

EDF Energy response to London Assembly Electric Vehicle Questions

- We expect electric vehicle volumes and the respective additional electricity demand to be relatively low up to 2020.
- It is important to manage demand through the use of off peak tariffs and smart meters to encourage off peak charging which will also enable EVs to maximise their cost and carbon saving potential.
- Analysis demonstrates that in the UK today, the well to wheel CO2 footprint of an EV is up to 40% less than a conventional petrol car. As the UK decreases the carbon intensity of its electricity generation through an increase in renewables, nuclear and carbon capture & storage, carbon savings from EVs will increase even further.
- Early insight from our two Technology Strategy Board trials and international trials, as well as UK research, shows that only a very small percentage of charging takes place at public charge points; customers charge their vehicles primarily at home and work.
- It is important that investment in infrastructure is carefully matched to its likely usage to avoid costly and unnecessary investment. Furthermore, a non-complex solution for on-street EV charge points is sufficient.

We expect over 600,000 electric vehicles on the road in the UK by 2020¹. At this take up the additional expected electricity demand will be less than 1%² of the total electricity demand. There is sufficient generation to meet this additional demand. In the longer term it will be important to manage demand through the use of off peak tariffs and smart meters to encourage off peak charging which will also enable EVs to maximise their cost and carbon saving potential.

Electricity demand will increase, however provided that this demand is managed so as to occur at times of low demand this will not necessitate a proportionate increase in generation capacity. Utility companies are working now to ensure demand from electric vehicles is managed to occur at off peak times, where spare generation capacity can be utilised. This will minimise the effect electric vehicles have on the grid and even increase the efficiency of our existing generation.

EDF Energy believes that EVs can make a significant contribution to decarbonising London's transport. Analysis demonstrates that in the UK today, the well to wheel CO2 footprint of an EV is up to 40%³ less than a conventional petrol car. As the UK decreases the carbon intensity of its electricity generation through an increase in renewables, nuclear and carbon capture & storage, as advocated by key stakeholders such as the Committee on Climate Change, carbon savings from EVs will increase even further with the potential for zero carbon transport in the future. EDF Energy is currently the largest producer of low-carbon electricity in the UK, producing around one-sixth of the nation's electricity from its nuclear power stations, wind farms, coal and gas power stations and combined heat and power plants. EDF Energy is leading the UK's nuclear renaissance and has published plans to build four new nuclear plants, subject to the right investment framework. These new plants could generate enough low carbon electricity for about 40% of Britain's homes, making an important contribution to the UK's future needs for clean, secure and affordable energy.

¹ EDF Energy analysis

² EDF Energy analysis

³ SMMT Electric Car Guide 2011, page 22

Early insight from our two Technology Strategy Board trials and international trials, as well as UK research, shows that only a very small percentage of charging takes place at public charge points; customers charge their vehicles primarily at home and work. Therefore, the dependency on public charging infrastructure is not as high as perceived. It is important that investment in infrastructure is carefully matched to its likely usage to avoid costly and unnecessary investment. Furthermore, a non-complex solution for on-street EV charge points is sufficient. Source London is a good example of simple, easy to use infrastructure. Although we see only a very small proportion of charging taking place on-street we recognise that it is symbolically important for the development of the market. EDF Energy has been working with Elektromotive, a leading provider of EV recharging infrastructure, since 2007; to date approximately 100 Elektrobays have been installed across the UK with our support.

EDF Energy is investing in home, workplace and public EV charging infrastructure. We are developing products and services for the home and workplace, where we believe nearly 90% of charging will take place. EDF Energy's residential recharging product, EcoRecharge features an intelligent timer to enable easy off-peak recharging, a smart meter to provide customers with statements on their vehicle's carbon and electricity consumption and Eco 20:20 tariff which offers discounted rates for off-peak charging. EDF Energy is partnering with Peugeot and Citroën UK to offer residential and fleet customers electric vehicle recharging products and services. EDF Energy will offer business fleet customers a range of recharging products and services depending on the organisation's requirements. These include: site survey, technical report, a range of recharging products, installation services and smart metering technology.

EDF Energy recognises the importance of infrastructure standardisation. This is vital to ensure:

- the compatibility of recharging points across the UK and beyond;
- infrastructure is easy and convenient to use; and
- the viability of investment in new infrastructure.

We are actively engaged in influencing the standardisation of EV recharging at a UK and European level. Through the Energy Technologies Institute (ETI), of which we are a founder member, we are working to inform key decision and policy makers in the development of compatible networks of recharging infrastructure at a national, regional and local level.