

## What is the Charge Project?

The Charge Project is an exciting initiative from SP Energy Networks, delivered in collaboration with EA Technology, PTV Group and Smarter Grid Solutions, which aims to accelerate the UK's transition towards electrified transport.

It's also a vital part of SP Energy Networks' commitment to help the UK achieve Net Zero by 2050.

Running for four years throughout Merseyside, Cheshire, North Shropshire, and North and Mid Wales, the Charge Project will – for the first time – merge transport and electricity network planning together. It will create a comprehensive map of the region that identifies where EV chargepoints are needed and can be best accommodated by the electricity network. It will also pioneer smart charging connections to accelerate chargepoint installation.

## The CIM is unveiled at LCV2021



The Charge Project is officially launching its ConnectMore Interactive Map at the Cenex-LCV2021 conference and exhibition, the UK's premier low carbon vehicle event.

[www.chargeproject.co.uk](http://www.chargeproject.co.uk)

The ConnectMore Interactive Map (CIM) is designed to identify future public EV charging demand and network capacity across the North West region between 2025 and 2050. By enabling local councils, site owners, developers and CPOs to understand both where EV ownership – and thus charging demand – is likely to be high, and where that demand can be accommodated by the electricity network, the CIM should help to boost the business case for chargepoint installation.

In the past, both local authorities and businesses may have been put off from investing in EV charging because establishing demand and feasibility has been too time-consuming and complex. The CIM has been developed to provide the hard evidence needed to get chargepoint projects off the ground by quickly and easily pinpointing the optimum locations for charging investment.

The CIM will be demonstrated at an LCV2021 workshop event on the morning of 22 September. In addition, Geoff Murphy and Adrian Vinsome from the Charge Project will be co-presenting with Optimise Prime at an LCV event entitled 'How DNOs can support mass EV uptake' on 22 September at 9:15am.

