EV Infrastructure WORKSHOP

Monday 17 October 2022
9am-5pm

THE TECHNO CENTRE
UNIVERSITY TECHNOLOGY PARK
Puma Way | Coventry CV1 5FB

Coventry City Council

Zemo Partnership
Accelerating Transport to Zero Emissions

Welcome

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Agenda

1. Welcome Address – Colin Knight, Coventry City Council
2. The EV Charging Challenge – Alec Thomson, Zemo Partnership
3. The Role of the DNO – Peter White, National Grid Electricity Distribution
4. Achieving Net Zero in Coventry – Shamala Evans-Gadgil, Coventry CC
5. Fleet EV Charging Requirements – Lorna McAtear, National Grid
6. Panel Discussion
7. Lunch

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Agenda

7. Welcome Back
8. The Role of Support Bodies – Chris Rimmer, Cenex
9. EV Infrastructure in the Black Country – Kester Sleeman, Black Country Transport
10. Cyber Security – Ben Bautcher-West, Connecter Kerb
11. Panel Discussion
12. Myth Busting– Lorna McAtear, National Grid

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Coventry – City of Culture….and Innovation

Local Authority EV Charging Infrastructure Forum- Monday 17th October 2022

Colin Knight - Director of Transportation and Highways

Colin.Knight@coventry.gov.uk

Strategic context

	Organisations	Environmental targets	Key strategies
International	Various Governments	• Limit global temperature rises to 2 degrees Celsius (v pre-industrial levels)	• Paris Agreement • UN Sustainable Development Goals
National	Department for Transport	• Net zero by 2050 • 50% of city centre journeys to be walking or cycling by 2030	• Decarbonising Transport • Gear Change (Walking and Cycling strategy) • Bus Back Better (Bus strategy) • 10 Point Plan for a Green Industrial Revolution
Regional	Transport for West Midlands/ Midlands Connect	• Net zero by 2041	• #WM2041 (Climate Change Strategy) • West Midlands Local Transport Plan (to be finalised Summer 2022)
Local	Coventry City Council	To be confirmed – but must be at least as ambitious as existing regional/national targets	• Climate Change Strategy (in development) • Transport Strategy (to be finalised Summer 2022)

Coventry's emerging Transport Strategy

- Built around four overarching objectives – informed by existing international, national and regional strategies
- Achieving these requires a significant change to the way we travel:
  - Away from car dependency – draft strategy is explicit that in future most people will not need to own a car to access the services they need
  - Towards walking, cycling and public transport first
- Main areas of activity:
  - 'Step change' in the city's public transport system (including Very Light Rail)
  - Much better infrastructure for walking and cycling
  - Targeted investment in the road network (i.e. not aimed at simply creating capacity for more cars)
  - Widespread electrification (of public and private transport)
  - Changes to the way we transport freight
  - Encouraging 'behaviour change'

1. Supporting the city's economic recovery and enabling long-term growth

2. Delivering a sustainable, low carbon transport system

3. Ensuring equality of opportunity

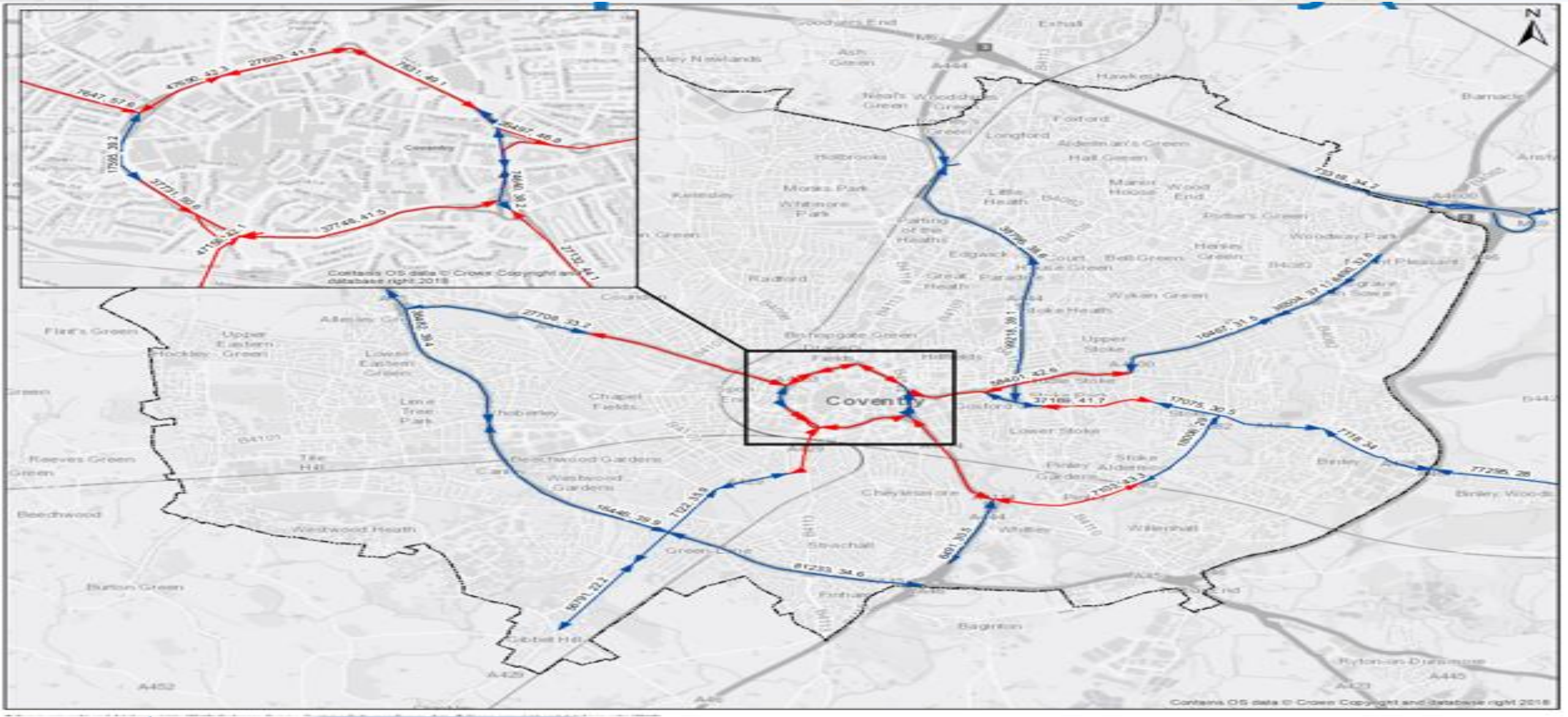
4. Maximising health and wellbeing

The Electric City

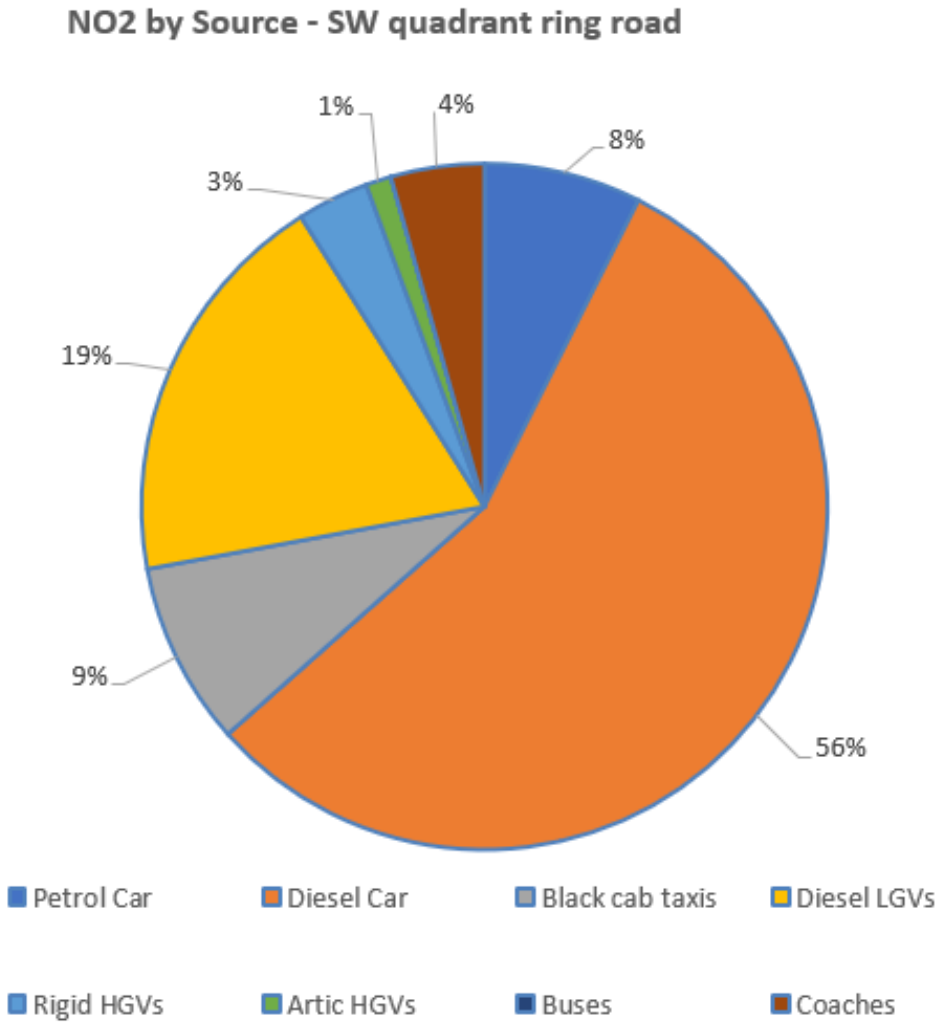
Why Electrify Coventry?

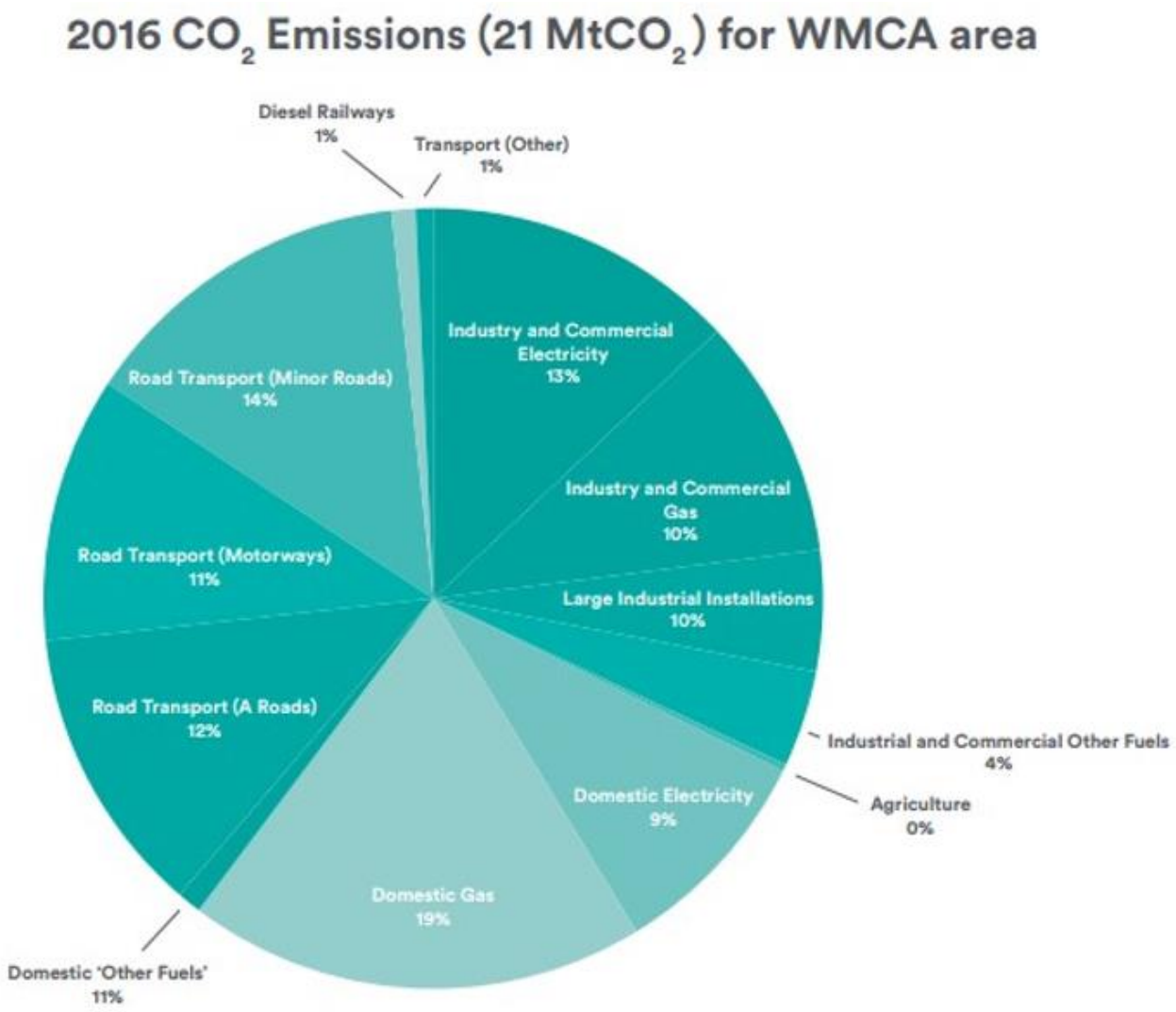
- Climate Change Strategy
- Coventry Local Air Quality Action Plan
- Boost jobs and growth in local economy
- Zero carbon transport system
  - Very Light Rail
  - Electric buses
  - Electric taxis
  - Electric vans
  - Public EV charging network
    - Plug in Charging
    - Static Charging
    - Pantograph Charging and
    - Dynamic Charging of Vehicle

Modelled NO2 exceedances (2021- updated AQ modelling)



The challenge for Coventry





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Coventry UK CITY OF CULTURE 2021

www.coventry.gov.uk

Reducing our emissions across the City

'Try before you buy' – electric fleet

607 charge points operational & 155 currently being installed

Electric Bus City

Urban Air-Port & Coventry

Developing an EV culture

- Central Government Funding
- Private sector investment
- Holistic approach of extending EV charging infrastructure to the wider city
- Access to Charge points in the City of Coventry for Electric Taxi's [Hackney carriages]
- Promote increase use of EV cars through workplace charging, home charging and onstreet charging
- Improve Air Quality
- Future Proofing for Emerging Technology
- Combination of VLR, all electric buses and electric taxi's making a fully electric public transport system in Coventry from 2025

Short Term [1 to 2years]

Medium Term [3 to 4years]

Long Term [5 to10years]

E-bus

E-taxi

VLR

E-bike

E-bike

E-scooter

Car club

Autonomous vehicle

Electric Vehicle Charging Infrastructure Strategy

Short Term [1to 2years]

Medium Tern [3 to 4years]

Long Term [5 to 10years]

