

EV Network Group

Round table background

To: All EV Network Group invitees
Purpose: To inform and support round table introductions
Ref: EV Network Group meeting agenda 9 May 2016, Item 3

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1. AA - Chris Patience

Name	Chris Patience
Organisation	The Automobile Association
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none">▪ Consumer opinion▪ In service repair and maintenance▪ Urban access restrictions and future mobility▪ Customer acceptability/engagement
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none">▪ Consumer opinion – acceptability critical if ULEV to become mainstream▪ Establishing and promoting best practice to help overcome issues, barriers or concerns to the benefit of existing and potential future EV users▪
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?	<ul style="list-style-type: none">▪ We're always happy to offer space in our monthly motoring panel survey (c25k responses/month) to explore questions of consumer understanding, behaviour or acceptability.

If so, please give details (e.g. web link to report / web page).	
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2. BEAMA - Alex Goodwin

Name	Alex Goodwin
Organisation	BEAMA
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> ▪ Our members supply both charging equipment as well as all the ancillary electrical equipment that supports the electricity network. Members need to understand and support future developments in this area to facilitate growth and see their best business coming from a sustainable market where the (infrastructure) technology is deployed effectively particularly when it comes to “smart”.
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> ▪ Safety, reliability, and interoperability of the charging infrastructure are primary concerns as all need to be maintained as they can severely impact EV market growth at this early stage. ▪ Clarity for consumers on any restrictions on the installation of chargepoints (technical or regulatory).
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).	<ul style="list-style-type: none"> ▪ nope

3. Cenex / UKEVSE - Adrian Vinsome

Name	Adrian Vinsome
Organisation	Cenex (on behalf of UK EVSE)
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> ▪ The core function of Cenex is to facilitate and accelerate the introduction of low and zero carbon technologies for road transport. ▪ Cenex provides the secretariat for UK EVSE (UK Electric Vehicle Supply Equipment Association – the trade association for suppliers of recharging infrastructure for electric vehicles). ▪ The role of UK EVSE is broad, and covers the following areas in relation to EV infrastructure: <ul style="list-style-type: none"> ○ Technical matters ○ Policy matters ○ Stakeholder education ▪ Specifically, the aims of UK EVSE are: <ul style="list-style-type: none"> ○ to provide a collective and consistent voice on behalf of the active industry investors within UK EVSE community ○ to support the development of a national and commercially sustainable network of charge point infrastructure to meet the operational needs of electric vehicle drivers

	<ul style="list-style-type: none"> ○ to work with the motor industry to aid the processes of introducing new electric vehicles to the UK market ○ to help shape technical standards for UK e - mobility (hardware and software related), including providing input to key standards committees (BSI, IET, etc.) to ensure UK e - mobility systems are built on firm foundations and to ensure cost effective system development as a platform for wider e - mobility services ○ to support quality assurance within the UK e - mobility system including working toward the objective that every vehicle should recharge at every charging station for every recharge request ○ to ensure accurate and consistent public information regarding electric vehicle infrastructure and e - mobility schemes to counter myths and misinformation found to circulating among stakeholders with a direct or indirect interest in UK e - mobility
<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ Interest of UK EVSE is to overcome barriers that hinder the expansion of the recharging network in the UK. ▪ In particular, engaging with standards bodies, energy companies and utilities to: <ul style="list-style-type: none"> ○ Overcome and manage grid constraints ○ Develop, clarify and publicise required standards and regulations ○ Promote value added functions that help to develop a viable business case for EV recharging, such as grid balancing and V2G ○ Consider the role of EV recharging in the wider energy system, and its impact on the development of Smart Grids with localised generation, integrated renewables and demand side management services etc.
<p>Question 3:</p> <p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ Cenex (ands latterly UK EVSE) has been involved in many EV and EV infrastructure initiatives, including (but not limited to): <ul style="list-style-type: none"> ○ Electrification of Transport Report for DTI ○ SmartMove Trial ○ DfT AFIGP ○ TSB ULCVD ○ DfT LCPPP ○ Most OLEV schemes (particularly Plugged - in Places) ○ EFES and itheca (Innovate UK demonstration projects) ○ eMI3 ○ LoCITY ○ etc. ▪ Awareness or tangential role in many other initiatives and schemes

