

## 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 Charge Project is developing a unique online solution designed to speed up the decision-making process around chargepoint installation. It's called ConnectMore.*

## Making the case for public chargepoints

There's been a massive increase in the number of electric vehicles on our roads over the past year alone, and with the sale of petrol- and diesel-fuelled vehicles banned from 2030, that number is set to rise exponentially. That's fantastic news for the environment and brilliant for air quality, and moves Britain closer to meeting its target of Net Zero by 2050.

However, it's important that every part of society can join in the electric revolution. Right now, EV ownership is predominantly concentrated among those households with access to their own garages or driveways, and that are able to charge their vehicles from their home supplies. But for those who aren't in that position, owning an EV is a lot harder, simply because there are far fewer places to charge vehicles in public.

Although everybody agrees that charging must be available for all, and boosting EV ownership is a key government policy, the roll-out of public chargepoints remains disappointingly slow. Despite the need for urgency, the reality is that stakeholders in both the public and private sectors require hard evidence to justify investment before building the necessary infrastructure.

The Charge Project is meeting this issue head-on by developing a unique online solution designed to speed up the decision-making process around chargepoint installation. It's called ConnectMore, and over the next few months, we'll be introducing its first stage, the "ConnectMore Interactive Maps" (CIM). Developed in collaboration with our core stakeholders, the CIM will provide insight into both future EV charging demand and network capacity across the North West region.

ConnectMore



So what does that actually mean? Essentially, the CIM will allow local councils, site owners, property developers and chargepoint operators, amongst others, to quickly and easily identify not only where public EV charging usage is likely to be high, but also where it can be accommodated by the electricity network with the minimum need for reinforcement.

In other words, the CIM helps to establish the business case for chargepoint installation because high user demand plus low infrastructure costs equals an attractive return on investment.

Geoff Murphy, lead for the Charge Project at SP Energy Networks, says: "The CIM is a potential game changer for public chargepoint installation. In the past, both local authorities and businesses have been put off from investing in EV charging because establishing demand and feasibility in many areas has been too time-consuming and complex. The CIM could change that forever, by quickly delivering the hard evidence that's needed to get chargepoint projects off the ground."



## EV charging trials

Last autumn, the Charge Project launched a major EV public charging trial in Cheshire, Merseyside, North Shropshire, and North and Mid Wales, and invited local businesses, chargepoint operators, developers, and site owners to take part.

The trial is being run to assess the real-world performance of “**smart charging connections**” – one of the Charge Project’s key initiatives – which can intelligently control the power consumption of EV chargepoints in relation to the available capacity of the network. A big attraction for trial participants is the opportunity to install more chargepoints in the same location without the need for expensive network reinforcement.

By enabling more chargepoints to be installed without disrupting the network, smart charging connections will help accelerate the roll-out of a comprehensive public charging infrastructure. This is a vital element of the government’s plan to get more people into EVs and support a “green recovery” from the COVID-19 downturn.

As part of the announcement, **Geoff Murphy, lead for the Charge Project at SP Energy Networks**, commented: “We need to safely and effectively manage the demand on the electricity network that increased EV charging will create. We believe that smart charging connections are a vital part of the solution.”

## fleetworld

Fleets required for EV charging trial



**Dr Graham Ault, Executive Director at Smarter Grid Solutions**, added: “Companies and site owners may have been put off in the past from installing chargepoints due to excessive costs or distribution network issues, but smart charging connection technology, based on tried and tested solutions used by renewable generation connections, can help to solve these problems.”

Following the announcement of the trial, which received extensive media coverage, a number of businesses are now working with the Charge Project to trial smart charging connections.

## LAPV

SP Energy Networks to run “major trial” of electric vehicle charging solution



## CURRENT ±

Smart charging trial participants sought as SP Energy Networks looks for solutions to manage EV demand



# Q&A

## Meet the team



**Elaine Meskhi,**  
Senior Consultant,  
EA Technology

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

I’m a Chartered Systems Engineer and a Senior Consultant at EA Technology. My work experiences are varied – from data analysis to stakeholder engagement and project management – and cover a range of innovation projects, including Electric Nation, Black Cab Green, Smart EV and Open Networks. The focus of my work has been on understanding the impacts of electric vehicles (and other low carbon technologies) on electricity distribution networks and devising strategies that best manage and mitigate these impacts.