CLEAN Hub

GIP

Solar farm

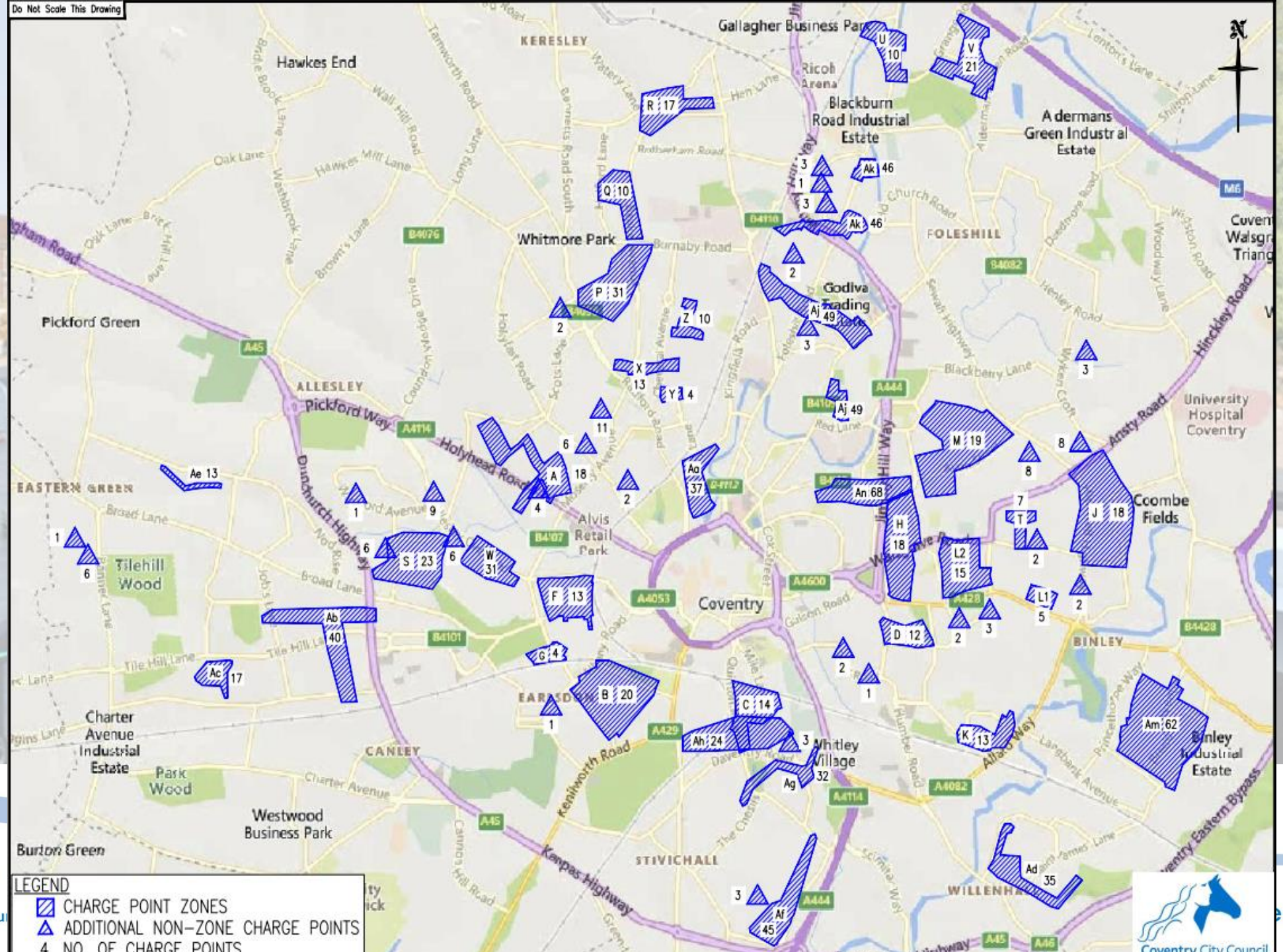
E-cargo bike

VLR

E-Van

E-Drones (eVTOL)

EVC Eco System



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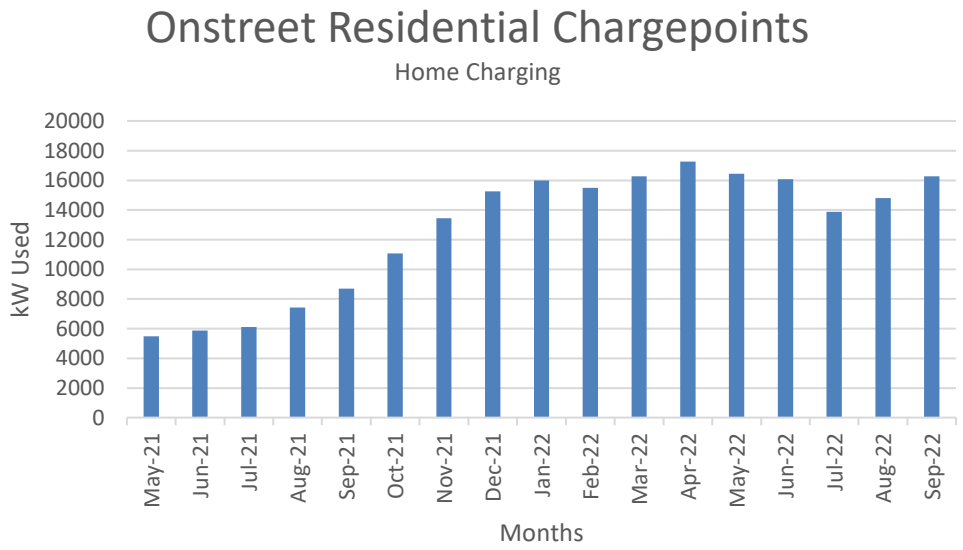
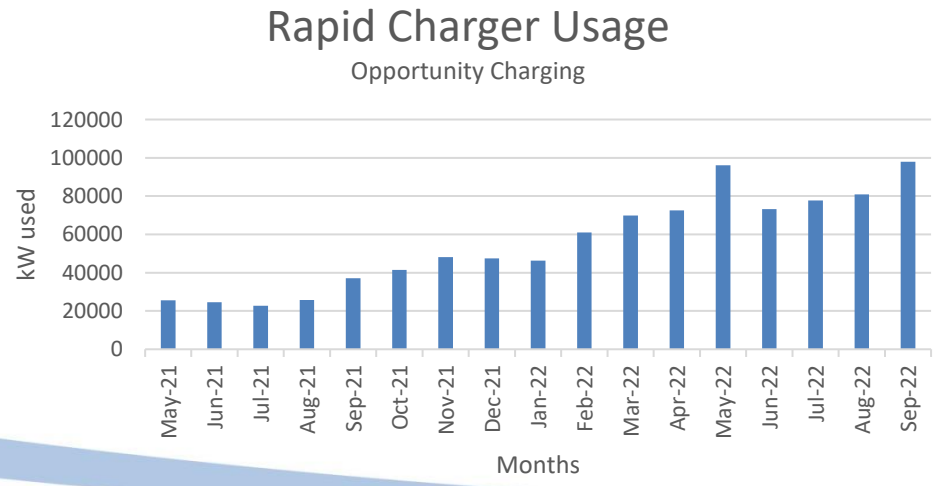
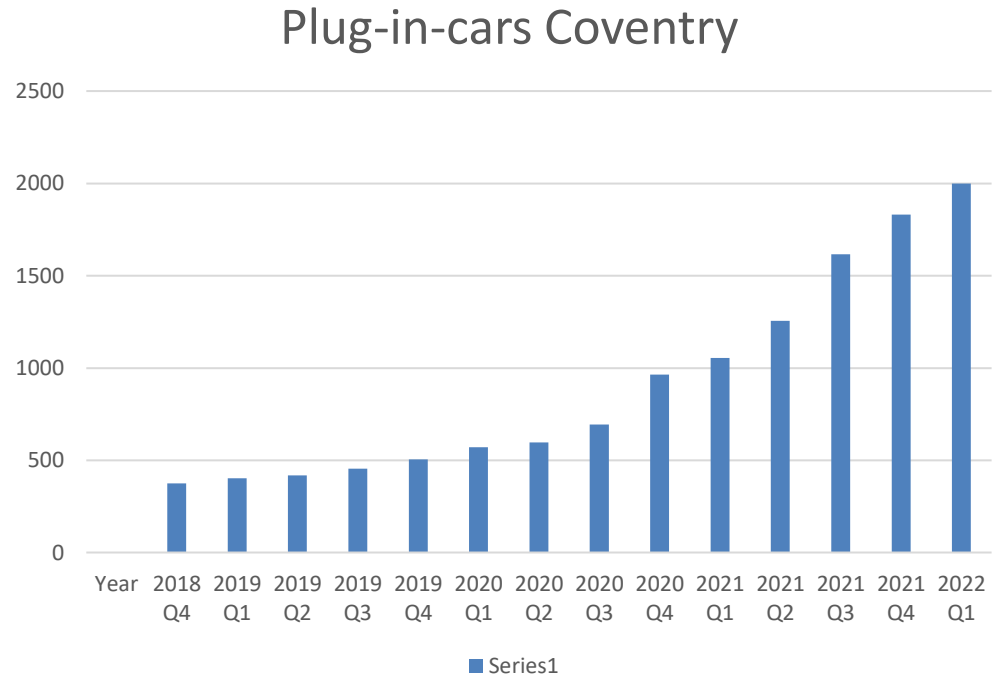
Usage data vs EV uptake







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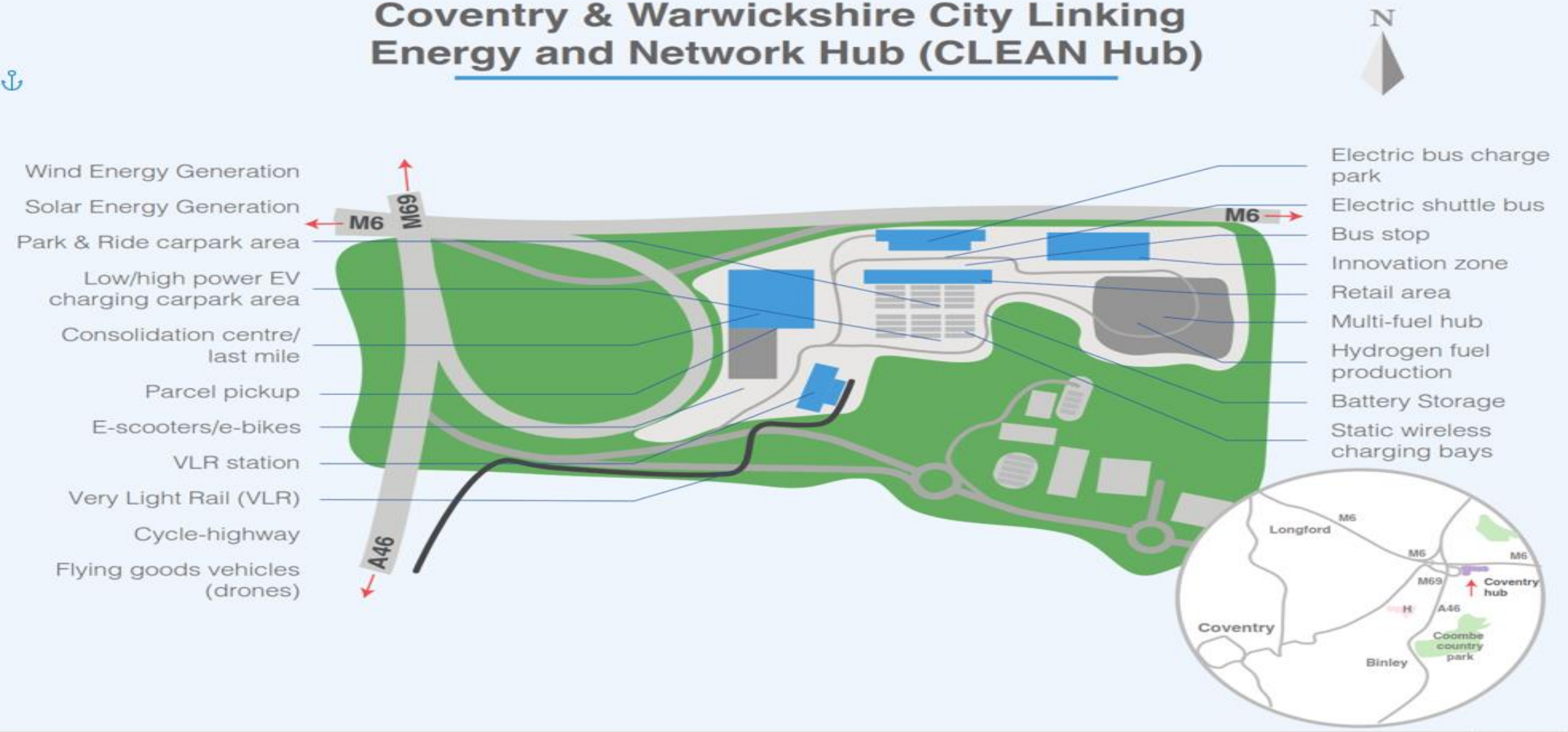
Ultra-fast Charging Hubs / Green Innovation Park

- Council working with partners to unleash the potential for ultra-fast charging hubs across Coventry.
- These state of the art facilities would provide volume charging facilities for all types of electric vehicles.
- Developing options for multi-fuel hubs including hydrogen and gas
- Opportunities for associated facilities and SME research hubs
- Energy generation and supply opportunities.

Coventry & Warwickshire City Linking Energy and Network Hub (CLEAN Hub)



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EV - Future Works

CCC exploring 'car clubs' and 'lift-share‘

Linked to future mobility pilot scheme which would allow people to trade in their older, polluting cars for mobility credits. Credits could used on trains, buses, car clubs and bike hire.

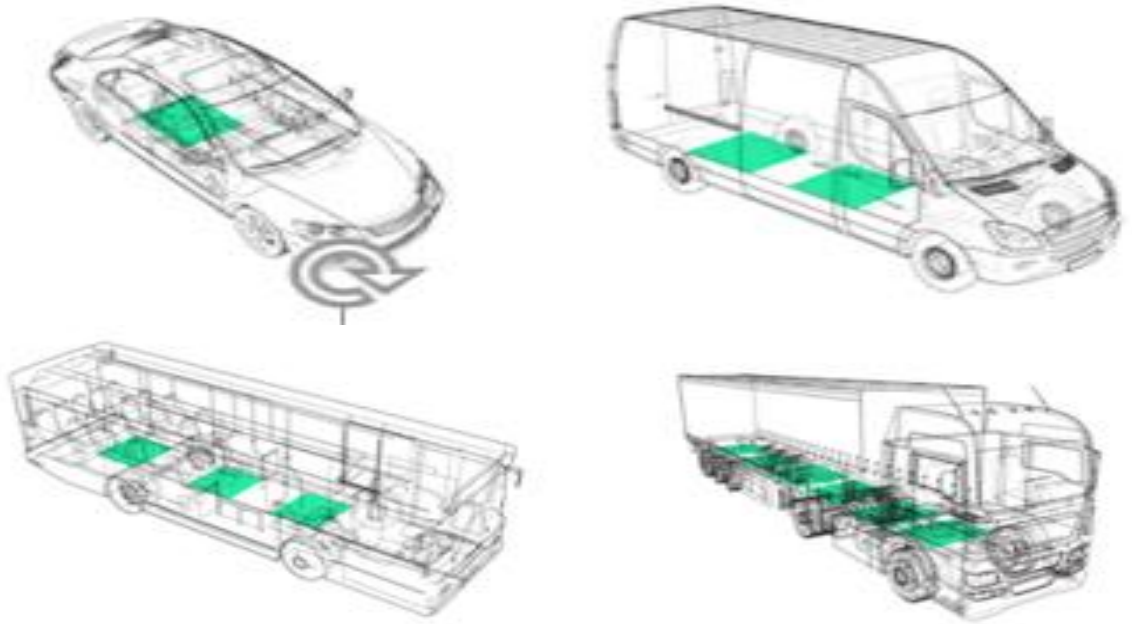
EV - Future Works

Dynamic Wireless Power Transfer technology, where Inductive loops are laid under the road surface

These loops are capable of charging a moving vehicle as it passes over them

Receivers are fitted underneath a vehicle which allows it to accept a charge as it drives over the inductive loops.

DynaCoV project feasibility study was completed in December 2021, a project funded by Western Power Distribution [WPD]. Next phase is to undertake a demonstrator project once the funding is secured.



Coventry: UK's first all-electric bus city

Coventry City Council is working with the West Midlands Combined Authority, the UK Government and National Express West Midlands on a pilot project to make Coventry the UK's first all-electric bus city.