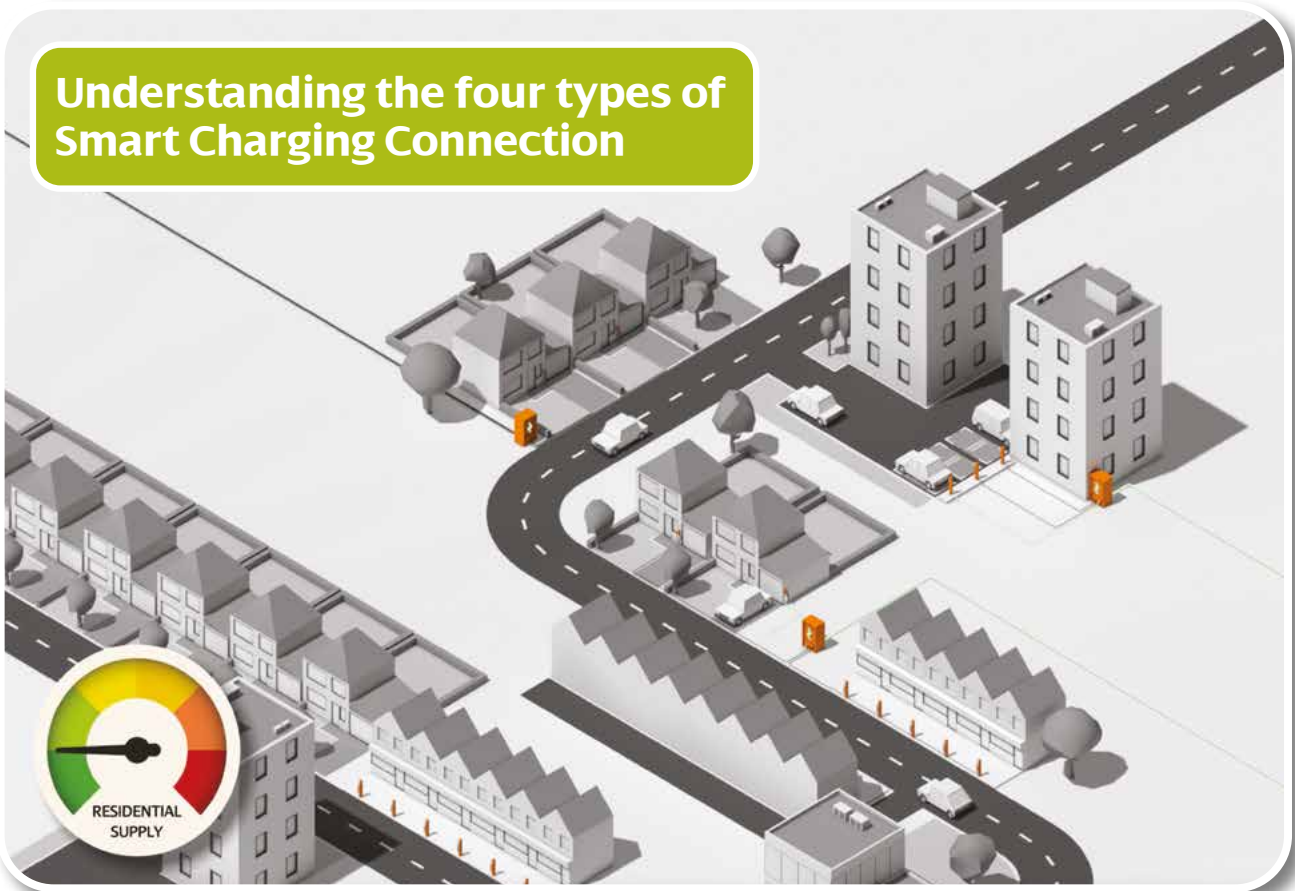


ConnectMore





## Understanding the four types of Smart Charging Connection



While demand is growing rapidly for public charging ahead of the 2030 cut-off point for the sale of new petrol-and diesel-fuelled vehicles, many CPOs, local authorities and site owners remain unsure about both the physical and financial ramifications of installing chargepoints and connecting them to the electricity network.

One of the core objectives of the Charge Project is to educate interested parties in the different types of EV charging solution that exist, and ultimately encourage the installation of more chargepoints in Britain's streets, roadside amenities and car parks.

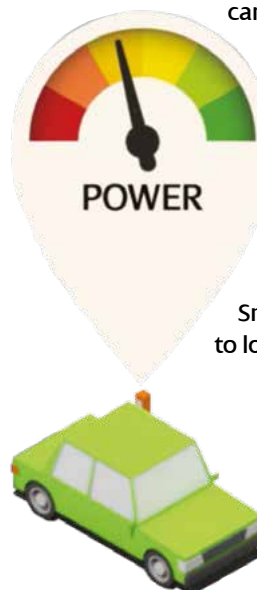
In the past, anybody applying to install chargepoints would receive a connection offer from the electricity provider based on the network reinforcement work that would need to be carried out. These 'reinforcement-led connections' are often both expensive and timely to deploy, which can be a disincentive for potential chargepoint installers/owners and impact the availability of public charging.



However, in many instances, it is now possible to offer 'flexible connections' instead, which minimise the need for reinforcement, and usually result in a cheaper and quicker connection. How do they work? Essentially, a flexible connection utilises the inherent intelligence of modern chargepoints to ensure their demand never exceeds the available capacity of the electricity network. This also often means that more chargepoints can be installed in the same location.

The Charge Project refers to the types of flexible connection being explored specifically for public chargepoints as Smart Charging Connections.

In particular, it is investigating the deployment of four different types of Smart Charging Connections, according to location and demand.

