

## **ELECTRIC VEHICLE CHARGING IN WALES – CONSULTATION**

Gemserv welcomes the opportunity to respond to this consultation with a deep appreciation for the challenges that come with electric vehicle charging, the need to meet climate change and air quality requirements and the need for a prosperous low carbon economy.

Our response draws heavily from unique insights and energy market experience in our capacity as a central code governance body spanning over 15 years across electricity and gas. Our consultancy services work covers a wide range of energy policy and regulatory aspects, including: price controls, customer switching, smarter markets, assurance, data protection and cyber security. We are at the heart of the fundamental market reforms already underway and experience first-hand the challenges and the opportunities that arise across the entire energy sector.

While we commend the government on their firm commitment to meet legal obligations and the electrification of road transport, we believe more needs to be done to achieve government targets and associated benefits of economic growth and structural change as embedded in 'The Road to Zero'.

You will find our full response in the appendix, but we would like to highlight three main points here:

- (1) We believe that comprehensive coverage of EV public charge points - as part of a strategic approach to national infrastructure deployment - is essential for the future growth of Wales' business and tourist economy, and for the wider benefits of decarbonised road transport as set out in "The Road to Zero";
- (2) Gemserv has engaged with over 30 organisations from across the EV value chain and formed the view, that to pre-emptively avoid market failure and maximise the ability for business to capitalise on the low carbon transport opportunities, an industry-wide electric vehicle governance framework is required; and
- (3) Based on feedback we have received so far from two industry workshops held in collaboration with Energy UK - industry stakeholders are converging towards a consensus that an agile industry-led governance body is needed to deliver strategic oversight, best practise, innovation and novel products for the electric vehicle market.

Please do not hesitate to contact us if we can support you in your work, to share our thoughts and ideas and to answer any questions you may have with respect to our response.

As we progress through workshops and round table discussions, Gemserve will launch a cross-sector consultation around the end of the year to further build the insights for an effective Electric Vehicle Governance Framework (EVFG). Our work will be supporting the EV Task Force and we'd be delighted to provide further information to the Committee.

## **APPENDIX:**

### **GEMSERV RESPONSE TO THE ELECTRIC VEHICLE CHARGING IN WALES CONSULTATION**

The Economy, Infrastructure and Skills Committee would welcome your views on:

#### **1. To understand the current charging infrastructure in Wales, and to what extent it is fit for purpose;**

- a. UK national infrastructure has in the order of 18,000 public charging points of which Wales contributes 579 charging points (3.2%). In comparison Greater London contributes 3892 charging points (21.8%), Scotland 2720 charging points (15.3%) and the South East 2455 charging points (13.8%) which accounts for 51% of the national infrastructure deployment. Ref. [Zap-Map Stats Sep 2018](#).
- b. We would suggest that a coherent public charging point coverage as part of a national infrastructure is essential to the future growth of Wales business and tourist economy and the ability to embrace the "The Road to Zero<sup>1</sup>" UK strategy for decarbonised road transport.
- c. While we support the view that competitive market forces should drive the uptake of electric vehicles and the deployment of appropriate smart enabled charging infrastructure, it is unlikely that government targets and other public policy benefits (e.g. on air quality and avoided infrastructure costs) will be achieved without any market intervention (e.g. light touch regulation supported by industry-led guidance and code for best practise (see below)).
- d. It is important to recognise that Wales needs to have a charging infra-structure that is fit to support the anticipated growth of the electric vehicles in the UK overall in line with government targets to phase out fossil fuel vehicles and a joined-up approach between the vehicle owners or drivers, the smart charging infra-structure provision and the energy system.
- e. In this context we would encourage the Committee and in turn the Welsh Government to consider the infrastructure needs for public charging, workplace charging and residential

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<sup>1</sup> Department for Transport (2018) The Road to Zero – Next steps towards cleaner road transport and delivering our Industrial Strategy. London: Department for Transport

charging from an integrated system perspective and provide clarity on what needs to be achieved for Wales to transition to smart low carbon road transport.

- f. We would also encourage the Committee and in turn the Welsh Government to consider the need for electric vehicle charging in Wales in conjunction with the anticipated implementation of Clean Air Zoning (CAZ) to meet legally binding air quality requirements.