Funding has been provided by the UK government, and Coventry City Council is working closely with National Express to ensure the necessary infrastructure is installed by 2025.

The West Midlands Combined Authority is also working closely with National Express on contractual and operational requirements.

Coventry Very Light Rail

CVLR Energy Requirements

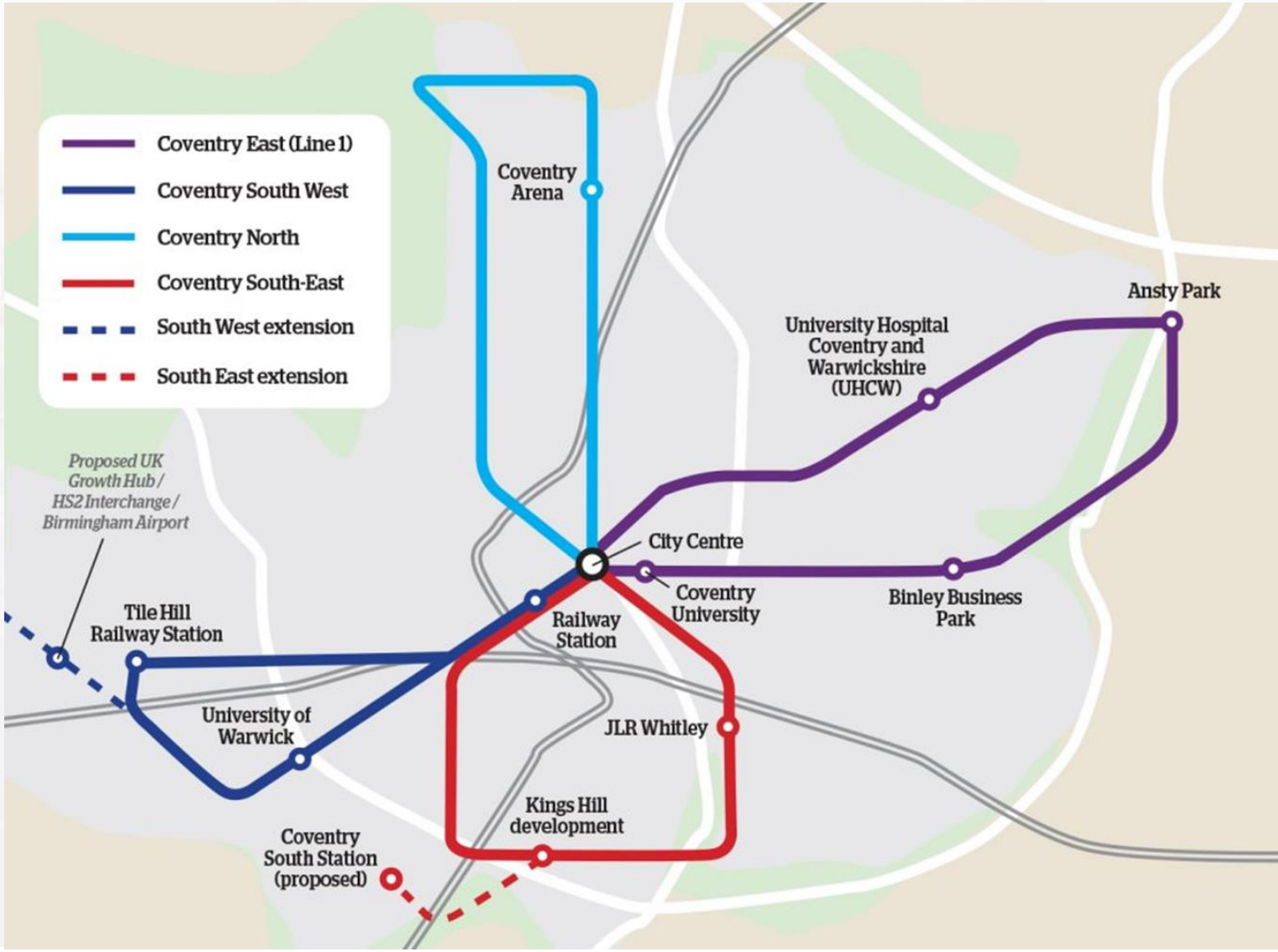
1. **Rail Station to City Centre - Demonstrator (2024)**

- •Rail Station to City Centre
- •Showcase Technology
- •Operate Prototype Vehicle
- •Twin track installation
- •Stabling and charging in City

2. **City Centre to UHCW (2027)**

3.**Network to connect city centre to strategic locations**

4. **HS2 connection**



Future Cities Transport Mode

Coventry City Council

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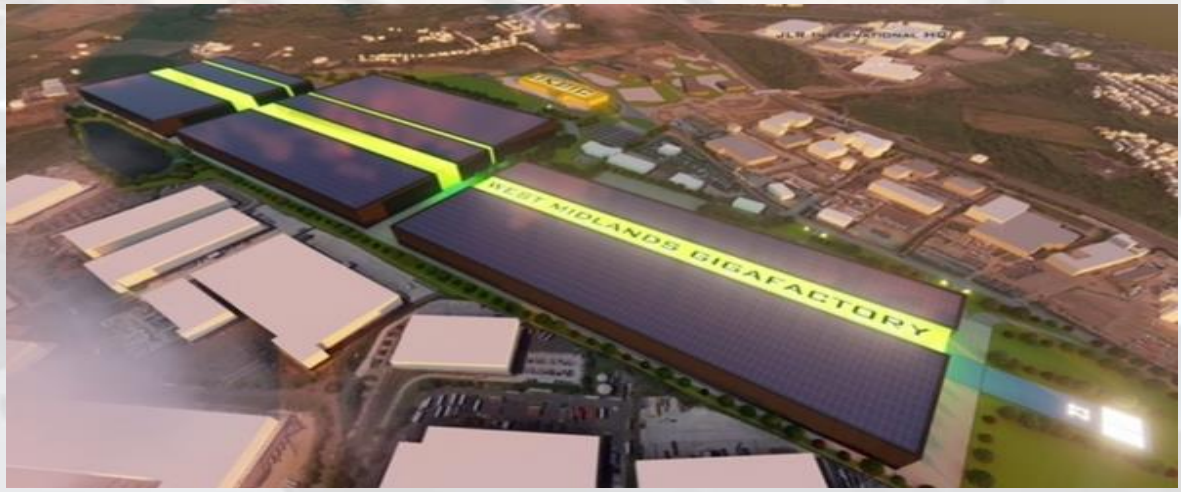
Battery production facilities to help EV transition

UK Battery Industrialisation Centre (UKBIC) The £130 million UK Battery Industrialisation Centre (UKBIC) is a pioneering concept in the race to develop battery technology for the transition to a greener future. The unique facility provides the missing link between battery technology and successful mass production. Based in Coventry, the publicly-funded battery product development facility welcomes manufacturers, entrepreneurs, researchers and educators.

Gigafactory Coventry Airport Coventry Airport has been chosen as the preferred site across the West Midlands for a new Gigafactory facility. The recently submitted plans would deliver 5.7m sq ft of space for both battery production and recycling, would add £434m in GVA to the regional economy each year,



Thank you

Colin Knight - Director of Transportation and Highways

Colin.Knight@coventry.gov.uk

The EV Charging Infrastructure Challenge

Alec Thomson

Zemo Partnership

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Outline

- Introduction to Zemo Partnership
- EV Energy Taskforce: 2035 implications and the size of the public EV infrastructure challenge
- The critical role of Local Authorities and Distribution Network Operators

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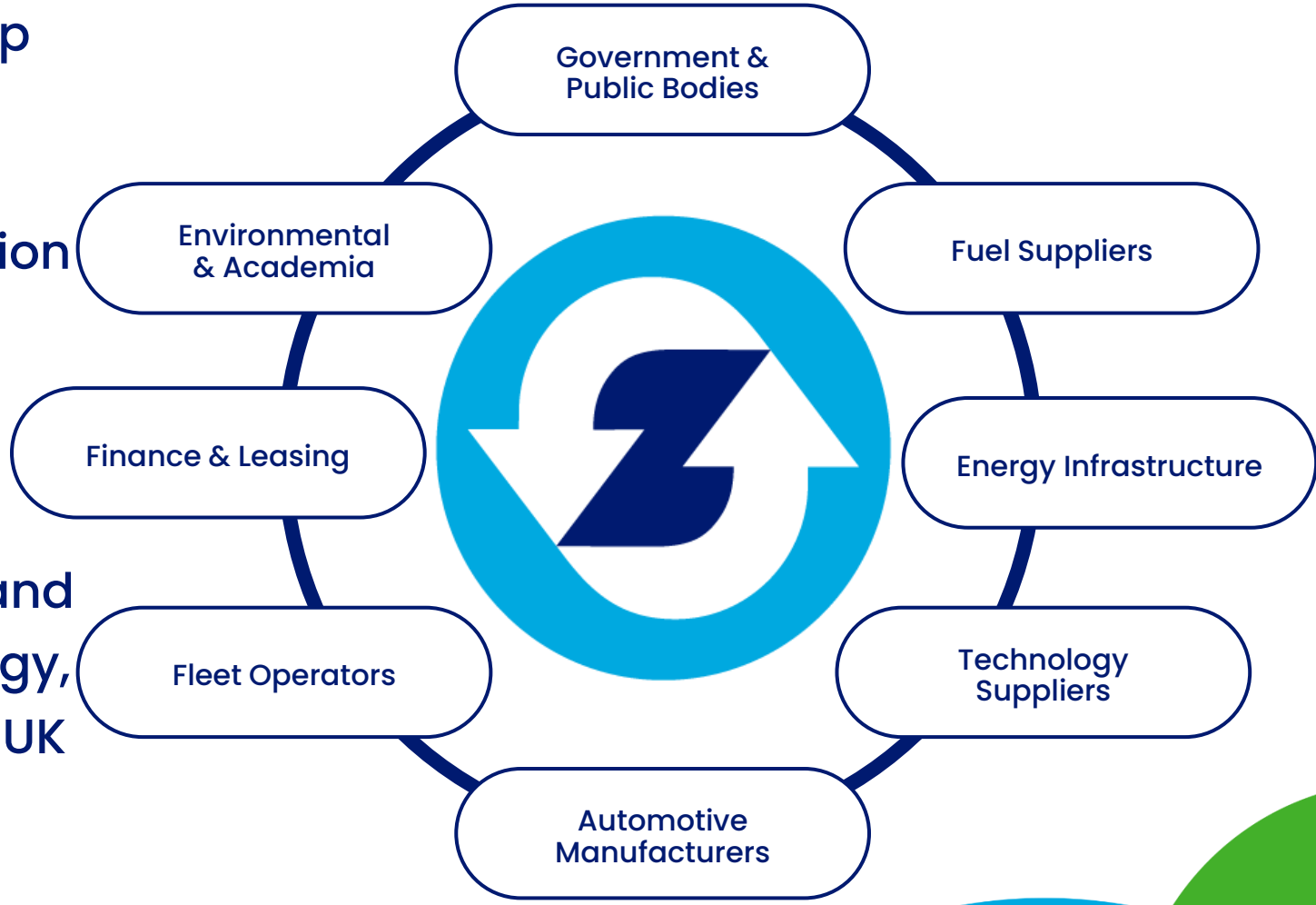
Zemo Partnership
Accelerating transport to zero emissions since 2003

An independent, non-profit partnership that brings together government, industry and a wide range of expert stakeholders in the field of zero-emission mobility.

The Partnership plays a key role in helping the UK Government to shape and deliver its zero carbon transport strategy, with the objective of ensuring that the UK takes a leading role in the global shift towards low & zero carbon transport.



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EV Energy Taskforce

Zemo Partnership

EV Energy Taskforce brings together stakeholders from across the EV space to ensure the energy, infrastructure, automotive sectors are aligned to deliver the electrification of transport.

automotive council UK

RAC Foundation

BVRLA

nationalgrid

beama

Zemo Partnership
Accelerating Transport to Zero Emissions

ena energynetworks association

techUK

Energy UK

citizens advice

CATAPULT Energy Systems

REA

SMMT DRIVING THE MOTOR INDUSTRY

nationalgridESO

URBAN TRANSPORT GROUP

Green Finance Institute

UNIVERSITY OF LEEDS
Institute for Transport Studies

Office for Zero Emission Vehicles

ofgem

Department for Business, Energy & Industrial Strategy

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EV Energy Taskforce

EV Energy Taskforce brings together stakeholders from across the EV space to ensure the energy, infrastructure, automotive sectors are aligned to deliver the electrification of transport.

- **Key dates**
  - Launch date in September 2018
  - EV Energy Taskforce: Energising Our Electric Vehicle Transition (Jan. 2020)
  - EV Energy Taskforce: Moving from Proposals to Actions (Nov. 2019)
  - EV Energy Taskforce: Charging the Future: Drivers for Success 2035 (Mar 2022
- **A suite of working group report outputs along the way.**

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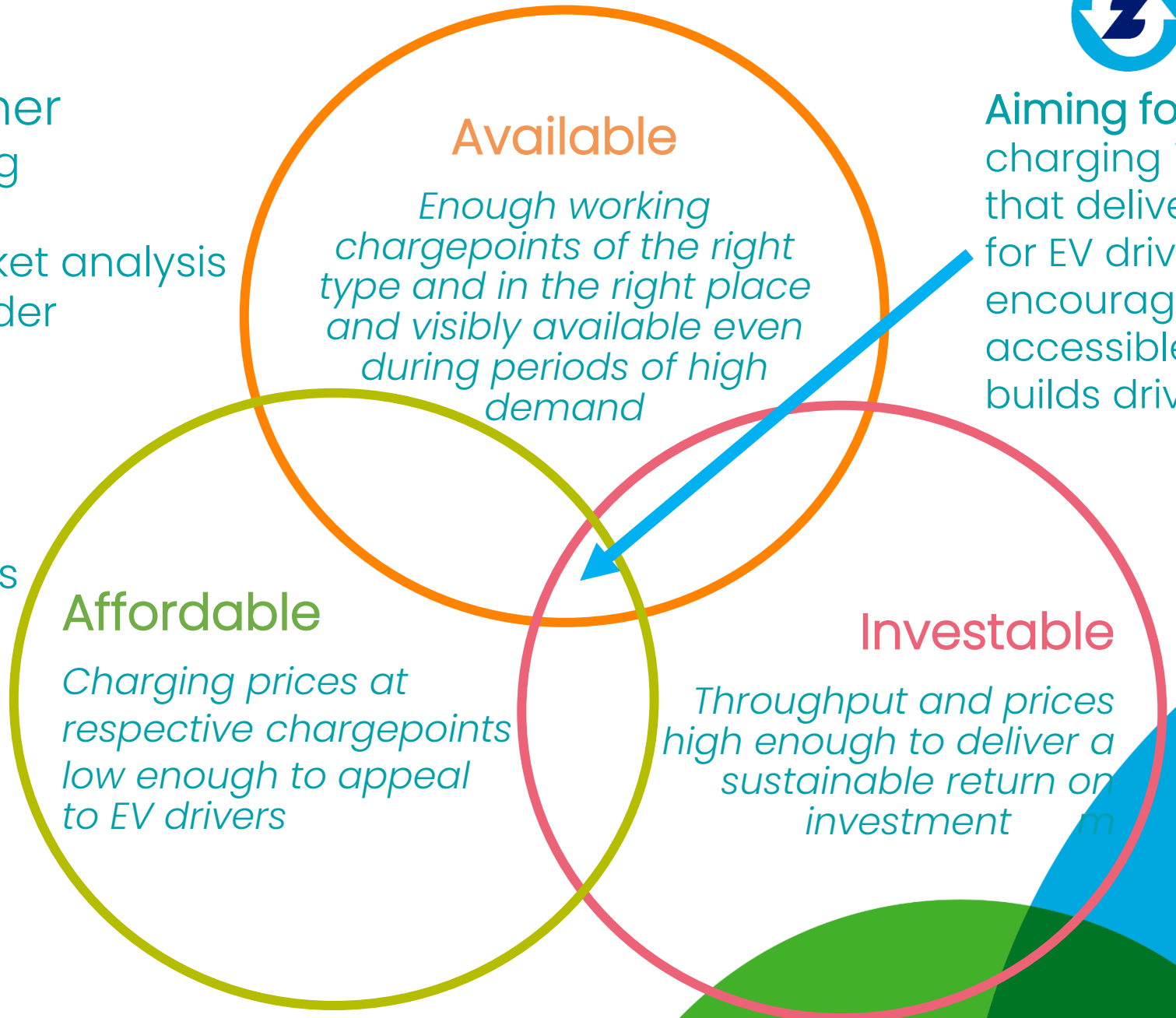
EV Energy Taskforce 2035 Model