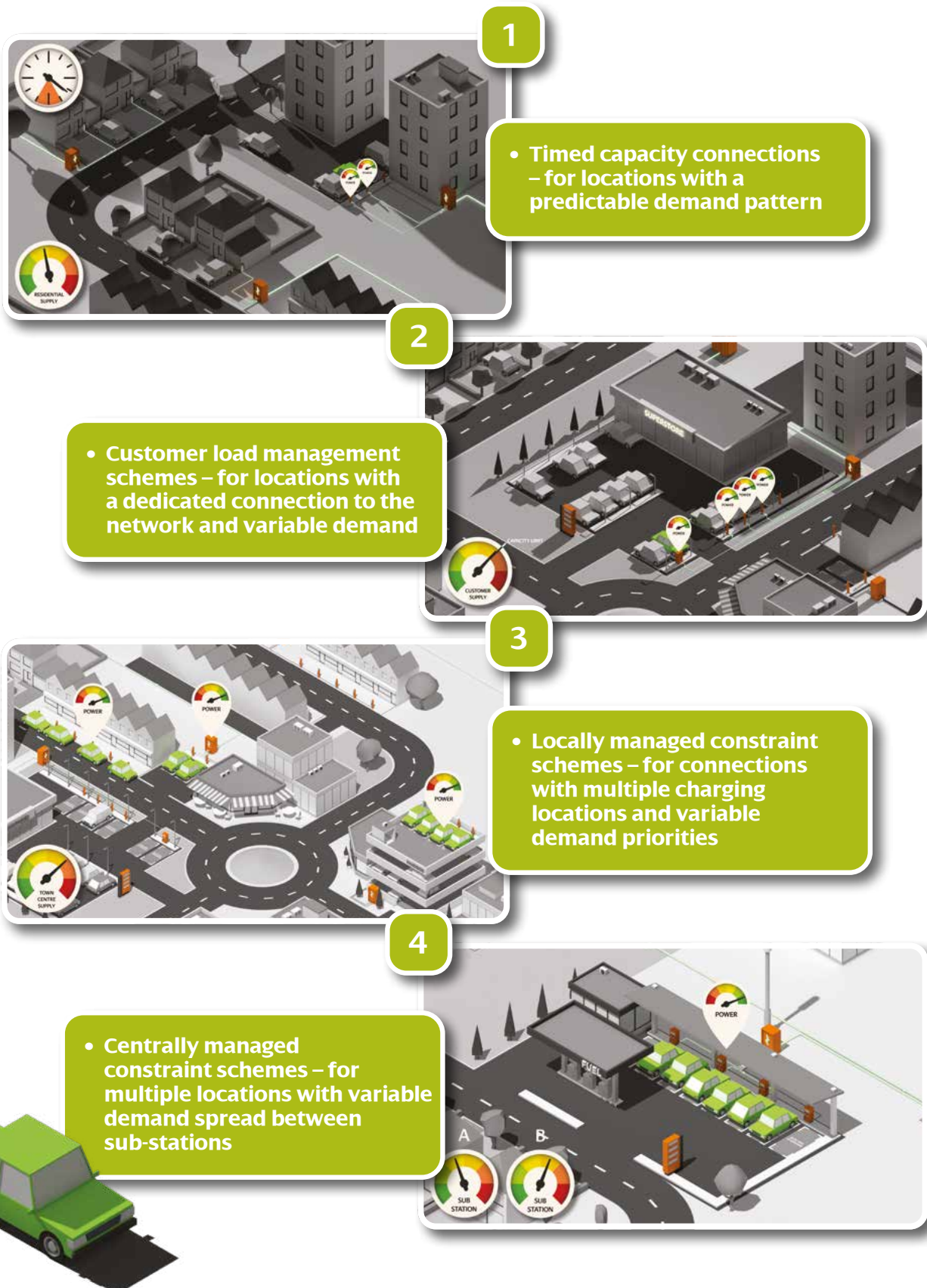






To help understand how each type works, the Charge Project has produced a series of informative animations that illustrate the features of each Smart Charging Connection.

By clearly showing how the various options work, we aim to highlight the many different scenarios in which flexible connections can be applied, and help advance chargepoint installation from the network reinforcement model of the past.





## Meet the team



**Alastair Oldfield,**  
**Lead Engineer,**  
**the Charge Project**

### **How did you become involved with the Charge Project?**

I've been with SP Energy Networks for 22 years, and for the vast majority of this time I worked on the Customer Connections side of the business, before becoming the Distributed Generation Expert for the SP Manweb license area.

### **What does your day-to-day work life involve?**

As a Lead Engineer, I'm tasked with ensuring that the technical data we supply to our partner EA Technology is as accurate as possible, and that the ConnectMore Interactive Map and Cost Estimation tool meet all project requirements. I'm also part of an ENA Working Group looking at how to make it easier for low carbon technology customers to navigate the DNO request processes and connect to the network more easily.

At the moment I'm working from home, which has made me more productive due to less travel between sites and an increased use of technology, which I am all for. I'm also enjoying the extra time it's given me to spend with my family, and the extra flexibility to sometimes do the school run, which I haven't been able to do in the past.

### **What's the best thing about your job?**

The best thing about the job is the chance to make a difference to the way the Connections and Design teams work within the business and interact with customers. There'll be something tangible to see at the end of the project that will help to enhance the way SP Energy Networks operates, and these learnings can then be adopted by other DNOs.