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

A typical day involves meetings with many different groups of people. It starts with the daily stand-up, where each of the software developers and consultants provide an update on their progress and what they’ve got planned next.

To get the best outputs for the project, the decision-making process must be collaborative, and requires input from people with many different experiences and expertise. As the project manager at EA Technology, it’s my responsibility to bring in the right people at the right stages and feed decisions back to the whole team. I get involved in testing new features or bug fixes in the tool; engaging with users to understand and log feedback and identifying potential resolutions; writing and delivering presentations and workshops for stakeholders; plus many other activities!

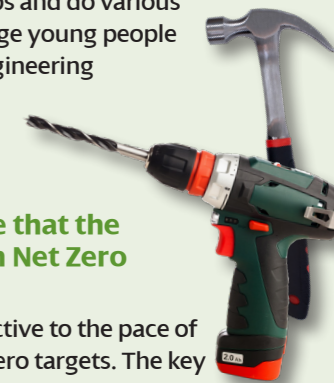
### What’s the best thing about your job?

Day to day, it’s definitely the people. Considering the amount of teamwork required in the project, I feel very fortunate to work with a great group of people both inside EA Technology and at the partner organisations. More broadly, what I love about the work is that it supports climate action – it’s bringing us all closer to cleaner air, which will ultimately improve the nation’s health.



### What do you do outside of work?

At the moment, lots of DIY, renovating the house we moved into at the start of the lockdown. Outside of the home, I volunteer with the Women’s Engineering Society’s Climate Emergency Group, working on UN Sustainable Development Goal 7 of “Affordable and Clean Energy”, and serving as a cluster coordinator for the Wirral and Merseyside, organising events annually. I also attend two Toastmasters clubs and do various speaking engagements to encourage young people into STEM (science, technology, engineering and maths) careers, particularly in engineering and energy.



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

The focus on GDP is counterproductive to the pace of change required to meet our Net Zero targets. The key indicator of our prosperity needs to include metrics that more holistically capture well-being – after all, the reason we’ve committed to Net Zero is because every person’s well-being is dependent on drastically reducing our carbon emissions.

Having a broader set of progress metrics would ensure that we don’t suffer the unintended consequence of creating greater inequalities on the journey to Net Zero. For example, the transition to low carbon technologies favours people who have the money to spend on EVs and heat pumps, etc., and it’s easier for homeowners and those who have private driveways to adopt these technologies. One of the key aims of the Charge Project is to support public infrastructure roll-out and provide more equal opportunities for EV adoption.

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

A black Honda Jazz, a proper workhorse. With the back seats folded down, it was like a minivan that served us well in a number of house moves. Currently, my husband and I share a car (a silver Honda Jazz!) and use public transport. When it comes to needing a second car or replacing the Jazz, the next car will be an EV, probably leased, or even better, via an EV car-sharing scheme or car club if I can get one established in my area.



# Q&A

## Meet the team



**Laurence Chittock,**  
Project Lead,  
PTV Group

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

I joined PTV shortly before we started on the Charge Project, having worked in transport and EV-related research in previous roles.

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

At the minute, working from my home office as I have done for much of the last year! Day-to-day is quite varied – sometimes I'll be analysing and interpreting results from our Charge Transport Model, and sometimes I'll be talking with colleagues on the project to find the best way to present data in ConnectMore in the most effective manner. Today, I've been adding to the reports that cover what we've done in the project.

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

The variety of my work keeps it interesting. For instance, there's lots to learn with innovation projects like Charge, especially about the electricity sector, which is something that wouldn't normally come up in a transport job like mine. It's also great to be playing a part in transport decarbonisation – this was the reason I first started working in the EV space over 10 years ago.

### What do you do outside of work?

Well, seeing as I'm answering this during lockdown 3.0, the answer is, "Not much really!" However, I do like getting out on my bike and look forward to doing this more now that the weather and light are improving. I also like playing board or card games with my partner and friends and, pre-lockdown, enjoyed playing football and travelling to new places.

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

There are quite a few, to be honest. I think that strong targets for 2025 and 2030 are required to get us on the right path long before we get to 2050. For too long, we've pushed the problem onto future generations. I do think electric vehicles give us the most effective way to reduce emissions in transport – but a big challenge on this front is actually having enough vehicles available for people to buy, so we need coordination between manufacturers and government to ensure this can happen at scale.