Zemo Partnership

Bringing together

- Latest modelling techniques
- Policy and market analysis
- Expert stakeholder knowledge

To provide qualitative and quantitative recommendations for government and industry



Aiming for the sweet spot charging infrastructure that delivers good value for EV drivers, attracts and encourages investment, is accessible, available and builds driver confidence

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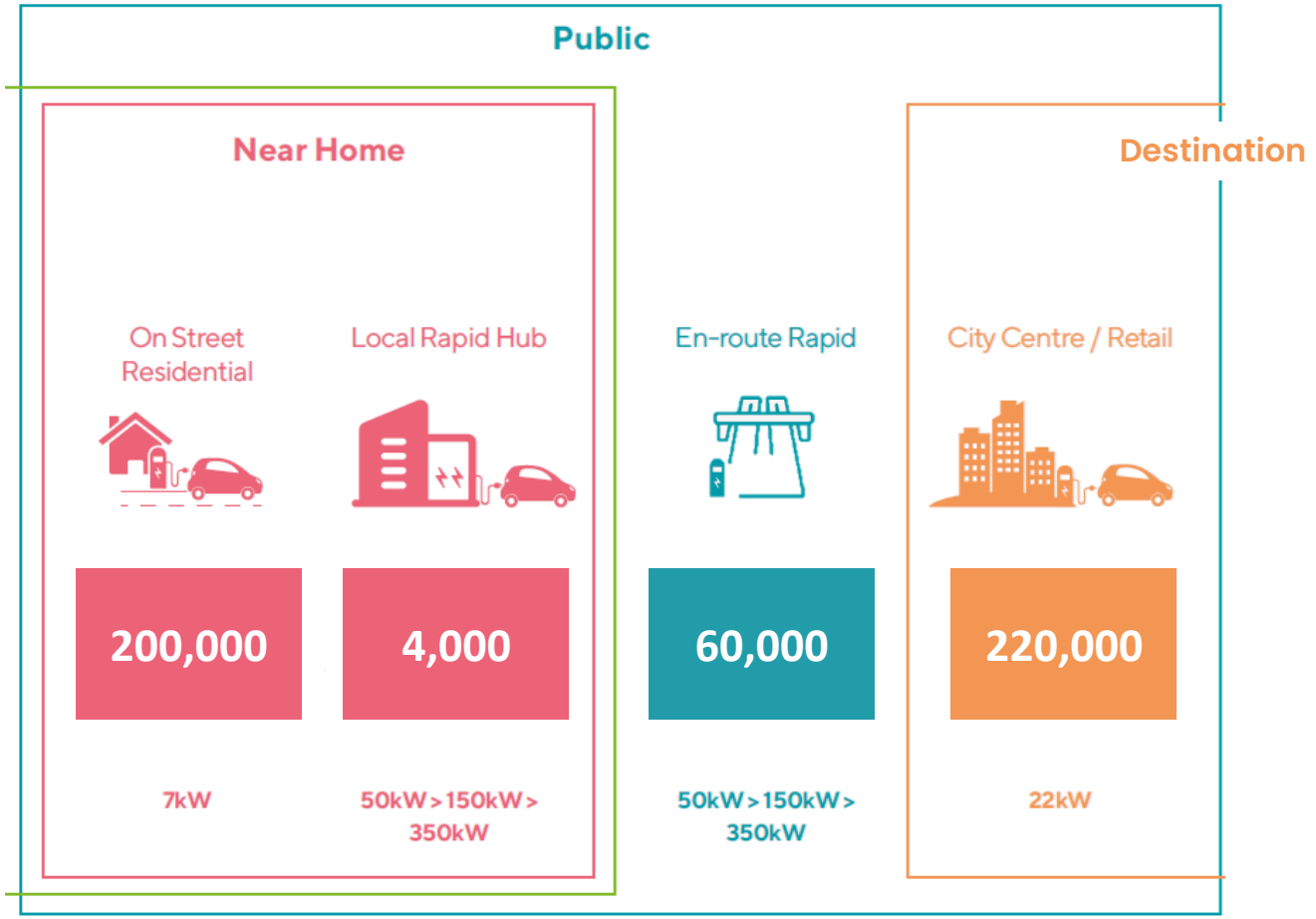
Overall numbers of chargepoints in 2035



The above model outputs are taken from the *Central Case*

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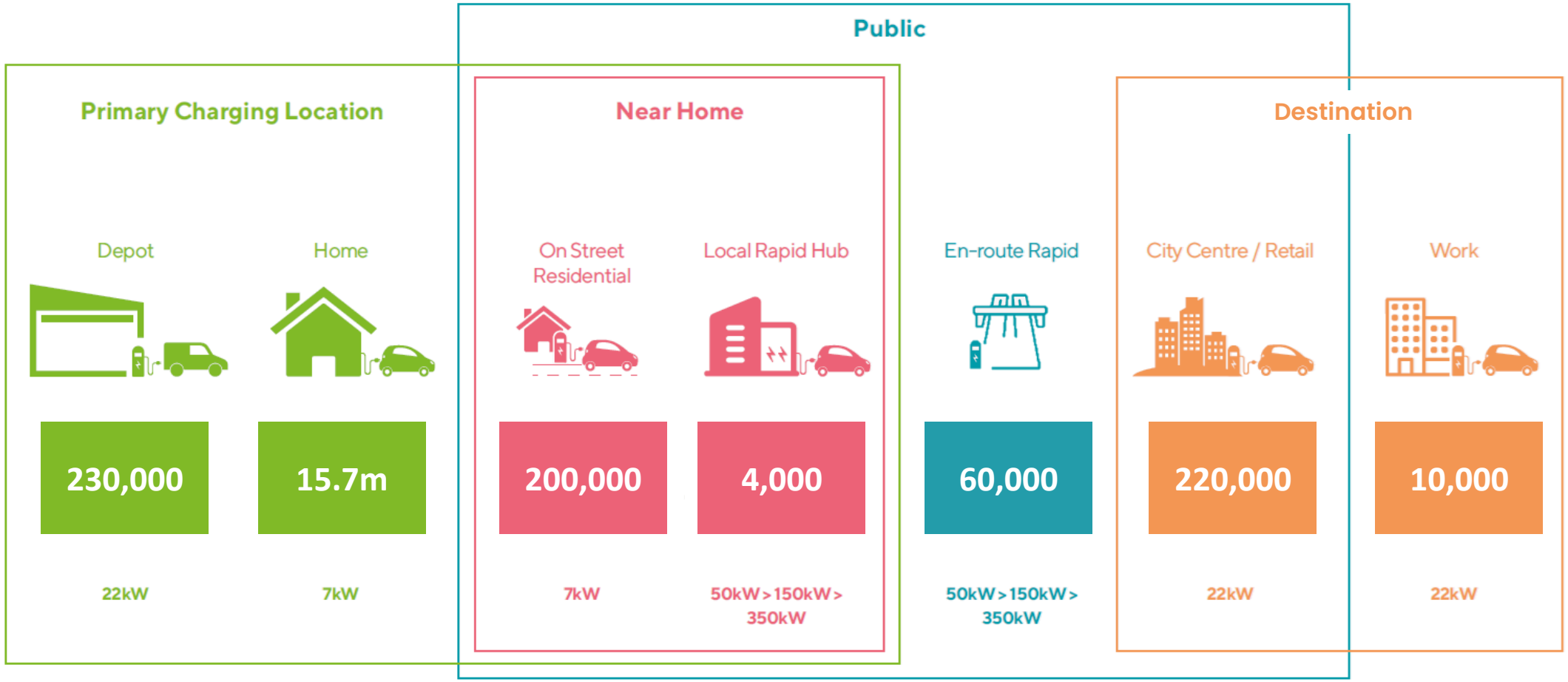
Overall numbers of chargepoints in 2035



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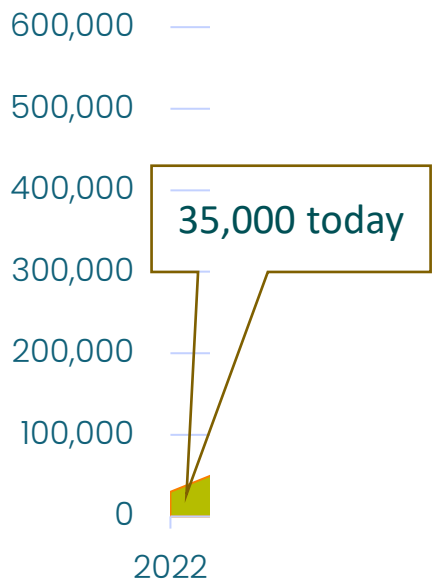
Public charging infrastructure will be diverse to meet drivers needs and build confidence

The number of public chargepoints will need to grow from <35k…



User preferences and travel behaviour can impact the number and type of chargepoints required and the electricity demand.

The above model outputs are taken from the *Central Case*

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Public charging infrastructure will be diverse to meet drivers needs and build confidence

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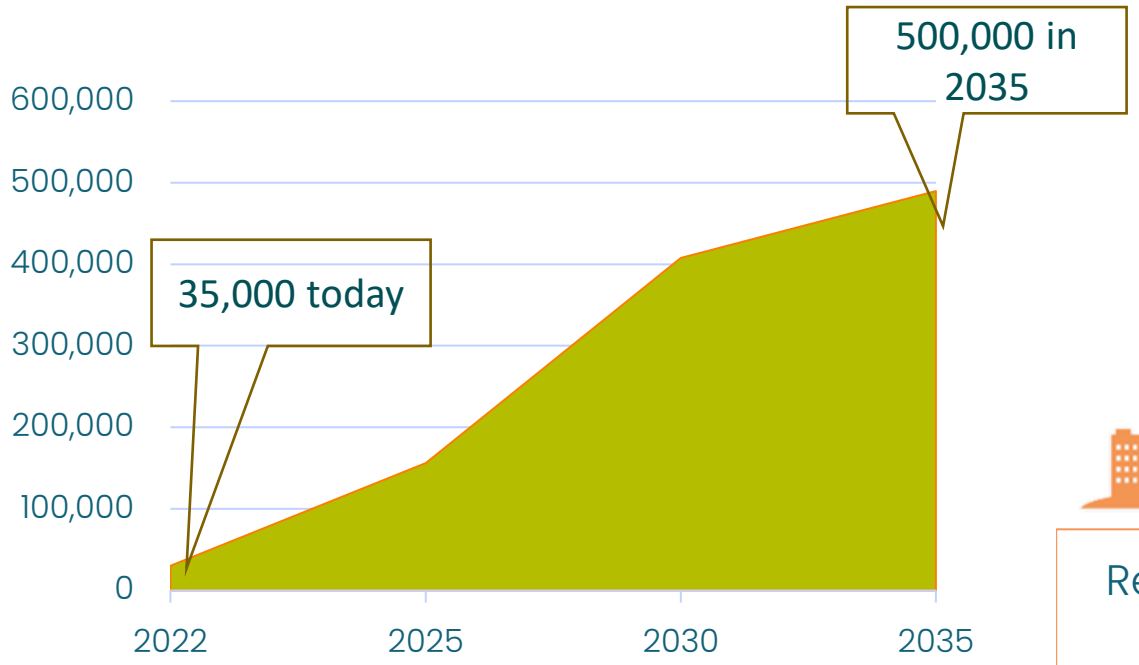
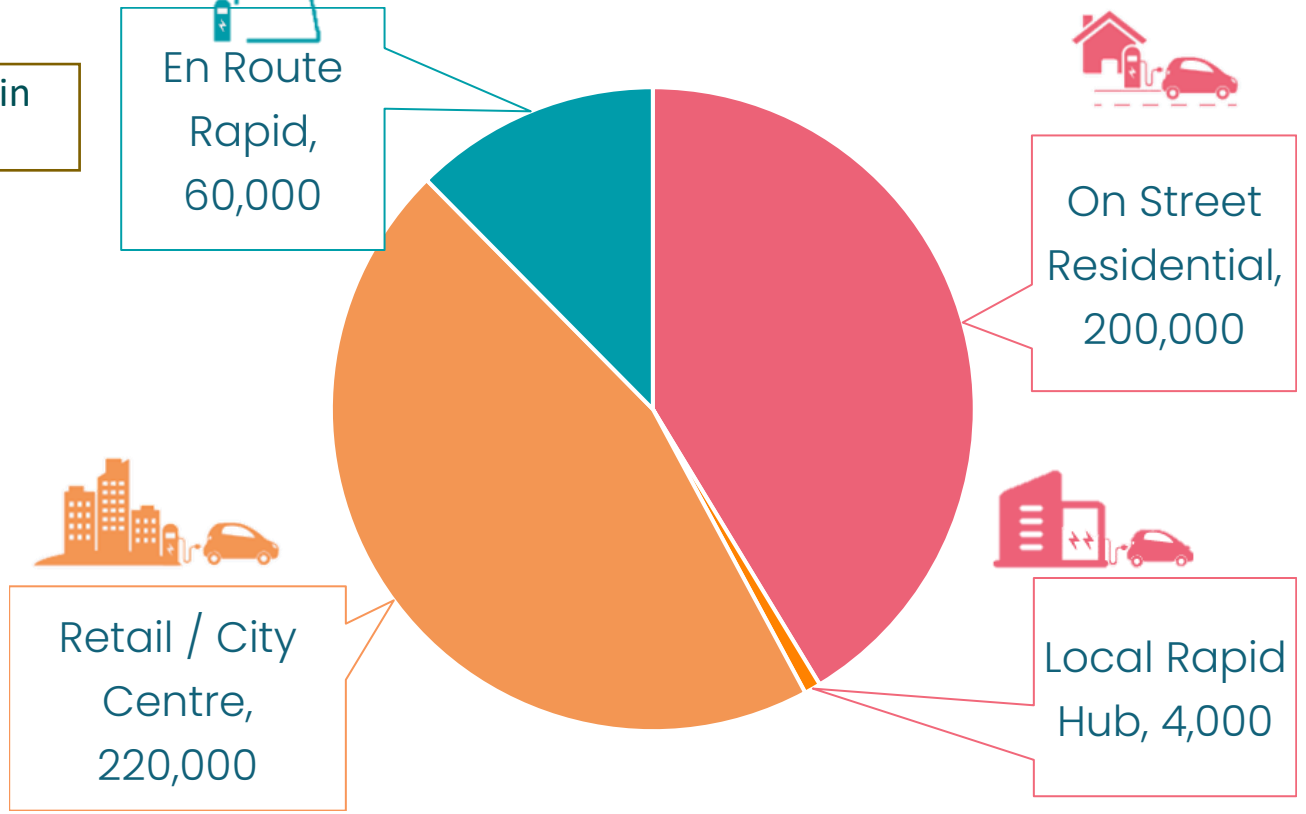


…to 500,000 in 2035



User preferences and travel behaviour can impact the number and type of chargepoints required and the electricity demand.