4. Citizens Advice - Simon Moore

<p>Name</p>	<p>Simon Moore</p>
<p>Organisation</p>	<p>Citizens Advice</p>
<p>Question 1:</p> <p>What specific interest does your organisation have in</p>	<ul style="list-style-type: none"> ▪ Citizens Advice is the statutory representative body for energy consumers in Great Britain. Our main interests in the EV Working Group stems from a) potential impacts on energy consumers from steps needed to reinforce/modernise networks to cope with transport electrification, and b) the likelihood of targeted EV charging tariffs being introduced into the

understanding or facilitating the electrification of transport?	energy retail market once smart meters have been deployed. We are also keen to keep track of developments in the electrification of transport which may have other consequences for energy consumers, both those taking up EVs and those who do not.
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> ▪ See above - we want to ensure that any costs associated with upgrading networks for EVS are fairly allocated. We also intend to monitor developments in the time of use electricity tariff market, and EV - charging tariffs are a likely example to emerge as EVs become more common and as smart metering infrastructure is put in place.
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).	<ul style="list-style-type: none"> ▪ Citizens Advice has not previously been involved in EV discussions

5. EA Technology - Dave Roberts, Gill Nowell

Name	Dave Roberts / Gill Nowell
Organisation	EA Technology Ltd
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> ▪ EA Technology is an employee - owned power engineering company. An SME, we have a 50 year history in the electrification of transport, and are keen to support UK plc in the transition towards mass roll out and adoption of ULEVs. ▪ We led the My Electric Avenue project from 2013 - 15. We are keen to see the outputs are taken and used to inform GB policy and activity. The EV Network Group is a legacy initiative from this project. ▪ We are a 'translation layer' between key parties to ensure they understand each others' respective positions and points of view
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> ▪ Information sharing between the two sectors to understand respective policy, business and customer drivers. ▪ Forum for best practice / current outputs from relevant projects and activity. ▪ A conduit for developing industry 'standards' and platforms (e.g. customer incentive mechanisms). ▪ The need for consistent / coherent messaging to customers relating to demand side response.
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).	<ul style="list-style-type: none"> ▪ Historic: <ul style="list-style-type: none"> ○ My Electric Avenue www.myelectricavenue.info ▪ In progress: <ul style="list-style-type: none"> ○ Smart EV http://www.smarternetworks.org/Project.aspx?ProjectID=1883 ○ CarConnect http://www.smarternetworks.org/Project.aspx?ProjectID=1905

6. ENA - Jamie McWilliam, Sam Rossi Ashton

Name	Jamie McWilliam
Organisation	Energy Networks Association
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> ▪ Safety of installation; customer and network operator equipment ▪ Understanding the increase in loading and the clustering effect
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> ▪ Time of use charging ▪ Integrity and maintenance of installation data
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).	<ul style="list-style-type: none"> ▪ All projects that involve the electrification of transport should be detailed on the Smarter Networks Portal

7. Ford Motor Company / SMMT EV Group - Tim Nicklin

Name	Tim Nicklin
Organisation	<ol style="list-style-type: none"> 1. Ford Motor Company 2. Chair of Society of Motor Manufacturers and Traders' (SMMT's) Electric Vehicle Technical Working Group (EVTWG)
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> ▪ Manufacturer of EVs and PHEVs. ▪ Trade association for vehicle manufacturers and other businesses with an interest in vehicle engineering and manufacturing.
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> • No proposals to expand beyond the description in the draft terms of reference.
Question 3:	<ul style="list-style-type: none"> • This seems to be an extraordinarily wide - ranging question.

<p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	
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8. Institution of Engineering and Technology - Gordon Graham

Name	Gordon Graham
Organisation	Institution of Engineering and Technology
<p>Question 1:</p> <p>What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ The IET is one of the world's largest engineering institutions with Over 167,000 members in 127 countries. It is also the most multidisciplinary – to reflect the increasingly diverse nature of engineering in the 21st century. ▪ The IET is working to engineer a better world by inspiring, informing and influencing our members, engineers and technicians, and all those who are touched by, or touch, the work of engineers.
<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ Acting as host with observer role for the initial meeting.
<p>Question 3:</p> <p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ None currently

9. Institution of Mechanical Engineers - Brian Robinson

Name	Brian Robinson
Organisation	Institution of Mechanical Engineers
<p>Question 1:</p> <p>What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ Our Vision is to improve the world through engineering by inspiring the next generation, developing professional engineers and setting the agenda. ▪ The links between CO2 from fossil fuels and global warming is firmly established, and the desire to reduce the CO2 emissions associated with transportation remains a key policy driver. ▪ Concerns over local air quality have also re-emerged as a significant policy driver in large cities.

