP welcomes and acknowledge the value of the support for collaborative R&D in the UK. However, it was noted that the emphasis on funding collaborative R&D can cause potential recipients problems regarding IP ownership and business strategies and that funding opportunities should be available for 'pure' R&D projects conducted by stand-alone organisations with simplified administration processes in addition to supporting collaborative R&D.

14. Is there a need for further demonstrations or trials of ULEVs or technologies? If so what would be most effective?

LowCVP members saw further demonstrations of ULEVs as being useful and effective at bringing new technology and business opportunities into the UK. However, it was emphasised that these demonstrations must be part of an overall strategy clearly communicated to stakeholders. This would include putting in place a support for early market adoption and a stable fiscal regime with clear CO2 objectives across all vehicle sectors which would allow better market stability for both manufacturers and consumers.

Section 2. What other initiatives could we support to expand the ULEV market in the UK?
Taxis, private hire vehicles and car clubs

Taxis, private hire vehicles and car clubs provide a particularly good opportunity for ULEV take up as they are often city based, expose the benefits of ULEVs to a wide range of consumers who might

not otherwise have the opportunity to experience them, and have relatively short average daily runs (ie making electric vehicles an option).

15. How could the Government best support roll out of ULEV taxis, private hire schemes and / or car clubs between 2015-2020 (e.g. through subsidy support or infrastructure support)?

In the case of car clubs and private hire schemes where cars are normally deployed, then OLEV should focus on deployment of appropriate ULEVs suited to the mission. This is probably best supported through city or region based schemes, and could be encouraged as part of a 'model city' approach to funding. See response to question 18 and 19 below.

In the specific case of London Taxis, ULEV options could be provided through whole vehicles or possibly through retrofit technology. This would benefit from support through the TSB and APC funding streams but the criteria would need to allow for smaller projects. See response to question 12 and 13 above.

Public sector procurement

There are a number of examples internationally of supporting purchase of ULEVs in public sector fleets to ensure that governments lead by example, and to demonstrate that the technology is fit for purpose for, and benefits some of the biggest fleets in the country. In the UK all central government vehicle purchasing goes through the Government Procurement Service (GPS). We are keen to explore directing support to public sector fleets via GPS led vehicle auctions or alternative means.

16. Do you think the Government should place greater emphasis on public sector procurement to ensure we lead by example in ULEV uptake? If so what form should this take?

LowCVP does believe that Government should lead by example in the uptake of ULEVs and that the GPS should be engaged in this objective. Currently the Government Buying Standards relating to transport v4, set out minimum standards of fleet average CO2 for cars of 130 g/km and for vans 175 g/km, with best practice being anything 'lower' than the minimum. No CO2 emission targets are set out for other vehicle types. This seems inadequate and far from leading by example.

As a first step Government, through the GPS, should develop a trajectory for reducing the Government's vehicle fleet emissions in line with the stated objective of achieving zero emission vehicles by 2040 and in advance of the reductions in CO2 mandated by the European Union for fleet average emissions. Immediately this signals a market demand for ULEVs. This should then be broken down and reflected in the vehicle specification for each vehicle type's minimum mandatory CO2 target including buses and waste collection vehicles. In addition a best practice target should be included which should be consistent with a fleet average based on at least 5% ULEV vehicles.

In addition building on the Low Carbon Vehicle Procurement Programme (LCVPP), OLEV should seek to build consortia of public sector fleets to demonstrate preproduction ULEVs and procure initial production volumes of ULEVs which have significantly lower CO2 emissions than threshold measure (for example 25% lower than 75 g/km).

The objective is to have a procurement strategy which has at its core procurement frameworks based on vehicle specifications consistent with moving the UK to zero emission vehicles by 2050, and using public sector fleets to encourage new ULEVs to the UK.

The public sector also has the opportunity to demonstrate new vehicle classes (L category) and to challenge conventional concepts of mobility. Engagement in new ownership models or local car club initiatives could be stimulated through early trials with government employees.