The above model outputs are taken from the *Central Case*

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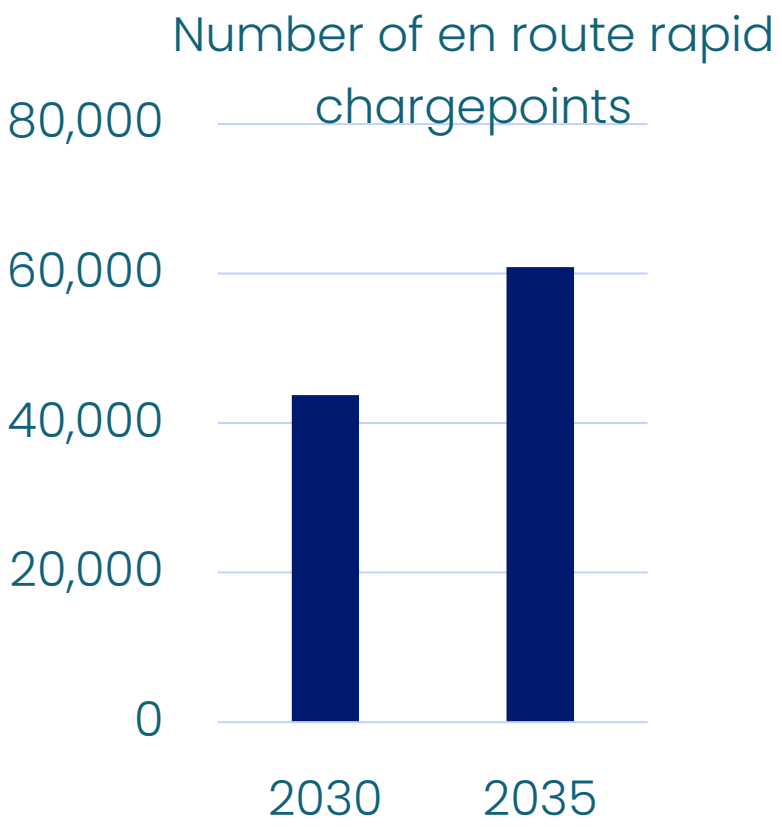
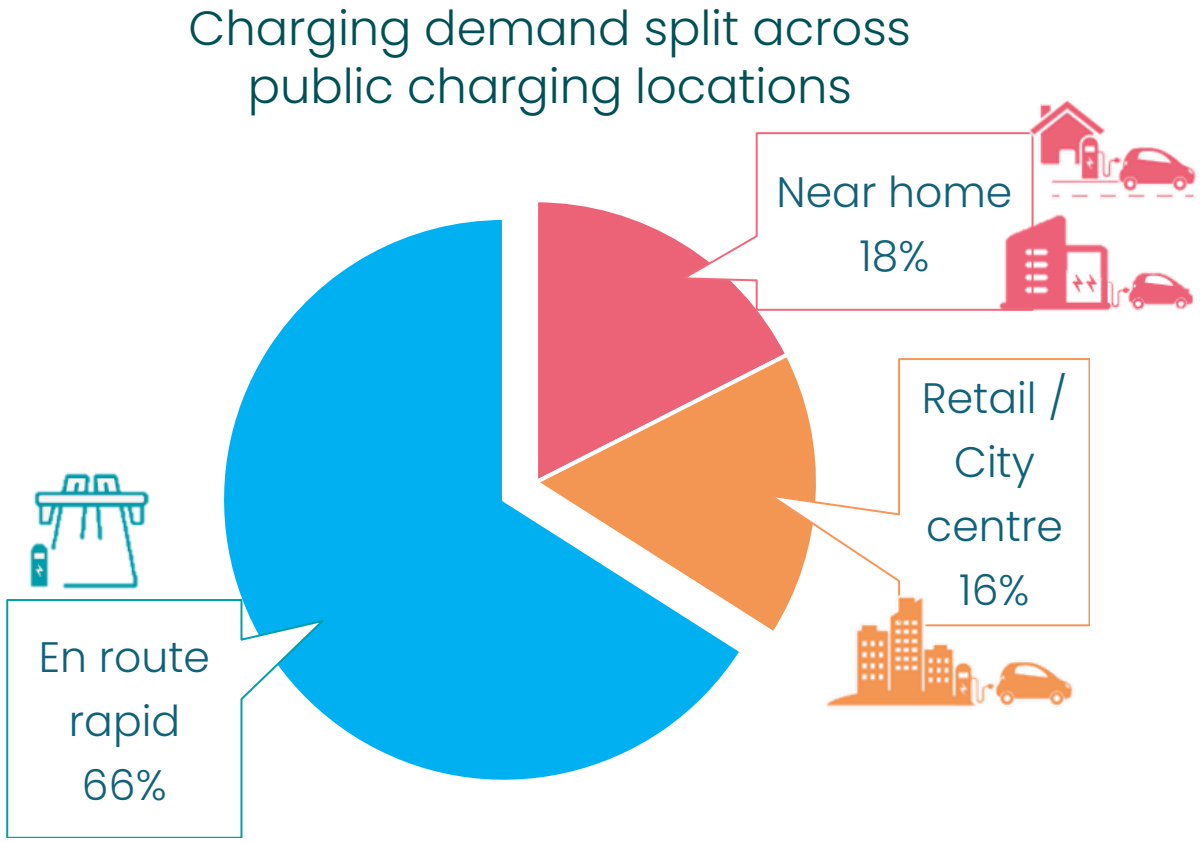
En route rapid charging is essential to support long-distance journeys

- En route rapid charging plays a vital role in public charging infrastructure, serving the greatest proportion of demand through all years, rising to 66% (around 6.4TWh) of all public charging in 2035.
- Serving longer journeys – where charging demand isn't met by other types of charging infrastructure.





The above outputs are taken from the *Central Case*

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As many as 50% of public chargepoints need to be targeted at providing charging for drivers in homes without dedicated parking.

- Near home
- Retail / City Centre
- En Route Rapid

To ensure the widest possible uptake this near home charging **must not solely focus on on-street residential charging**.

- Around 205,000 On-street residential and 4,000 Local rapid hub chargepoints*
- Driven by consumer preferences
- Local factors are very likely to make one form of near home charging more appealing than the other

*Taken from the *Central Case*

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Key Recommendations for Local Authorities

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Public charging needs to be built ahead of need to gain consumer confidence

Zemo Partnership

Delivering a universally accessible public charging infrastructure across the UK, ahead of the mass market transition, is critical to gaining EV user confidence and creating the conditions for the transition to take place to the timescale required.

Key Recommendations:

- Government and the financial sector must develop targeted financial support including blended public and private capital funding and explore mechanisms to share risk such as utilisation-linked loans to chargepoint providers[1].
- Ofgem and government should ensure there are network investment incentives, linked to Local Area Energy Plans, to stimulate investment.
- Central and local government need to streamline and simplify planning guidelines and consent protocols.

1. Utilisation-linked loan financing would provide investor assurance against slower than anticipated utilisation rate improvements and would de-risk demand-side impact on returns.

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Public chargepoints have to be used, usable, visible, accessible, connected and secure

Zemo Partnership

Confidence in the charging infrastructure is critical to enabling EV market demand and accelerate the transition. Government and industry must work together to deliver high-quality public charging services and ensure that charging is integrated as effectively as possible into the energy system.

Key Recommendations:

- Government and Ofcom need to develop a strategy to deliver national data connectivity with an architecture that supports evolving EV charging requirements. The data communications network needs to allow for real time transactional & operational data across the network.
- Chargepoint operators must ensure a minimum level of service which includes accessibility, uptime and repair completion targets, and be held to account for these.
- Local authorities should include minimum performance criteria in their chargepoint procurement processes.
- Industry must make relevant chargepoint, network and vehicle data open and accessible whenever possible to facilitate smart charging.

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Local authorities need the resources to provide integrated energy & transport planning

Zemo Partnership

Local authorities have a pivotal part to play in the effective deployment of public charging infrastructure through their role in control of planning, consents and access, their responsibility for the road network and transport planning.

Local infrastructure planning needs to go hand-in-hand with network planning by the DNOs.

Key Recommendations:

- Government must ensure that LAs have the resources and have both the mandate and obligation to develop and deliver local charging strategies.
- DNOs must provide mechanisms for sharing knowledge, materials and learnings across LAs in their region to develop local transport energy plans.

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Electricity Distribution

Impacts of increasing numbers of EVs on Distribution Networks

Peter White

17 October 22

nationalgrid

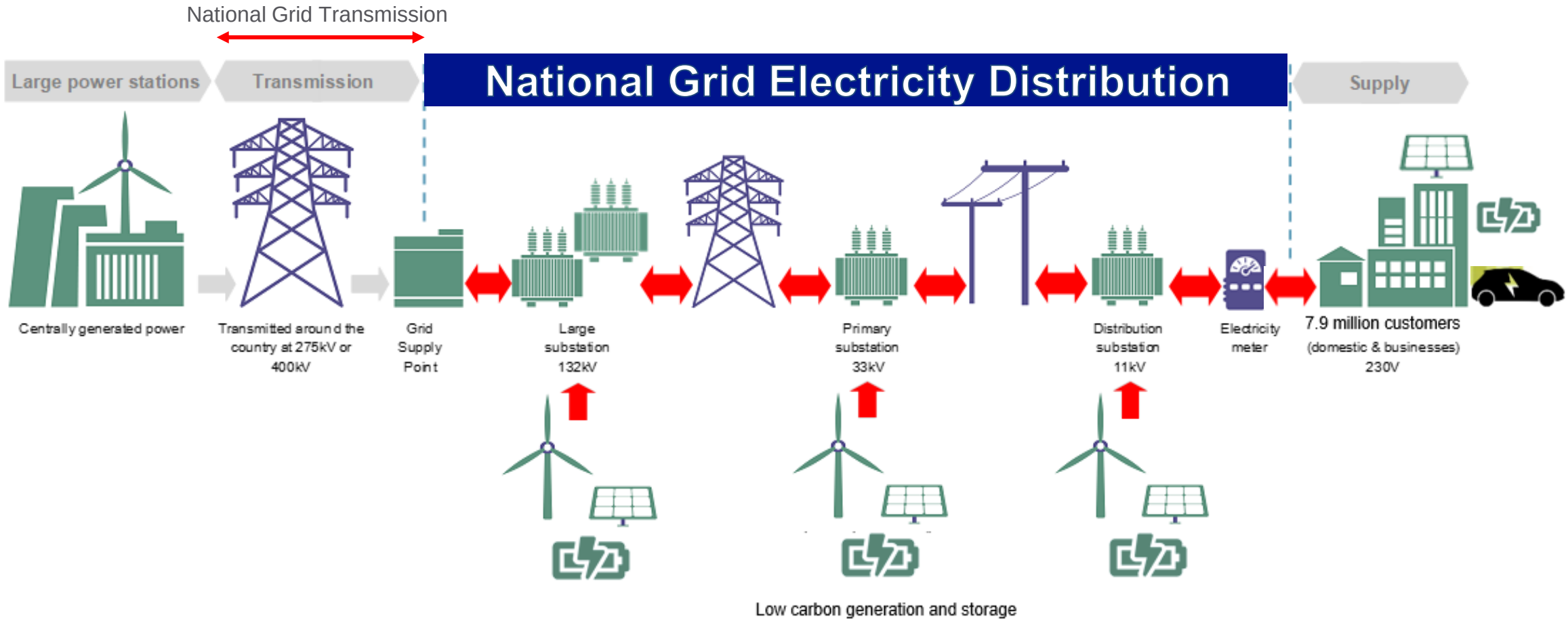
Who NGED are

- NGED operate the local electricity network, distributing power to 7.9 million homes & businesses.
- Covering the East and West Midlands, South Wales and South West England.

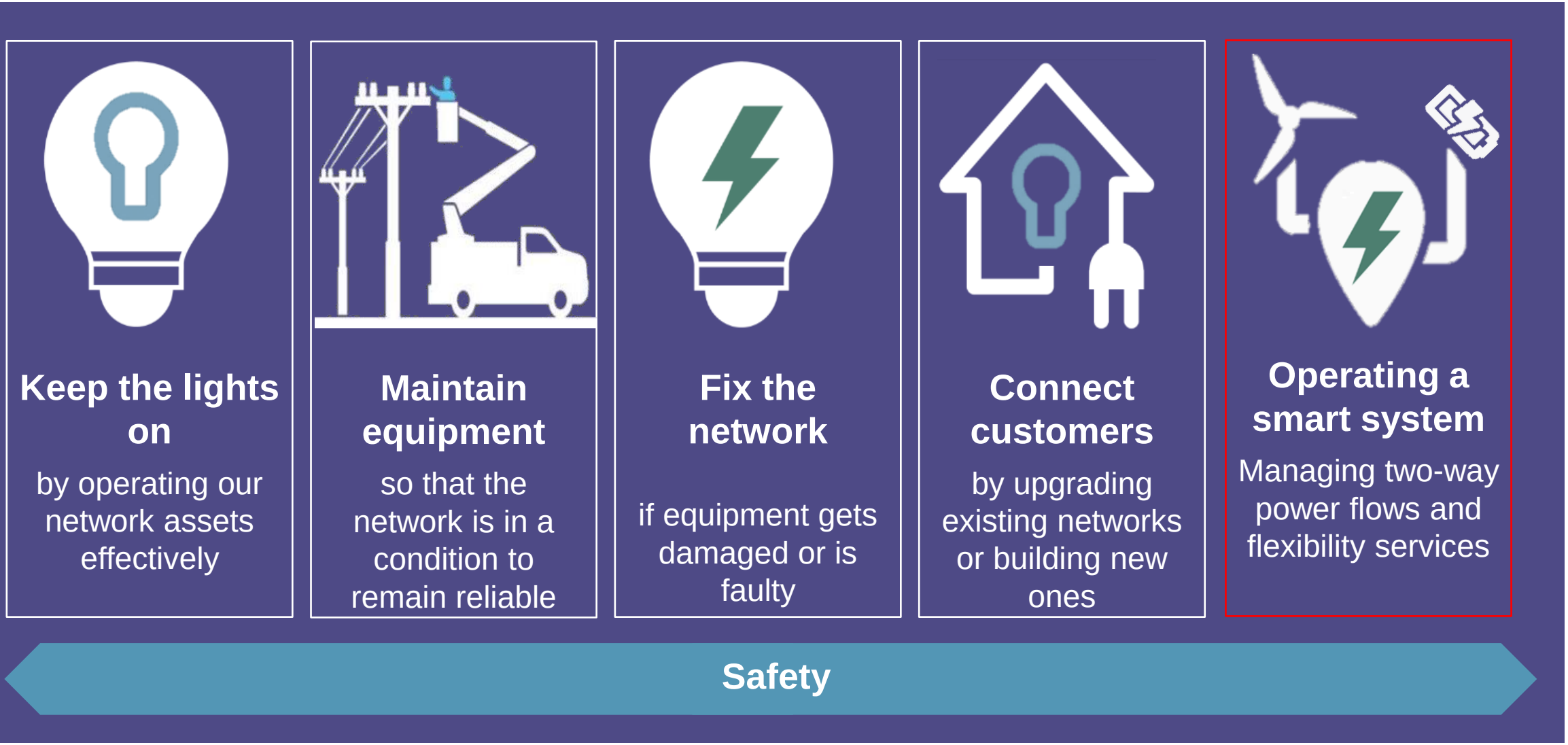
Network assets	
Cables and overhead lines	225,000 km
Poles and towers	1,389,000
Transformers	188,000

Where NGED fit in, in the UK's Electricity system

A Distribution Network Operator (DNO) including a Distribution System Operator (DSO)