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

My first car was a soon-to-be-scraped hand-me-down from my mum. A 1994 plate grey (not silver, but a sort of overcast grey) Renault Clio. It never had power steering, but my mum said even the manual steering had got considerably harder by the time I had it. So, my first driving memories involved planning routes with as few turns as possible!

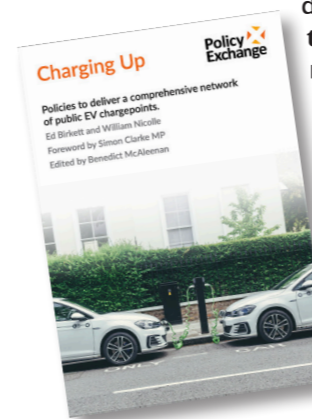
We now have a Toyota Auris – or "Toy" as we call it for short, because it's so easy to drive! This is the only car in our household, and it's mainly used by my partner in the week, as she needs it to commute. I used to cycle or get the bus to work, but now have the arduous commute across my landing every morning.



## News comment: Government extends On-Street Residential Chargepoint Scheme

On 2 February, the Department for Transport announced that it was going to **extend the On-Street Residential Chargepoint Scheme (ORCS) into 2021/22**, which equates to an extra £20 million cash injection to boost the number of on-street EV chargepoints across the UK. With the sale of petrol and diesel vehicles banned from 2030, and with a target of Net Zero to be met by 2050, the need to get a comprehensive UK charging infrastructure in place is more pressing than ever.

Since 2017, ORCS has supported applications from more than 140 local authorities, which has led to the installation of nearly 4,000 chargepoints. This funding boost hopes to double that number. But on the same



day as the DfT announcement, **the Policy Exchange think tank released a report** that said that much more had to be done, with 400,000 public chargepoints needed by 2030, compared to the 35,000 that currently exist.

The Policy Exchange report made two main recommendations. Firstly, in areas where chargepoint roll-out is still slow, the government should issue contracts to private firms to boost installation. Secondly, the government should fund dedicated "chargepoint teams" in local authorities to accelerate roll-out in their areas.

Project lead Geoff Murphy commented: "The Charge Project welcomes any initiative that increases the number of public chargepoints, but establishing a 'business case' for installation is not always easy, particularly in less affluent areas. While Policy Exchange's idea to get more private firms involved is sound, convincing them to install an 'equal access' charging infrastructure may be more difficult. Similarly, having dedicated chargepoint teams at local authorities is also a great idea, but they would still need to work with myriad stakeholders – both public and private – to get projects off the ground."

"The Charge Project is speeding up the process of identifying locations where demand is high and chargepoint installation can be easily accommodated by the electricity network. That's why we're currently developing our ConnectMore online tool, with which local authorities and other stakeholders will be able to easily cross-reference charging demand with network capacity and quickly build a case for installation."

## EV Charging in the news



This is MONEY reports that What Car? recently conducted a market review of public charging providers in the UK. For the study, its expert panel compared the fees for a 10 to 80 per cent charge of a BMW iX3 with an 80kWh battery. It found that public charging costs could vary by as much as £31 between charging providers due to different speeds and fees on offer.

The cheapest tariff is £9.32 per charge, while the most expensive is £40.66. The panel also found that EV owners would pay just £7.25 for the same charge at home.

### theguardian

16 February 2021

The Guardian reports that Coventry City Council intends to secure pre-emptive planning permission for a "gigafactory" to make electric car batteries. The government has identified investment in battery factories as a key goal to keep automotive jobs as the sector moves away from the internal combustion engine.

The urgency of developing a UK gigafactory was underlined by an announcement from Jaguar Land Rover, the largest UK car industry employer. JLR said it would switch its Jaguar brand to pure electric technology by 2025, which means it will require hundreds of thousands of batteries per year.

## QUIZ TIME

According to NextGreenCar, approximately how many plug-in cars (including hybrids) were registered in the UK as of October 2020?

- a) 297,300
- b) 351,200
- c) 373,600

In November 2020, ZapMap asked 2,000 EV owners the question, "Would you consider trading in your EV/PHEV for a conventional vehicle?" Which percentage said, "No"?

- a) 77%
- b) 84%
- c) 91%

Answers are 373,600 & 91%