UK Automotive Sector

To date OLEV has not specifically allocated any funding to supply chain initiatives, recognising that companies involved in ultra-low emission vehicle technologies have access to funding from broader programmes, including the Regional Growth Fund and the Advanced Manufacturing Supply Chain Initiative. We believe that this remains the appropriate approach to supporting the UK automotive industry and associated supply chain but would be interested to receive any evidence supporting specific or targeted programmes for ULEV companies.

17. Do you believe that specific or targeted programmes are required to support the development and strengthening of the UK-based supply chain for ULEVs. What should the objectives of any such programmes be and how best could they be delivered?

LowCVP fully supports the initiatives already underway within the Automotive Council and Regional Growth Fund which are seen as necessary to help build the UK automotive supply chain. The UK has a number of important SMEs in the low carbon automotive supply chain that need to grow to make them competitive as component suppliers to manufacturers and tier 1 suppliers. Increased engagement of the SME community should continue to be a key focus. One specific route for creating opportunities is encouragement of 'niche' vehicles and novel categories and usage. In these areas innovation can flourish and the SME community can gain significant benefit.

Global competitiveness in ULEV technologies must also be secured for UK R&D companies. It is vitally important to create and maintain high level engineering jobs to ensure long term global success of the automotive sector.

Unlocking the Low Carbon Vehicle supply chain

https://www.google.com/url?q=http://www.lowcvp.org.uk/assets/reports/Unlocking%2520the%2520Low%2520Carbon%2520Vehicle%2520Supply%2520Chain_FINAL.pdf&sa=U&ei=v2TQUoy2NKaz0QWZtoHICw&ved=0CAoQFjAD&client=internal-uds-cse&usg=AFQjCNEpkT-7_ICCVNDL61e_dAlhBcGC7A

Accessing Research Expertise

http://www.lowcvp.org.uk/assets/reports/academia%20toolkit%20FIN.pdf

Regional / city scheme

With the right package of support, a particular city or region could achieve a step change in ULEV uptake faster than might happen nationally. City regions could benefit from such a package of

support given the likely daily mileages of intra-city traffic and enhanced need to tackle local air quality.

18. Would you support a scheme of targeted grant funding on a regional basis e.g. create "model cities" by allocating funding to specific projects that will increase uptake of ULEVs ?

LowCVP believes this could be an effective mechanism to build critical volume in a city/region, raise awareness and provide guidance to other cities/regions. This could be linked to DfT's Local Transport Plans which are a competitive bidding process to encourage Local Authorities and Passenger Transport Executives (PTE) to integrate ULEVs into their overall transport plans. The inclusion of air quality and reliable emission factors would help local authorities to recognise and value the benefit ULEVs could have in tackling air quality in addition to CO2 emissions.

Local Authorities are at significant risk of being heavily fined for non-compliance with air quality standards. If a clear benefit can be demonstrated and tools provided for local authorities to assess the advantages of ULEVs then action by Local Authorities to promote the uptake of ULEVs may allow them to avoid penalties and provide a significant driver to promote ULEVs.

However, care should be taken to ensure that model city schemes can be replicated widely by other cities/regions to ensure this approach supports a wider market take up of ULEVs.

Air quality impacts of low carbon bus technologies

http://www.lowcvp.org.uk/assets/reports/Air%20quality%20impacts%20of%20low%20CO2%20technology%20for%20buses%20-%20Final.pdf

19. Would you support OLEV funding a competition, whereby regions could bid for additional funding to support ULEV rollout (e.g. by supporting both infrastructure and vehicles?)

LowCVP would support such a competition but believe this should be open to all sectors of road transport and in particular should include buses and road freight. Buses provide the easiest way in which to give a wide group of the general public a first-hand experience of riding on a ULEV. A package of measures which included the introduction of ULEV buses alongside the promotion of ULEV passenger vehicles and the provision of recharging infrastructure could be a very effective means of promoting and raising awareness of ULEVs.

20. Would you support topping up of existing local funding streams such as the Regional Growth Fund to incentivise ULEV rollout?