NGED typical work streams

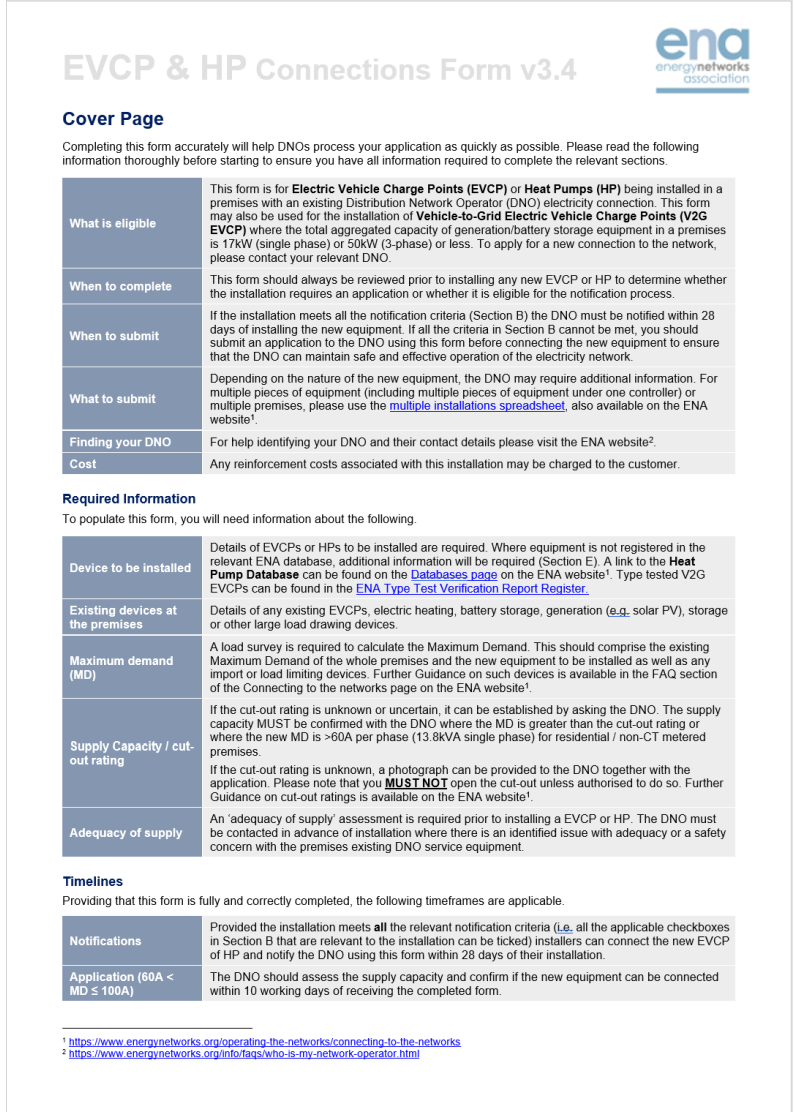


Context for Low Carbon Technologies

- Government ban on sale of ICE vehicles by 2030 will mean that all new vehicles require charge facility.
- This will create over 1 million domestic EV chargers per year.
- The Government Heat Pump target adds 600,000 per year.
- NGED operates in approximately 1/3rd of the UK.
- Our exposure would be roughly 500,000 low carbon connections per year.
- ……or 2,000 for each working day.

EV charging infrastructure installation.

- The DNO needs to be properly engaged and consulted to coordinate and facilitate the connection of charge points to the network.
- The DNO needs to know the size of the required connection characteristics to help ensure the local low voltage and medium voltage network have sufficient capacity and are designed to prevent issues for other local electricity users.
- Rapid EV chargers are pre-assessed to BS EN 61000 part 3-2, 3-3, 3-11 and 3-12 for Power Quality and Flicker by Threepwood for the ENA and the information stored on a confidential database only visible to the ENA and DNOs. This allows a quicker service level agreement (SLA) response for the customer.



EVCP & HP Connections Form v3.4

ena energynetworks association

Cover Page

Completing this form accurately will help DNOs process your application as quickly as possible. Please read the following information thoroughly before starting to ensure you have all information required to complete the relevant sections.

What is eligible	This form is for **Electric Vehicle Charge Points (EVCP)** or **Heat Pumps (HP)** being installed in a premises with an existing Distribution Network Operator (DNO) electricity connection. This form may also be used for the installation of **Vehicle-to-Grid Electric Vehicle Charge Points (V2G EVCP)** where the total aggregated capacity of generation/battery storage equipment in a premises is 17kW (single phase) or 50kW (3-phase) or less. To apply for a new connection to the network, please contact your relevant DNO.
When to complete	This form should always be reviewed prior to installing any new EVCP or HP to determine whether the installation requires an application or whether it is eligible for the notification process.
When to submit	If the installation meets all the notification criteria (Section B) the DNO must be notified within 28 days of installing the new equipment. If all the criteria in Section B cannot be met, you should submit an application to the DNO using this form before connecting the new equipment to ensure that the DNO can maintain safe and effective operation of the electricity network.
What to submit	Depending on the nature of the new equipment, the DNO may require additional information. For multiple pieces of equipment (including multiple pieces of equipment under one controller) or multiple premises, please use the multiple installations spreadsheet, also available on the ENA website[1].
Finding your DNO	For help identifying your DNO and their contact details please visit the ENA website[2].
Cost	Any reinforcement costs associated with this installation may be charged to the customer.

Required Information

To populate this form, you will need information about the following.

Device to be installed	Details of EVCPs or HPs to be installed are required. Where equipment is not registered in the relevant ENA database, additional information will be required (Section E). A link to the **Heat Pump Database** can be found on the Databases page on the ENA website[1]. Type tested V2G EVCPs can be found in the ENA Type Test Verification Report Register.
Existing devices at the premises	Details of any existing EVCPs, electric heating, battery storage, generation (e.g. solar PV), storage or other large load drawing devices.
Maximum demand (MD)	A load survey is required to calculate the Maximum Demand. This should comprise the existing Maximum Demand of the whole premises and the new equipment to be installed as well as any import or load limiting devices. Further Guidance on such devices is available in the FAQ section of the Connecting to the networks page on the ENA website[1].
Supply Capacity / cut-out rating	If the cut-out rating is unknown or uncertain, it can be established by asking the DNO. The supply capacity MUST be confirmed with the DNO where the MD is greater than the cut-out rating or where the new MD is >60A per phase (13.8kVA single phase) for residential / non-CT metered premises. If the cut-out rating is unknown, a photograph can be provided to the DNO together with the application. Please note that you **MUST NOT** open the cut-out unless authorised to do so. Further Guidance on cut-out ratings is available on the ENA website[1].
Adequacy of supply	An 'adequacy of supply' assessment is required prior to installing a EVCP or HP. The DNO must be contacted in advance of installation where there is an identified issue with adequacy or a safety concern with the premises existing DNO service equipment.

Timelines

Providing that this form is fully and correctly completed, the following timeframes are applicable.

Notifications	Provided the installation meets **all** the relevant notification criteria (i.e. all the applicable checkboxes in Section B that are relevant to the installation can be ticked) installers can connect the new EVCP of HP and notify the DNO using this form within 28 days of their installation.
Application (60A < MD ≤ 100A)	The DNO should assess the supply capacity and confirm if the new equipment can be connected within 10 working days of receiving the completed form.

[1] https://www.energynetworks.org/operating-the-networks/connecting-to-the-networks
[2] https://www.energynetworks.org/info/faqs/who-is-my-network-operator.html

Charging locations

- Transport according to BEIS creates some 27% of the UK's CO_2 emissions.
- There are 32.6m cars and light vans in the UK in 2022. About 40% of those vehicles do not have the luxury of Off Street parking, these vehicles need alternative locations to charge.
- Considering Cars and Light vans only there are typically four locations where Battery Electric Vehicle charging can take place.
- For those people with no off street parking this removes one of the primary sites to charge your vehicle.

Domestic Charging - Home

- Electric Nation showed that EV drivers do not charge every night.
- EV drivers will also react to price signals.
- We expect tariff structures to move most charging away from peak times.
- We have changed our network design models to reduce the overall impact of EV chargers.
- We have changed connection policy to allow all domestic (7.4kW) EV chargers to be accepted for connection, with any network upgrades being completed at a later date.

Work Charging

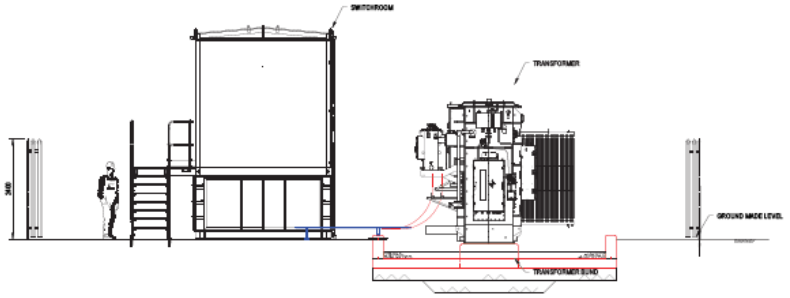
- Typically Work and Destination chargers are usually 7.4kW or 22kW fast chargers, as work staff are normally at work for about 8 hours this makes it a good location to charge.
- There are some Work / Destination locations where 50 or 100kW rapid chargers are installed.

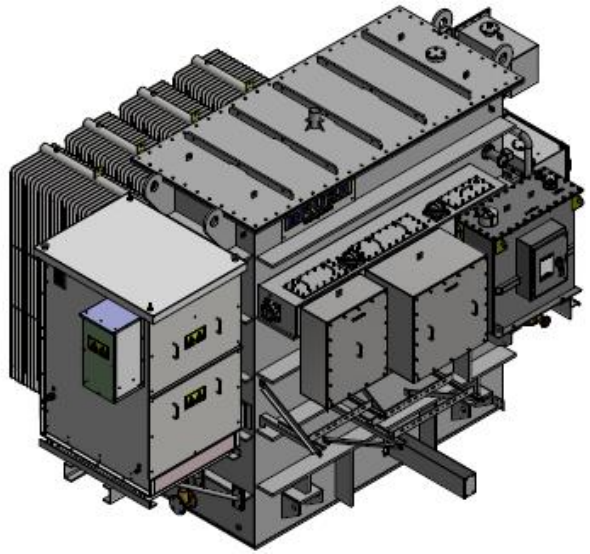
Town Centre Hub Solutions

- Early stakeholder engagement with Local Authorities showed they were more likely to offer car park based charging than on-street solutions.
- We are used to building substations to support housing demands.
- We have developed a version of our local substation which is specifically wired for EV charger connections.
- It will offer 1 to 1.6MVA of charge capacity at each location.
- It can be used at any car park and takes up two parking spaces.

Motorway Service Area (MSA) Charging

- The Government's Project Rapid predicts that Motorway Service Areas will require multiple Mega Watts of charge capacity.
- In many cases the demand will be the same as a small town.
- Our "Take Charge" innovation project has developed a solution to the problem.
- We have shrunk a version of our 33/11kV substation into two shipping containers for use at MSA's.
- Our trial site at Moto Exeter is now live and has 12MW of capacity on site, enough for 80 chargers.





LA Charge Point Placement

Street Side

- Electricity connections for street lights were designed for a demand of around 50 watts and ‘fast charging’ has a rating of up to 7360 watts (32A) single phase.

- Therefore, even though the cut-out may have an item rating of 5750 watts/25A single phase – the electrical infrastructure will most likely not permit the increased demand due to thermal overload of the ‘looped’ conductors and the voltage drop across the circuit.

- It is worth discussing requirements with the DNO perhaps a load sharing connection can be used for EV charging. In addition, street furniture connections most typically have a PME Earthing system and cannot be converted to a TT Earthing system without thought of the segregation requirements as detailed earlier.

LA Charge Point Placement

Car Parks

- Typically car parks have a low powered electricity connection to run a few lights and a parking ticket machine, therefore to provide multiple charge points of varying capacity a new electricity connection will be required.
- Currently NGED's largest distribution transformer is rated at 1000kVA and this substation could provide 135 vehicles with a 32A/7.36kW 'Fast' charge but would require the space of 3-4 parking bays for the WPD and customer apparatus.
- Depending on the battery size a 'Fast' charger will charge a typical electric vehicle within 8 hours and is therefore suitable for long stay car parks used by commuters.
- The same sized set up could provide power to 20 'Rapid' chargers with a maximum rating of 50kW each and these chargers are more suitable for short stay parking.

LA Charge Point Placement

Taxi Ranks and Similar Charging

- Due to the short waiting time of a taxi between fares, a ‘Rapid’ charge point would be most suitable to ensure that the vehicle range is maintained.
- The space requirement for a rapid charger will prohibit locations without off street parking and in addition the location will require a suitable electricity connection.
- The electricity network within congested city centres may already be at or around capacity and therefore the charge points may require a dedicated connection from the nearest substation and this substation may require a transformer upgrade.

NGED Process Changes

- We have changed connection policy to allow all domestic (7.4kW) EV chargers and most domestic heat pumps (12kW) to be accepted for connection. Some older Heat Pump models can affect the wider network so are excluded
- We need to know three things
  - Demand of the property
  - Type of main fuse cut-out assembly
  - Number of service cables
- We have centralised this activity in one team for speed and consistency. We respond on the same/next day.
- Any remedial works are carried out later, after the connection is made

Network Impacts

- Our low voltage networks are likely to require upgrades to support low carbon technologies
- We changed our design rules in 2015 to increase minimum network sizes, in 2019 we also made three phase service cable standard
- We will reinforce low voltage networks in retrospect for early adopters, but also work proactively where forecasts predict demand or high volumes are seen
- Our higher voltage networks have more interconnectivity so are less impacted. LCT forecasts to 2050 are built into our modelling

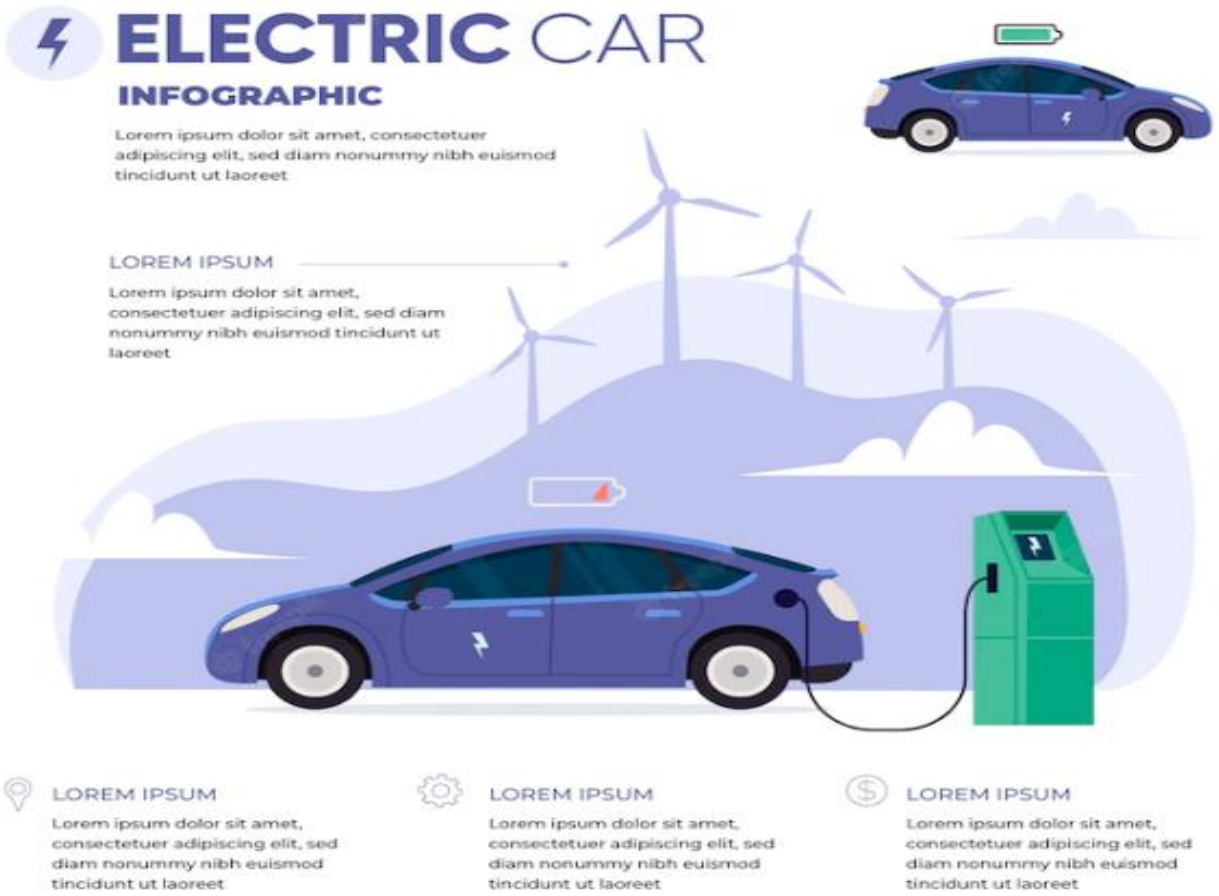
In Summary

- The drive to Net Zero is one of the biggest changes to electricity networks since rural electrification in the 1950’s.
- NGED are already working to make future capacity available, both on existing networks and for newly installed networks.
- NGED want to make the process as simple as possible for all early adopters of EV’s.
- NGED have options at all capacity sizes to support charger demands.