**2. How the infrastructure needs to develop to support an increase in EVs on our roads. How the Welsh Government, private sector and third sector can work together to develop EV charging infrastructure;**

- a. Gemserve has engaged with over 30 organisations from across the EV value chain and formed the view, that in order to pre-emptively avoid market failure and maximise the ability for business to capitalise on the low carbon transport opportunities – a industry wide electric vehicle governance framework would be a key enabler for customers and industry alike to embrace electric vehicles as the “New Normal” for a world leading low carbon economy.
- b. Based on feedback we have received so far from two industry workshops in collaboration with Energy UK - industry stakeholders are converging towards a consensus that an agile industry forum would be best placed to implement a governance framework delivering best practise while creating opportunities for innovation and novel product development.
- c. Four priority areas have been identified that are key for market governance to ensure that government targets and consumer expectations are met:
  - 1. **Infrastructure:** interoperability in the national charging infrastructure including customer acceptance, integrated service delivery, data management and security;
  - 2. **Smart Charging:** to set the procedures for the correct usage of smart charging technologies including V2X to ensure grid flexibility, avoid unnecessary power infrastructure reinforcement and enable new services;
  - 3. **Customer Services and Protection:** for increasing confidence in charging infrastructure service provision (for example, pricing information at charge points and redress arrangements);
  - 4. **Governance and Collaboration:** harnessing the power of data, digitalisation and technology. A customer centric approach, facilitating competition, underpin market interoperability, liberate innovation and therefore investors, simplify governance for new and existing businesses and ensure that key strategic issues are not lost.

**3. Whether the electricity grid in Wales is able to deal with a significant increase in EV infrastructure, particularly in rural areas;**

- a. While we appreciate that there may be limitations in the distribution network in dense and aging urban areas as well as rural areas there are mitigating measures that could alleviate some of these concerns in the interim.

- i. Limiting the charging current as part of the Electric Vehicle Supply Equipment (EVSE) charge controller in areas known to have supply constraints. This could be either configured as fixed parameter settings in the EVSE controller or be implemented as a dynamic process using a suitable backend solution integrated with monitoring devices for constrained supply points. Managed EV charging may also facilitate consumers to offer support to DNO's resolving network constraints as well as providing an automated safeguard to protect network assets in the event of an overload.
  - ii. Encourage EV users to configure the charging of their vehicles with in-car charging configuration increasingly provided with the EVs to charge in off-peak periods and indeed to reduce the charging power to the minimum setting of 6A if the vehicle is parked for an extended period which would not just benefit the constraint grid supply but also the longevity of the vehicle battery. This may require a campaign to inform a wide audience of EV drivers who may be unaware of the constraints and the options to mitigate them.
  - iii. We would encourage the uptake of onsite Solar PV to increase the available supply capacity from local generation well placed to compliment the uptake of electric vehicles for charging at home or charging at work.
  - iv. We would suggest that while there is a need for high power / rapid charging stations to decarbonise vehicle miles in the long-distance travel context, - this should be considered on a case by case basis and is not necessarily a barrier to the day to day use of electric vehicles in most use cases.
- b. While we would suggest that there are mitigating interim measure to minimise grid impact and potentially defer investment in the distribution network, we do not believe that this is a viable long-term solution. Inevitably, investment is required to progress decarbonisation of heat in addition to the uptake of electric vehicles and there should be clarity what investment will be required and when to achieve this.
- c. We would also suggest that it is unlikely that a holistic system solution for low carbon transport and low carbon heat can be achieved solely on the basis of market forces and we are working with a wide range of stakeholders to introduce an Electric Vehicle Governance Framework (EVGF) that gives guidance and a code of best practise to the market.
- d. We would like to draw your attention to the risk of uncoordinated infra-structure development resulting in sub-optimal solutions with poor customer acceptance and possibly a considerable number of stranded infra-structure assets.

**4. To explore the potential for electric vehicles to promote behaviour change, for example in terms of vehicle ownership and car sharing initiatives;**

- a. We would suggest that there is a trend towards Mobility as a Service (MaaS) and initiatives such as car sharing clubs but would not necessarily attribute this to the uptake of electric vehicles.

- b. We would be supportive in the view that new services may well promote behaviour changes but the bottom line being what are the benefits to the customer driving that change.
- c. We would therefore suggest that an integrated system view should govern behaviour change with clear benefits to all parties involved i.e. integration of electric vehicles as part of an increasingly distributed energy system, integration of electric vehicles as part of data sharing of digitally integrated public transport services as well as other relevant aspects such as availability of parking and charging.

**5. To what extent the Welsh Government has acted upon the recommendations in the Low Carbon Vehicle Report; and**

- a. While we agree with the recommendations in the Low Carbon Vehicle Report, nevertheless the market place for electric vehicles is under achieving and potentially failing with regards to the overall targets for the UK.
- b. Wales is at risk to be unprepared to deliver the exponential growth in the uptake of electric vehicles needed as part of the desired UK's low carbon economy growth.
- c. We would suggest this is unlikely to be addressed by market forces alone in the short to medium term which could leave Wales disadvantaged.

**6. Examples of best practice from Wales and further afield.**

- a. While we are certain that some progress is being delivered across the UK and Wales, this however does not amount towards creating a competitive market place for electric vehicles in the UK which would put the UK at the forefront of the electric vehicle revolution to capitalise on a business opportunity with global reach.
- b. We would suggest that a major barrier remains with respect to delivering an integrated and coordinated effort towards a national infrastructure based on a common agenda shared by local authorities, industry (automotive, energy, digital) to deliver world class customer propositions that will accelerate the uptake of electric vehicles in Wales and elsewhere in the UK.