LowCVP would support topping up of existing local funding streams such as the Regional Growth Fund to incentivise ULEV roll-out with the proviso that OLEV funding was clearly signposted and ring fenced.

Other vehicle segments

To date OLEV's focus has been on the highest emitting segments of road traffic - cars and vans. We

are now interested in exploring how best to support other segments in particular commercial vehicles (which make up about 20% of road transport emissions), but also buses/coaches, electric powered two wheelers and other small ULEVs.

21. There are a number of low emission HGVs and technologies currently available or entering the market. These include pure electric, hybrid and gas powered trucks. How could Government best support the decarbonisation of HGVs and improve uptake of these vehicles with commercial operators?

LowCVP believes that a level playing field should be created in terms of the types of vehicle, fuels and technologies funded by OLEV.

There are number of options to decarbonise trucks. New technology solutions which have been demonstrated include battery electric, although this is not applicable to many operations, hybrid trucks have a role to play in cities and sustainable, low carbon liquid and gaseous biofuels on long haul, regional and inter-urban duty cycles have great low carbon potential on a well-to-wheel basis. However, consideration should also be given to decarbonising the existing truck fleet in the near term given the long fleet turnover cycles. This could be achieved with a wide range of measures for example with aerodynamic technologies and rolling resistant tyres which offer attractive fuel and CO2 savings, with much shorter pay-back periods, though to conversion to gas fuel or more innovative trailer technologies. It is important that government policy should support these types of retrofit technologies appropriately and not just fund new vehicles.

Vehicle grants should be graduated in accordance with CO_2 emissions saved below a threshold with a clear trajectory for grant reduction communicated to the market in order to serve as a completion (exit) strategy and avoid artificially keeping the cost of low carbon vehicle technologies high.

Alongside the provision of low carbon truck grants, a benchmarking and accreditation system should be devised to test different low carbon truck technologies against applicable truck duty cycles and weight configurations. This should be based upon the methodology developed for the low carbon emission buses. Such a mechanism is essential to accurately determine and verify the potential CO2 savings of different low carbon technologies. This will give operators more confidence in adopting these technologies.

Another incentive that would help would be provision of a 100% first year capital allowance to the 'on cost' of either a refuelling station or the vehicle or the low carbon technology. The implementation of a benchmarking and accreditation scheme would support getting state aid approval for vehicle or technology enhanced capital allowance scheme.

22. Should the Government have a role in incentivising uptake of smaller ultra-low emission vehicles (such as L category vehicles) in order to broaden the appeal of the technology? If so, what?

LowCVP believes Government does have a role to play in incentivising smaller (L-category) ULEVs which includes scooters, motorbikes and small innovative vehicles including a number of electric vehicles aimed a niche markets. The two-wheeled part of this category of vehicle comprises of motorbikes and scooters which form a small but significant part of the UK road transport. Many are

used for commuting which is an application well suited to electric or other alternative fuels and could provide a more affordable route into ULEVs for private motorists.

However, the threshold of 75 g/km CO2 for cars is not appropriate for these smaller vehicles and a more appropriate threshold would need to be developed. LowCVP proposes this should be done on a well-to-wheel basis with a long-term aim to move to a life-cycle approach.

Government has a key role to play in leading the change of mobility and integrated transport solutions. Focussed support to highly efficient 'commuter' vehicles with effective integration into mass public transport systems (train and bus) could demonstrate the potential lowest carbon journey options and create a market for ultra low carbon vehicles.

23. ULEV buses already receive support through the Green Bus Fund. Should OLEV have a further role in supporting low emission buses, for example through subsidising recharging or hydrogen refuelling infrastructure?

