



## Leading the Charge

**As we move towards a lower carbon world, Consultus and its partners are working to roll out next-generation smart networks for electric vehicle charging.**

Where once the uptake of electric vehicles (EVs) was slow, it's now starting to accelerate, driven by factors including environmental regulation, government policy and technical innovation. Momentum is growing.

Just a few weeks ago, for example, *Jaguar Land Rover* announced it would build a range of electric cars in the UK. Dr Ralph Speth, company chief executive, said "The future of mobility is electric and as a visionary British company, we are committed to making our next generation of zero-emission vehicles in the UK."

The UK government has forecast some three million EVs on the nation's roads by 2025. And that's hardly the distant future: some goods on supermarket shelves today have got similar "use by" dates. This change will require *three million charge points* by 2025, hence a range of government grant schemes for electric vehicle charging infrastructure.

And that's just the beginning. By 2040, two-thirds of vehicles sold in Europe will be electric. It's anticipated that, by 2050, there will be 20-25 million EV passenger cars on UK roads.

## The 'Road to Carbon Zero'

The environmental impacts of the switch to EV are well known, notably in terms of carbon reduction and removing other pollutants from the atmosphere. We could be looking at 50-60% average savings on CO<sub>2</sub> emissions in Europe rising to 100% if EV charging was done using renewable electricity.

At the same time, however, the 3.5 kW energy consumption of one of today's popular EV models is still equivalent to a kettle operating at a continuous rate for several hours. So serious EV uptake could also double current domestic peak demand.

There's already a phenomenon that National Grid engineers call "TV Pickup" when, straight after a popular television show ends, there's a huge surge in electricity demand for 3-5 minutes as viewers pop into the kitchen and turn the kettle on. Imagine all those kettles running continuously hour after hour, not just in those few minutes after a TV soap finishes, and you can appreciate the scale of the challenge.

And in this new world of smart cities, the Internet of Things (IoT) and connected cars, it's anticipated that around 40% of EV charging will occur away from the home, including 30% in the workplace.

So the charging network is an essential piece of the jigsaw that also needs to come up to speed (I'm mixing imagery here, but you get my point). Traditional non-networked "dumb chargers" won't do the job as demand for EVs grows. Indeed, if you install any more, you'll be faced with ripping and replacing them at some point down the line in favour of next-gen equipment. In fact, that technology is already here.

"Smart charging" enables all types of organisations to connect EV charging stations to a network. In any sector or sphere of operations, public or private, this approach can bring many benefits: from monitoring and detailed reporting to personalising who can charge and how much they pay, and installing new charging points and functionality without electrical upgrades.

I'll cover the benefits in a little more detail in a future blog, along with a more detailed explanation on how the network would work, and what it will look like.

So what's our role in all this? Well, we've always been a leader in consulting and services to help our clients reduce power consumption and costs while addressing their sustainability and "green agenda". Consultus is now partnering with other industry leaders to provide the flexible, eco-friendly, high-performance EV charging infrastructure that will underpin the permanent move to electric vehicles.

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