### **What do you do outside of work?**

I live with my partner and our nine-year-old son, Joshua, who already wants to follow in his dad's footsteps in the electricity industry, which will make him the third generation in our family after my dad spent 42 years in the industry.

As anybody who's been on a Teams call with me will know, I am surrounded by my hobbies! I'm a keen singer, guitarist and



guitar collector, playing and singing in a couple of different bands and solo. I am also a keen modelmaker, building models and model railway layouts with the help of my son to exhibit at shows around the country.

I'm also an Exhibition Manager at my local railway club and on a local community committee, where I organise transport festivals and help run the local galas.

### **What's the biggest challenge that the UK faces in its drive to Net Zero by 2050?**

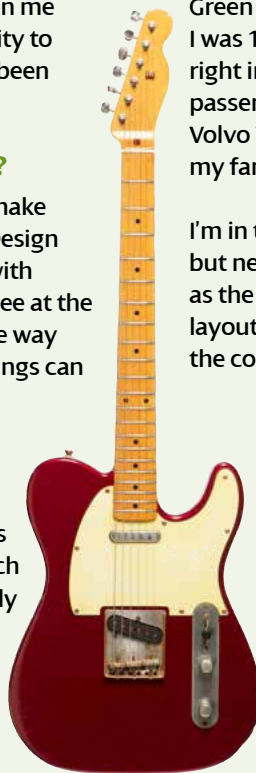
The biggest challenge is simply preparing the country to be more reliant on renewable energy. The network needs to be ready to accommodate connections to all types of low carbon technology, not just electric vehicles, and to cope with the increased demand and changing load profiles of LCT users.

### **What was your first car and what do you drive now?**

My first car was a British Racing Green Renault Clio when I was 18, which I loved. I particularly enjoyed turning right in it, as the sunroof would leak and drench my passenger every time it rained! I'm currently driving a Volvo V60, primarily for the safety and security of my family.



I'm in the process of shopping around for my first EV, but need a car that has the same luggage capabilities as the Volvo, as I regularly carry guitars and exhibition layouts up and down the country.



# Q&A

## Meet the team



**Ana Duran,**  
**Senior Consultant,**  
**EA technology**

### How did you become involved with the Charge Project?

I've been working for EA Technology since 2014 and had just returned from maternity leave in September 2020 when I was offered the opportunity to join the Charge Project. I've always wanted to work in the EV field and it just so happened that the Product Owner role became available at that time. My previous involvement in other network innovation projects, such as CLNR and OpenLV, and experience of the analysis of electrical networks, the design and manufacturing of voltage control assets, and client liaison and team management, helped me to settle into this new position.

### What does your day-to-day work life involve?

As the Product Owner of ConnectMore, I'm responsible for liaising with the client and wider stakeholders to ensure that all their requirements are maximised against project budget and timescales. As such, I'm the link that translates the tool requirements into specifications for our development team to implement in a sequential and timely manner.

Due to the current pandemic circumstances, I've been working from home - however, I'm actually very impressed at how well we've all adapted to working remotely, how much interaction we get through Teams, and all the positives that this new working arrangement has brought to us too. Not having to travel to work, meetings, conferences etc has freed up a lot of time I would have previously spent unproductively... not to mention the extra half an hour in the morning and evening I can spend with my family, and the fresh food I can prepare for lunch every day!

### What's the best thing about your job?

It's difficult to pick just one thing. My role is very sociable and team-orientated. I need to speak with the development team and project colleagues daily and have constant

conversations with the client. A lot of my time is spent in meetings reporting on progress or agreeing on and creating specifications. I also like the fact that, as an innovation project, we are meeting challenges and delivering solutions that positively and tangibly affect our lives – in this specific case, by accelerating the rollout of EVs on our roads.



### What do you do outside of work?

I spend most of my time looking after my 1-year-old daughter and enjoying family time, but I also like to set aside time to exercise and play sports. I play for Chester FC Women and compete as a team member for Neston Tennis Club. Trying to combine being a mother with my hobbies, I also do lots of walking, running and cycling with my daughter, something that she enjoys very much too!