Thank you for listening.

nationalgrid

Local Authority EV Charging Infrastructure Forum
Monday 17th October 2022



Shamala Evans-Gadgil

Programme/Project Manager

Coventry City Council

Shamala.evans-Gadgil@coventry.gov.uk

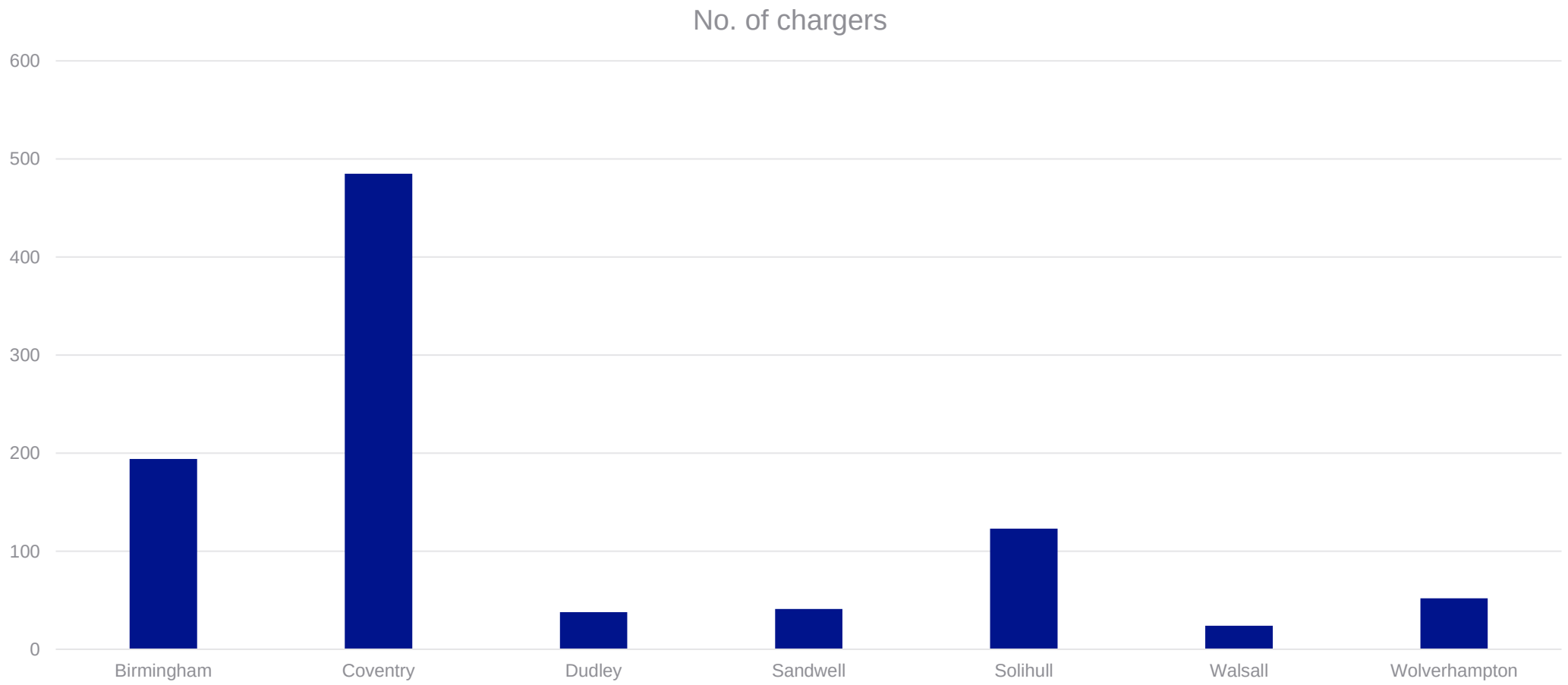
Who am I

- Shamala Evans-Gadgil: 3rd year part time PGR, with a Civil Engineering and Contract Management background
- Working as a consultant to Coventry City Council in a Senior Programme/Project Manager capacity on Innovation Projects in Transport and Innovation Division.
- Project Lead for:
  - Electric Vehicles Charging Infrastructure Strategy
  - All Electric Bus City
  - Renewable Energy and Battery storage.

Contents

- Dft Regional Statistics for Operational Charge points
- Procurement
- Site Selection
- Consultation
- Timeline
- Installation Challenges and Solutions
- Coventry EVCI Overview
- Tips as a Delivery Medium
- Some Useful Links

Dft Official Statistics: Electric vehicle charging device statistics: January 2022



Source: veh0131 - https://www.gov.uk/government/statistics/electric-vehicle-charging-device-statistics-january-2022/electric-vehicle-charging-device-statistics-january-2022#:~:text=in%20April%202022.-,Headline%20figures,available%2C%205%2C156%20were%20rapid%20chargers

Procurement of Charge Point Operator and OZEV grants

- Coventry has one of the most comprehensive EV charging networks outside London, with 607 currently operational chargepoints and additional 157 being made operational by December 2022, making a total of 998 charging spaces available for electric vehicles to charge .
- Work Place Charging –44 fast chargers at Council's properties and Plug-in Coventry project to support charge point provision at business premises

Rapid Charging *ULEV Taxi Infrastructure Project Siemen/ESB*

OZEV funding [75%] - £1.2m for 39 rapid [50kW] chargers

ESPO 363 framework – mini competition tender parameters

- 25% investment
- 70/30 revenue share
- R & D on app allowing taxi's to pre-book
- functionality for CEO's to enforce restrictions
- universal foundation
- underground infrastructure LA's ownership and
- 10 + 3 + 2 years contract

Slow & Fast Charging

Onstreet Residential Charging Scheme char.gy

OZEV funding [75%] - £1.35m for 373 slow [3.5 kW] & [7 kW] chargers

Tender parameters

- 25% investment
- universal foundation
- 16.2/kWh tariff
- Collaborative discussion before increasing tariff
- R & D on back office integration with parking services and sensor technology
- functionality for CEO's to enforce restrictions
- underground infrastructure LA's ownership and
- 10 + 3 + 2 years contract

Slow & Fast Charging

Onstreet Residential Charging Scheme Connected Kerb

OZEV funding [75%] - £1.488m for 308 single and dual sockets [7 kW] chargers (further 157 chargers will be operational by end of January 2023)

Tender parameters

- 25% investment/fully funded model
- 33p/kWh tariff
- Collaborative discussion before increasing tariff
- R & D on back office integration with parking services and sensor technology
- functionality for CEO's to enforce restrictions
- underground infrastructure LA's ownership and
- 10 + 3 + 2 years contract

Slow & Fast Charging *Workplace Charging Scheme*

- Partnership agreement
- Create Coventry brand
- Create business EV charging network
- Create and maintain web site
- Promote brand
- Multiple ownership models
- Launch 100 chargepoint challenge
    - https://www.plugincoventry.org

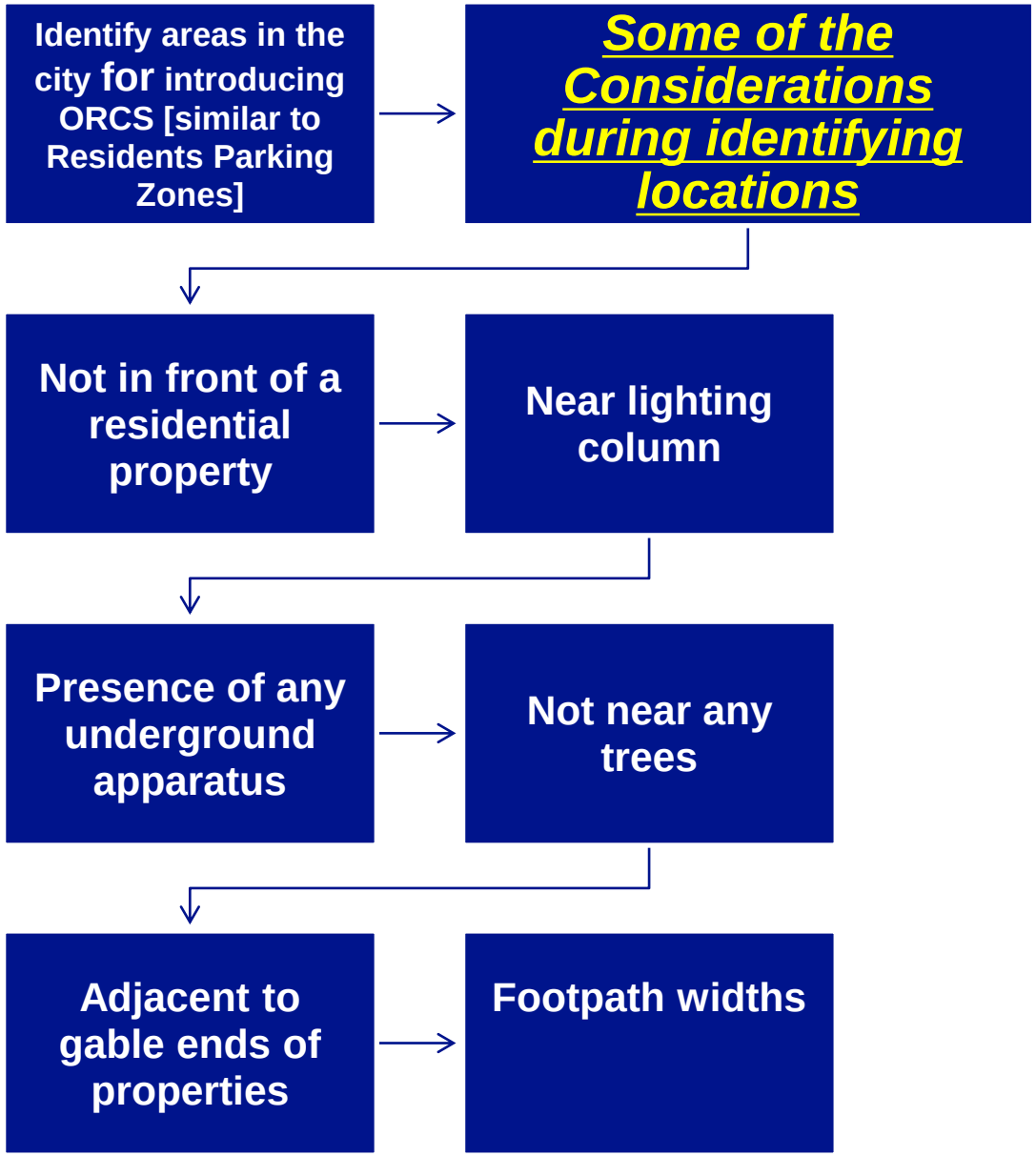
plug In Coventry

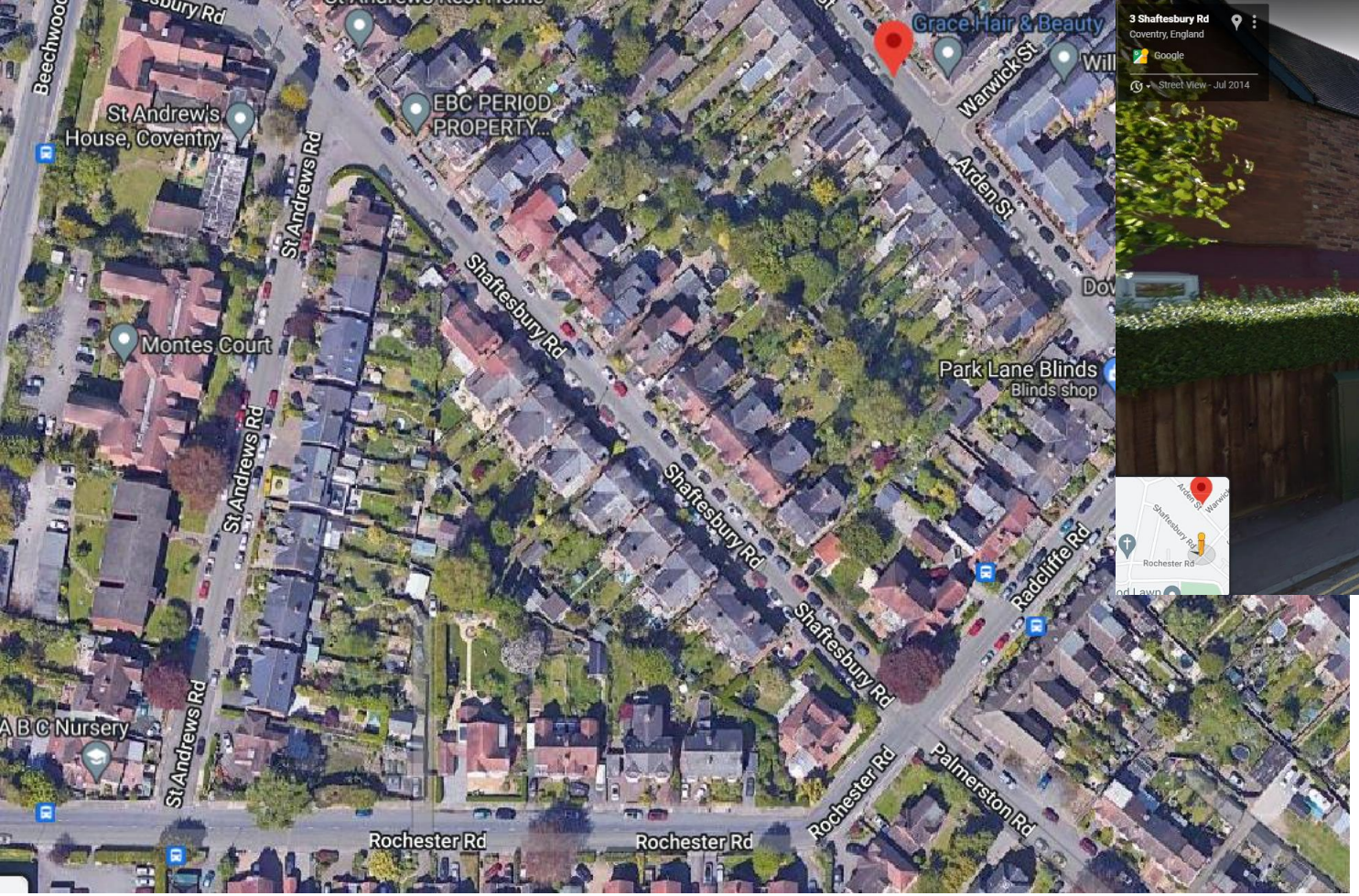
Smart Cities Trial *Connected Kerbs*

- Pilot project
- Smart Cities Charging Zone
- Proposal to trial Electric Vehicle
- Air quality monitoring sensors installed
- Real time data available on air pollution levels
- on-street Wi-Fi hot spot via the CKL phone application

Site selection

On-street Residential Chargepoint Scheme [ORCS] [3.5kW, 7kW or 22kW]





Site Selection :

Example of locations for EVCP

For residents who don't have

Off street parking facility

Consultation

On-street Residential Chargepoint Scheme [ORCS] [3.5kW, 7kW or 22kW]

- **Consultation**
- **Early consultation with local DNO**
  - consideration to earthing requirements
  - availability of power supply within existing LC
  - availability of power if feeder pillar required
- **Ward Councilors**
- **Residents association**
- **Drop in sessions**
- **Finalise locations with all stakeholders onboard**

Street news

Online drop-in sessions

Online drop-in session

Please come along to the drop-in session where we will be able to answer your questions:

Date: **Thursday 3 February 2022** from **6pm to 7.30pm**

and **Saturday 5 February** from **10am to 12pm**

Venue: Online drop in session

To receive the joining instructions please email **shamala.evans-gadgil@coventry.gov.uk** with the date of the meeting you would like to attend. If you want to phone in to the meeting please also let us know that in your email.