	<ul style="list-style-type: none"> ▪ IMechE is interested understanding the different choices for low carbon mobility, with a critical appraisal of the strengths and weaknesses in each area, including electrification.
<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ None currently
<p>Question 3:</p> <p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ None currently

10. LowCVP - Andy Eastlake, Jonathan Murray

Name	Andy Eastlake, Jonathan Murray
Organisation	Low Carbon Vehicle Partnership
<p>Question 1:</p> <p>What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ LowCVP's mission is to 'accelerate the shift to low carbon vehicles and fuels and help UK plc benefit from that shift'. ▪ LowCVP's role is to engage with stakeholders to understand barriers and propose solutions to decarbonising road transport. ▪ LowCVP has been involved in developing many of the technology, fuels and infrastructure roadmaps for low carbon road transport. ▪ BEVs and PHEVs will be important in achieving UK's ambitions to decarbonise road transport to 2050. ▪ LowCVP co - hosted the Transport Energy Task Force, its first report focused on making recommendations to DfT on the role liquid and gaseous fuels in decarbonising road transport to 2030.
<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ Provide a forum between automotive and energy sectors to establish a common view on issues and how they are best addressed. ▪ Provide a dissemination role for relevant projects and activity relating to EV ready grid. ▪ Most focus has been on the deployment of electric cars and infrastructure to support them. Less attention has been placed on commercial vehicles and buses, which will place different demands on network and infrastructure provision.
<p>Question 3:</p> <p>Are you aware of any historic, current or</p>	<ul style="list-style-type: none"> ▪ Roadmaps relating vehicle technology, fuel and infrastructure available from http://www.lowcvp.org.uk/initiatives/transportroadmap/RoadmapsHome.htm ▪ The specific electricity infrastructure roadmap can be downloaded here.

<p>planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ Study of electric buses in cities http://www.elliptic-project.eu/ ▪ Transport Energy Task Force http://www.lowcvp.org.uk/projects/transport-energy-task-force.htm
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11. National Grid - Kein-Arn Ong

Name	KEIN - ARN ONG
Organisation	National Grid
<p>Question 1:</p> <p>What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ Understanding future impact on demand, especially with larger chargers ▪ Roadmap of charger sizes would be ideal ▪ Understanding impact of vehicle to grid ▪ Understanding where EVs are in GB for local network planning
<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ Uncertainty – when is mass take - up going to occur ▪ Uncertainty: charger size, when and where people will charge ▪ Impact of larger chargers on demand and network investment ▪ Impact of Time of User Tariffs if any ▪ Investment Uncertainty: Vehicle to Grid could mitigate larger chargers and provide services to the network companies. Investing assuming vehicle to grid does not occur is probably not prudent.
<p>Question 3:</p> <p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ Historic Only: ▪ Customer Led Network Revolution ▪ http://www.networkrevolution.co.uk/customer-trials/domestic-customer-trials/electric-vehicles/ ▪ CLNR – London. Multiple reports as follows: ▪ http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Low-Carbon-London-(LCL)/ ▪ CABLED study ▪ http://www.aston.ac.uk/news/releases/2010/october/electric-vehicles/ ▪ CLNR – Bristol – Electric buses ▪ http://www.westernpowerinnovation.co.uk/Projects/Electric-Boulevards.aspx ▪ National Grid Power Responsive ▪ http://www.powerresponsive.com/ ▪ This work is looking to promote all forms of demand response and demand turn - up. ▪ National Grid: Frequency Response tender ▪ In future we anticipate being able to procure response services from aggregators i.e. companies that can modify EV charging profiles en masse. <p>http://www2.nationalgrid.com/Enhanced-Frequency-Response.aspx</p> <p>Desktop exercise on frequency response including EVs, proving concept works</p> <p>http://www.nationalgridconnecting.com/fresh-thinking-on-frequency-response/</p>