LowCVP is led to believe that ULEV buses will no longer be supported through the Green Bus Fund. If this is the case then it would be vital that ULEV buses are supported by OLEV. The Green Bus Fund has been successful in bringing to market a variety of buses capable of achieving a 40% reduction in well-to-wheelCO2 emissions. This has benefited UK plc in that UK bus builders, including Alexander Dennis, WrightBus and Optare, as well as UK component manufacturers such as BAE Systems, have been able to develop world leading products, secured investment in the UK, provided security of employment during an economic downturn and provided a platform for global exports. It would be regrettable to see these benefits lost just as ULEV buses are becoming mainstream. LowCVP believes that by continuing to support ULEV buses in a progressive manner, OLEV could provide the final step to secure these becoming mainstream commercially viable products in the near future. The bus industry success story provides a model for other vehicle categories. UK still has engineering and production capability and responsibility for vans together with a robust user market. This together with the potential of the L-Category through small volume manufacturers might offer a key industrial opportunity.

The single criticism LowCVP has of the GBF is that the overall profile of funding and support was not clear from the start. The GBF was a competitive bidding grant programme which was repeated four times with reducing levels of grant support. However, it was never announced whether there would be a further round of the GBF and so manufacturers were unable to invest in tooling their production lines and instead were forced to cost each round of orders on a batch basis and as a result economies were never fully realised.

LowCVP believes that the methodology used to determine bus CO2 emissions on a well-to-wheel basis was and possibly still is the best methodology for policy formation yet developed. LowCVP believes this approach to measuring CO2 emissions should be adopted across all vehicle sectors and used as the basis for defining thresholds for ULEVs.

Energy

In the longer term, large scale uptake of ULEVs will have an impact on the UK's grid - both positive and negative. The production of hydrogen for fuel cell electric vehicles can also provide benefits to

the wider energy system, for example through energy storage.
The Department of Energy and Climate Change is already taking measures to address this through rolling out smart meters, and tests on the impact of clustering of ULEVs in certain areas on the grid are ongoing.

We are looking at whether any additional support should be offered at this stage.

24. Is there a need for further demonstrations or trials into the impact of ultra low emission vehicles in the wider energy system, supplementing current Government funded work, or any other intervention that Government should make in this area? If so, what?

The growth of electric vehicle recharging demand is expected to put stress on the distribution networks and occasional clustering of electric vehicles may cause local stress on the electricity network. There is an expectation that Smart control and flexibility will be able to alleviate stress on the distribution networks. This is crucial to ensuring the networks are not a constraint to the development of the ULEV market in the UK. However, LowCVP believes that current activity relating to demand response, active network management and tariff management is not sufficient to meet expectations.

The general principles of demand response are being trialled through LCNF projects, and within the DECC Ofgem Smart Grid forum discussions are ongoing as to the options consumers will have for controlling demand from electric vehicle recharging. The key next step will be to define the link between the mandated smart metering equipment and the smart home. Electric vehicle charging is only one part of a complex picture but it is arguably the most significant as vehicle volumes increase and demand on the network shifts and grows.

LowCVP believes there is an urgent need to get to grips with the detailed implications of the vision of a mass plug in vehicle market and ensure that industry stakeholders are prepared and willing to fulfil the roles expected of them. This includes the power supply industries, electric equipment manufacturers and vehicle manufacturers.

We understand that BEAMA proposes that a cross-discipline group be set up to identify the outstanding issues and develop an action plan to resolve them, including research projects, trials and standards needed in addition to current activity. LowCVP agrees with and is willing to support this activity and believes OLEV and the Government more widely should too.

25. How can we best ensure that appropriate information about the impact of plug-in technologies on particular networks is visible both to Distribution Network Operators and other relevant parties?

LowCVP does not have a specific view on this issue but we understand there are some strong parallels between the current potential issues caused by electric vehicle recharging and those caused by heat pump installations. LowCVP understands DECC is in discussion with industry bodies about how to solve these issues and suggest OLEV make contact with the relevant DECC officials.

26. Should the Government provide support to ensuring that the hydrogen used in fuel cell electric vehicles in the UK results in decreasing CO_2 emissions per km for these vehicles on a "well-to-wheel" equivalent basis?