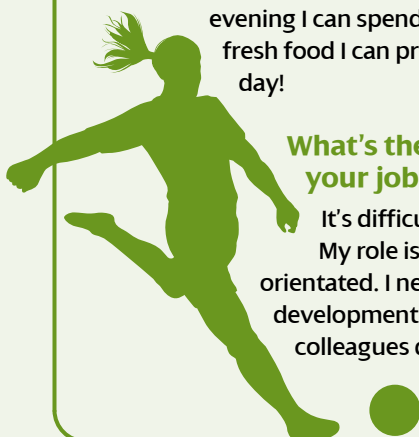
### What's the biggest challenge that the UK faces in its drive to reach Net Zero by 2050?

I would say the electrification of transport and heating, coupled with the expansion of renewable and low carbon generation. However, equally challenging, I think, are the societal changes required to reduce the demand for carbon-intensive activities.



### What was your first car and what do you drive now?

The first car I drove was my mother's Volkswagen Golf. I didn't need a car of my own until very recently, but with a young and growing family, we now have a BMW series 5, which provides us with all the space we need. However, I believe this will be our last internal combustion engine car and I look forward to a similar electric version next time!







## We still need to win the “range anxiety” argument

The so-called “range anxiety” debate was sparked again recently when Allegra Stratton, the UK government’s COP26 climate summit spokesperson, admitted that she still uses a diesel-fuelled car. She told Times Radio she needed to make long journeys to visit her family, and would have to stop along the way to recharge if she used an electric car.

This story once again highlighted some consumers’ reluctance to switch to EVs because of the fear that their car will run out of power before they’ve had the chance to reach a public chargepoint. In response to Stratton’s revelation, Edmund King, president of the AA, pointed out that the average electric vehicle has a range of more than 200 miles without the need for recharging, and that a rapid charge takes just 20 minutes to go from a 25% charge to over 80%.

However, it also highlights that despite this being the case, range anxiety still remains a real thing for a lot of people. Charge Project Lead Geoff Murphy comments, “It’s easy for both industry and government to assume that consumers understand EV range is no longer the problem it once was – but it’s clear this message hasn’t got through to everyone. What would really inspire confidence in potential EV drivers, and help to win the range anxiety argument once and for all, is a visible increase in public chargepoints around the country, particularly at petrol and service stations and other roadside amenities.

“The Charge Project is dedicated to developing new and innovative ways to accelerate the roll-out of public chargepoints, because ultimately, this is a numbers game. More chargepoints equals more EV drivers on our roads, and moves us closer to a Net Zero future – it’s as simple as that.”

## Charging in the news



The number of connected EV charging points in Europe and North America to reach 7.9 million by 2025.

2 September 2021

IoT Business News reports that new findings from Berg Insight show, “The number of connected EV charging points in Europe and North America reached an estimated 1.6 million units in 2020. Europe represents the largest share comprising around 1.3 million of these charging points, corresponding to a connectivity penetration rate of 53 percent. In North America, about 0.3 million of the total number of charging points were connected, equivalent to a connectivity penetration rate of 40 percent. Growing at a compound annual growth rate of 38 percent, the number of connected charging points in the two regions is expected to reach 7.9 million in 2025.”

“The integration of communications equipment in EV charging stations can improve operations and the delivered service noticeably in several ways’, said Caspar Jansson, IoT Analyst, Berg Insight. ‘Charging stations can be equipped with load balancing functions to reduce strain on local grids, while charge point operators can monitor and manage their charging stations remotely.’”



Shell aims to install 50,000 on-street EV charge points by 2025

1 September 2021

Gwyn Topham, The Guardian’s transport correspondent, writes: “Shell has announced its aim to install 50,000 on-street electric vehicle (EV) charging points in the UK over the next four years, in an attempt to provide a third of the network needed to hit national climate change targets.

“Shell will entice local authorities by offering to meet the upfront costs of installation that are not covered by government grants. The government’s Office for Zero Emission Vehicles currently pays 75% of the installation cost.

“According to a National Audit Office report into reducing carbon emissions from cars, more than 60% of urban households in England do not have off-street parking, with the number rising to 68% for social housing.”

## QUIZ TIME

**According to the government’s official EV charging device statistics for July 2021:**

Of the 24,374 public charging devices available in the UK, how many were rapid chargers?

a) 3,876

b) 4,551

c) 5,097

How many devices per 100,000 of the population did the North West have?

a) 22

b) 37

c) 53

Answers are 4,551 and 22