12. Ofgem - Judith Ross

Name	Judith Ross
Organisation	Ofgem
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> Ofgem is responsible for the regulation of electricity networks, and of electricity markets. The deployment of EVs and charging infrastructure will depend on access to networks, and will present both challenges and opportunities for network management. We are keen to understand the possible range of business models to deliver infrastructure, and on aspects of demand - side response that might be sought from EV owners.
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> I'd be keen to understand from the industry participants what barriers and issues they are facing, so haven't offered a list here.
Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).	<ul style="list-style-type: none"> Not an exhaustive list, but under Ofgem's price control funding has been made available for a number of trial projects looking at EVs and distribution networks: My Electric Avenue http://myelectricavenue.info/ Customer - Led Network Revolution: http://www.networkrevolution.co.uk/ Low - Carbon London: http://innovation.ukpowernetworks.co.uk/innovation/en/Projects/tier-2-projects/Low-Carbon-London-(LCL)/

13. SMMT - David Wong

Name	David Wong
Organisation	SMMT
Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?	<ul style="list-style-type: none"> To further develop the market, drive uptake of ULEVs and maximise opportunities for our members. To act as the voice of the UK automotive industry by channelling members' views, positions and concerns. To help the automotive industry meet Government objectives related to lowering emissions.
Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?	<ul style="list-style-type: none"> Electricity distribution issues, including capacity and controlled charging of EVs. National - level energy and grid - related strategy issues.

<p>Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ Plugged - in Places ▪ Highways England motorway dynamic inductive charging trial (now shelved) ▪ My Electric Avenue ▪ Smart EV
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14. SSEPD - Stewart Reid

<p>Name</p>	<p>Stewart A Reid</p>
<p>Organisation</p>	<p>SSEPD</p>
<p>Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ Keeping the networks ready to absorb and support EVs
<p>Question 2: What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ Standardisation of Charge control and demand side Response / management ▪ 2 way communication of the constraints that each stakeholder is operating to.
<p>Question 3: Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport? If so, please give details (e.g. web link to report / web page).</p>	<p>A number on the ENA innovation portfolio.</p>

15. Transport for London - Mark Poulton

<p>Name</p>	<p>Mark Poulton</p>
<p>Organisation</p>	<p>Transport for London (TfL)</p>
<p>Question 1: What specific interest does your organisation have in understanding or facilitating the electrification of transport?</p>	<ul style="list-style-type: none"> ▪ The electrification of transport in London is key to improving air quality and decarbonising our transport system. The Mayor's policies and TfL's plans, while mostly technology - neutral, provide opportunities for electric vehicles to fill the space currently occupied by combustion - engined vehicles. The Ultra Low Emission Zone in 2020 will incentivise cleaner vehicles through access charges for non - compliant 2 - wheelers, cars, vans, trucks, coaches and buses.

<p>Question 2:</p> <p>What issues, barriers or concerns relating to the electrification of transport could be addressed by the EV Network Group?</p>	<ul style="list-style-type: none"> ▪ The Mayor has targets for improving air quality, reducing climate change emissions and increasing renewable energy generation in London. A key question for the Mayor, the GLA and TfL is how increasing demand for energy (electricity) for transport (and heating) and a growing proportion of intermittent renewable generation will be accommodated. How are the roles of smart EV charging, microgrids, energy storage and DSR/grid balancing integrated? Who is responsible? How is investment funded? How will business models, value chains and regulation evolve?
<p>Question 3:</p> <p>Are you aware of any historic, current or planned projects or initiatives involved with the electrification of transport?</p> <p>If so, please give details (e.g. web link to report / web page).</p>	<ul style="list-style-type: none"> ▪ TfL is trialling a number of pure electric buses (single and double - deck) and range - extended hybrid double - deck buses (using high - power induction charging) and from late 2016 will see the complete switch of two central London high - frequency bus routes to full electric operation. From 2018, all newly - licensed taxis will have to be Zero Emission Capable (ZEC) – either plug - in hybrid or pure electric. Building on the Source London EV charging network (which is now privately - operated), TfL is currently tendering a Concession contract for the provision of a rapid charging network from 2017 to enable ZEC taxis and other commercial EVs to charge during their normal daily operation.