LowCVP believes that if hydrogen is to be used in the transport sector then it is vital that it results in decreasing CO2 on a well-to-wheel and energy life cycle basis. Further it is important that this is done on a technology neutral basis. The UK should aim to lead in the robust well-to-wheel assessment of energy efficiency and carbon together with regulated air quality. The skill base of UK industry and consultants in these areas is a key strength and can be utilised to ensure UK champions truly sustainable mobility solutions.

Communications

We are currently working with several major motor manufactures to explore options for communications activities to increase awareness and understanding of the benefits of ULEVs. There may be a need to continue communications activities beyond 2015.

27. What support do you think Government should offer in helping to raise awareness and communicate the benefits of ULEVs?

LowCVP would support an awareness raising exercise to promote the economic and environmental benefits of different low carbon fuels and technologies in each of the transport sectors OLEV choses to operate. This should be backed up with real world evidence where possible, particularly when communicating with fleets. EST has a fleet advice programme which could help provide this information to fleets rather than the private motorist.

Communicating with the private motorist will require a long term strategy along the lines of the public information campaigns undertaken by Government, such as 'Drink Drive' and 'Clunk Click' campaigns to be effective. However, the Government needs a long term policy on appropriate tax incentives for all ULEV vehicles to enable consumers to invest into ULEV technologies, and to provide stability for long-term strategic planning by the business community.

28. Thinking beyond the scope of the £500m, in your view what measures would be required to make the UK the clear global leader both for inward investment across the ULEV sector, and ULEV uptake? Please feel free to consider radical options and 'think outside the box':

In the car market, international comparisons of fiscal and tax policy have been favourable towards the UK approach which shows a strong link to CO2. This could be made clearer through the adoption of 'feebates' and the extension of CO2 based taxation into other vehicle sectors. In order to achieve this, a methodology for measurement of CO2 is needed for sectors other than cars and vans. Currently a methodology is being developed in discussion between the EC and the vehicle manufacturers for heavy duty vehicles and there are proposals for the reporting of CO2 for L category vehicles. This could form the basis for wider adoption of vehicle CO2 emissions based taxation.

Currently there are a number of sections and teams within the DfT which have responsibility to encourage ULEVs in specific sectors. Members believe there are examples of best practice amongst Government departments, citing for example the support for low carbon emission buses which has been very effective and has been based on a well-to-wheelmethodology of CO2 which is world leading. These examples of best practice should be extended but there are areas where better policy co-ordination is needed. An example of this is Government's policy to move towards zero emission transport by 2050 which is not reflected in Government procurement policies.

In order to encourage investment both in ULEVs and in the ULEV sector, policies need to be communicated in advance and be consistent through time to provide confidence for investors and ULEV operators. While the membership understands that support for ULEVs must be limited, terms such as 'exit strategy' should be avoided due to the negative connotations it invokes.

OLEV should extend support to other vehicle sectors. Support should be technology neutral and focused on reducing outputs i.e. CO2. LowCVP believes there are a number of technologies which may play a transition role in moving the UK vehicle market to zero emissions by 2040.

29. Any other comments:

OLEV's strategy 'Driving the Future Today - a strategy for ultra low emission vehicles in the UK' focuses on the car and van sector and on the role of hybrid, electric, hydrogen and natural gas can play. The LowCVP believe that a range of fuels and technologies will play an important role in lowering vehicle emissions to zero by 2050. These include traditional fossil fuels in conjunction with advanced powertrain technology and advanced biofuels, and it is important that these fuels and technologies are encouraged to play a full role in reducing CO2 emissions.

LowCVP will be responding to DfT's Advanced Fuels call for evidence, but it is important that the role these fuels and technologies can play is not overlooked or hindered by Government policy. For this reason LowCVP feels it is vitally important that a technology neutral and well-to-wheel approach to defining ULEVs is developed, with challenging thresholds to encourage the adoption of the cleanest fuels and technologies appropriate in each transport activity.

The role of Biofuels beyond 2020

http://www.lowcvp.org.uk/assets/reports/Element%20Energy_Role%20of%20advanced%20biofuels%20-%2003Oct2013.pdf