If there is no support for the idea within your area, we will not include it in the funding bid and charging points will not be installed.

To get more information on electric vehicle charging points, or to discuss the proposed funding bid, please contact:

Shamala Evans-Gadgil (Project Manager, Transport Infrastructure and Innovation) on **07779 080846** or email **shamala.evans-gadgil@coventry.gov.uk**

22-0010-CB

Street news

January 2022

On-street residential electric vehicle charging point scheme: Zone Am

Feeder pillar version

Lamp post version

We are keen to find out your views on our plans to install on-street electric vehicle charging points in your area. We want to make it easier for local people to use electric vehicles as one of the ways of improving air quality within Coventry, and although we already have one of the best charging point networks in the UK, we know more are needed.

One of the main barriers to electric vehicle ownership is people not having a private driveway or garage in which to park and charge their vehicle. To address this, we have so far secured £2.13m of grant funding from the Government to install slow and fast charging points for residents in the city. We have installed 403 charging points on residential streets across Coventry and a further 155 are due to be installed by July 2022.

Now we have the chance to bid for additional funding, and we are keen to know if you support the idea of charging points being installed in your area. The map inside shows the changes that are being considered.

Most of the charging points would take the form of a bollard which will be powered by the existing lamp post or by connecting to a feeder pillar (an independent power supply), will make no noise or vibration and will be kept updated for at least the next 15 years. Some charging points will be installed directly on to a lamp post. The photos below show the type of charging points that have already been installed using the government grant, and those that would be installed in your area would be the same as these.

There will be no parking restrictions initially placed on the use of the parking spaces next to the charging points until the number of electric vehicles has increased. There will be bay markings and sensors installed in each space, which will mean we can monitor usage and identify when electric car ownership increases. However, there will be no bay markings or sensors installed at the locations where the charge points are directly installed on a lamp post.

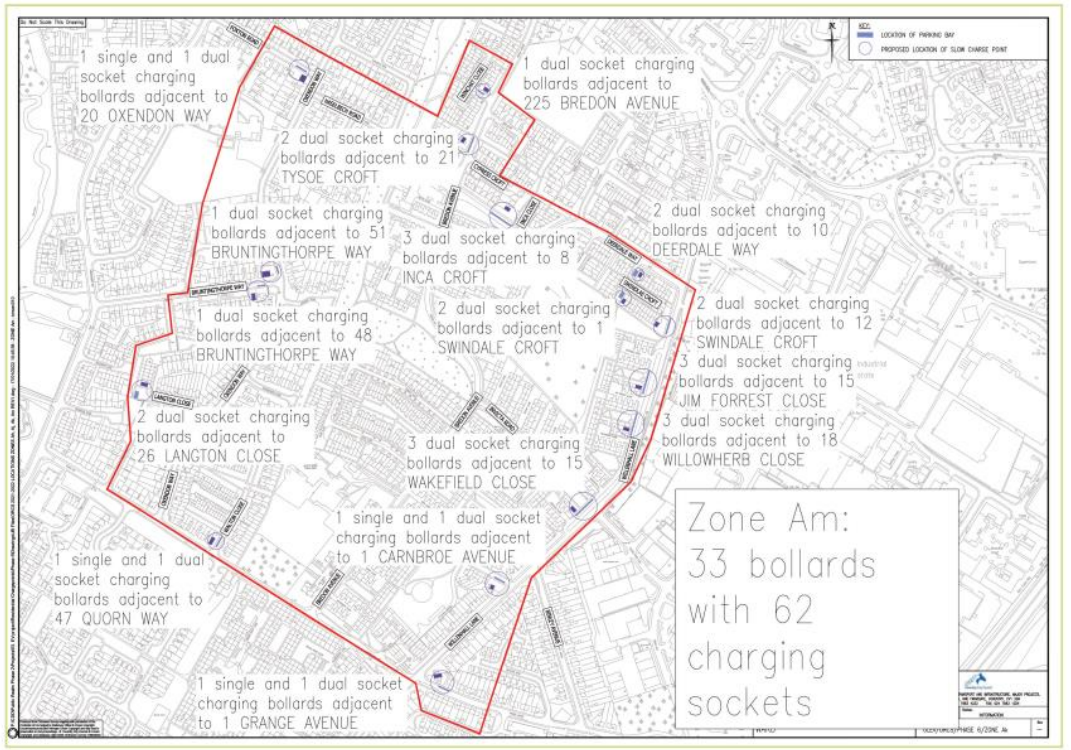
All charging points will be for residents and their visitors only. Only residents of properties within the area will be allowed to register for the charging points.

If you are interested in finding out more about the benefits of switching to an electric vehicle, look at **https://www.edfenergy.com/electric-cars/buyers-guide** where you will find information that will help you decide whether an electric vehicle is for you.

Coventry City Council

www.coventry.gov.uk

Street news



Consultation : Example of notifying local residents

Coventry City Council

Coventry UK CITY OF CULTURE 2021

www.coventry.gov.uk

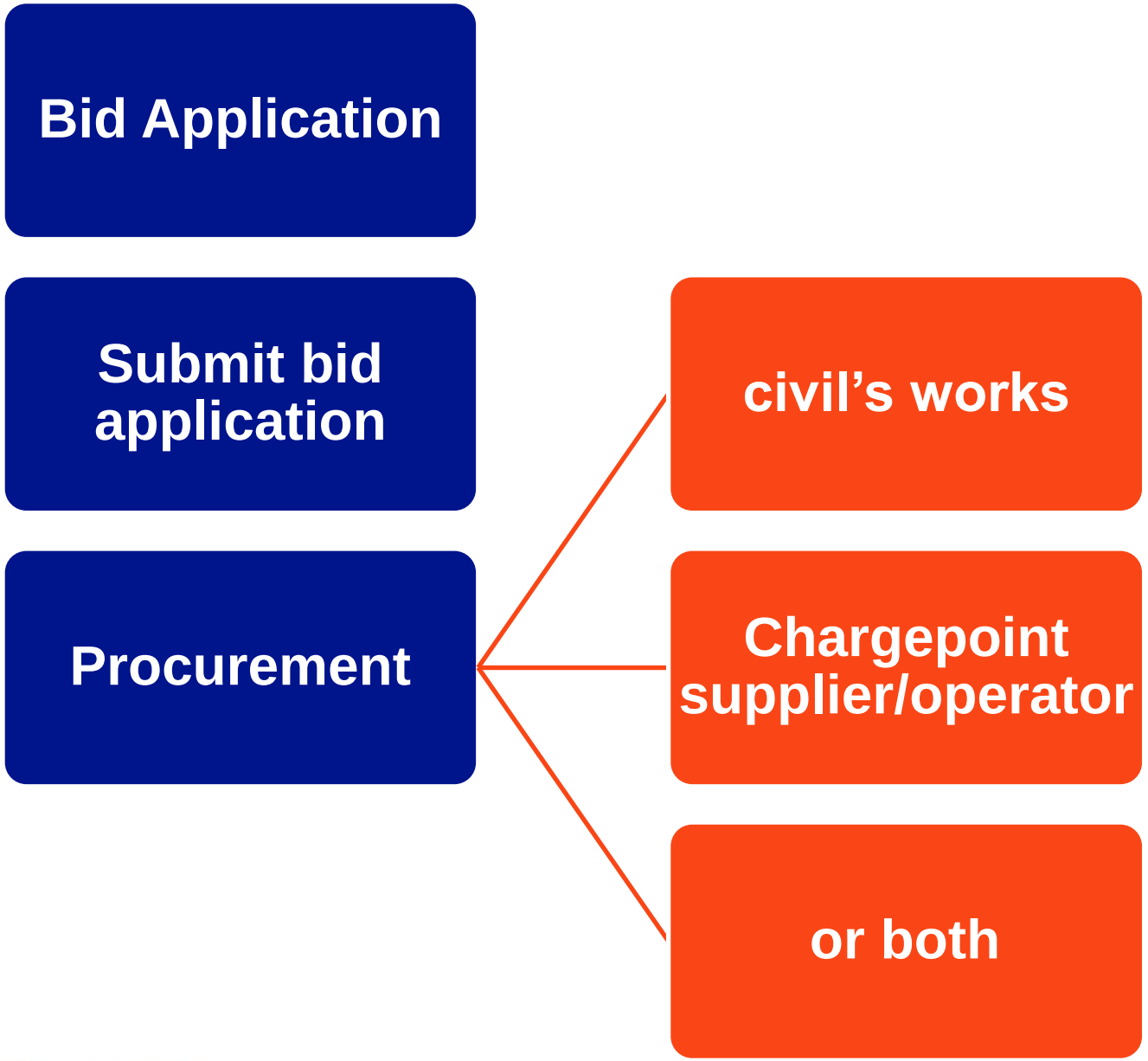
ORCS through Local Authority timeline

On-street Residential Chargepoint Scheme [ORCS] [3.5kW or 7kW] through Local Authority Timeline

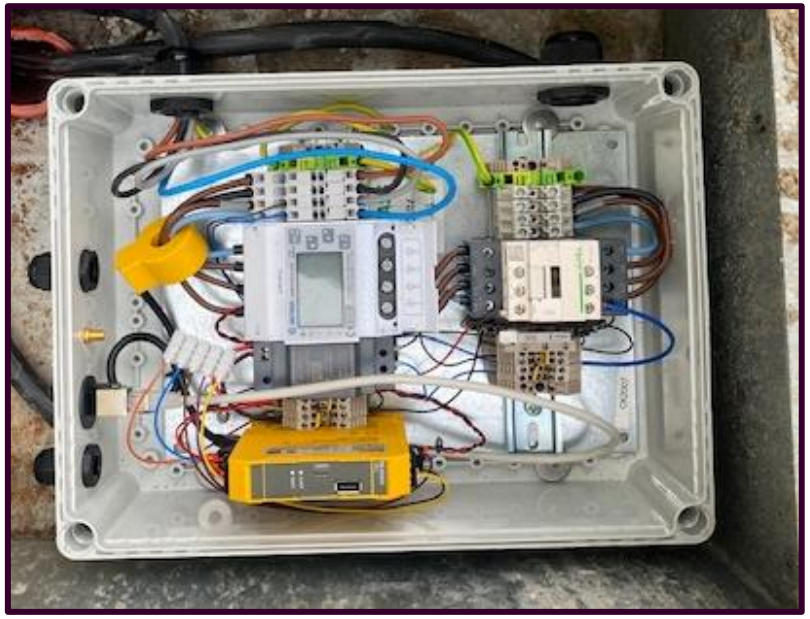
It is assumed that relevant approvals are in place.

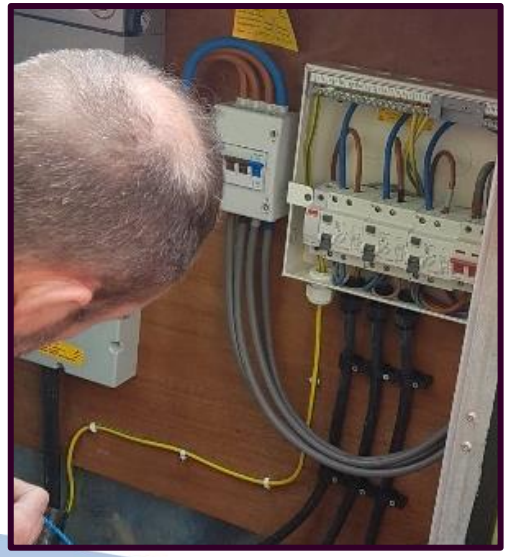
Identify Locations	1 to 12 weeks
Engage with local DNO	5-7 weeks
Prepare cost estimate	1 week
Internal consultation	2 to 4 weeks
External consultation	6 to 8 weeks

On-street Residential Chargepoint Scheme [ORCS] [3.5kW, 7kW or 22kW]



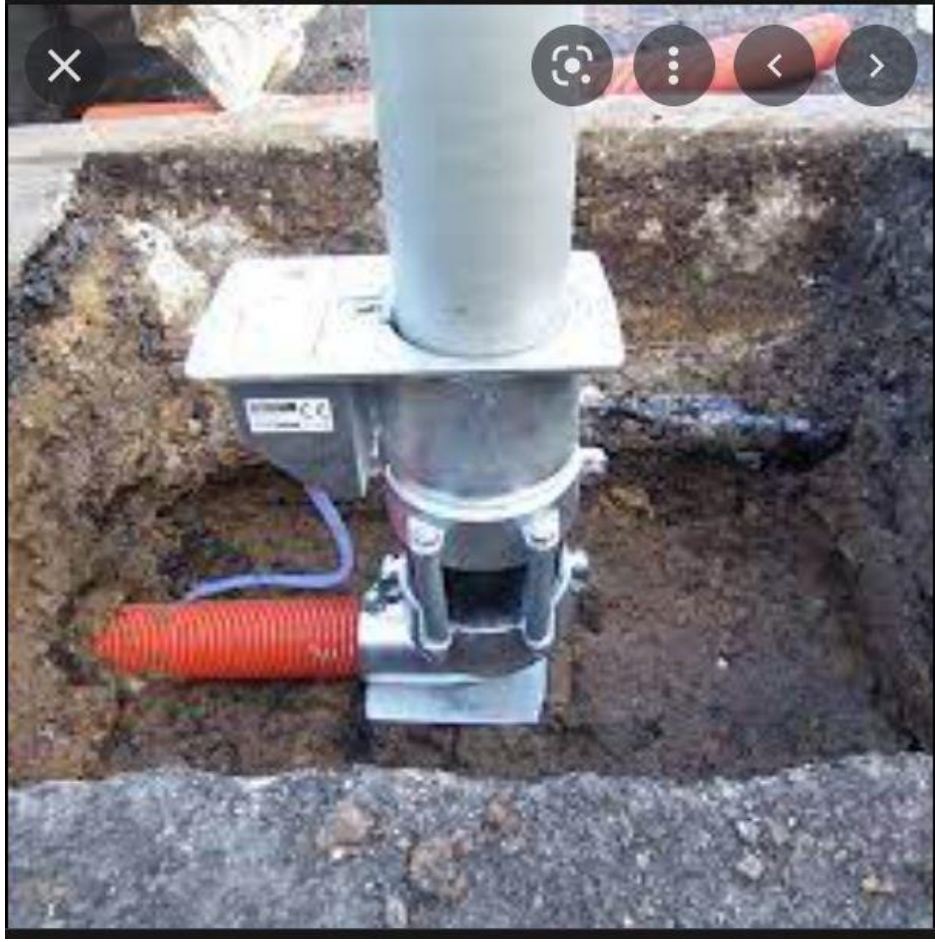
Installation challenges and solutions



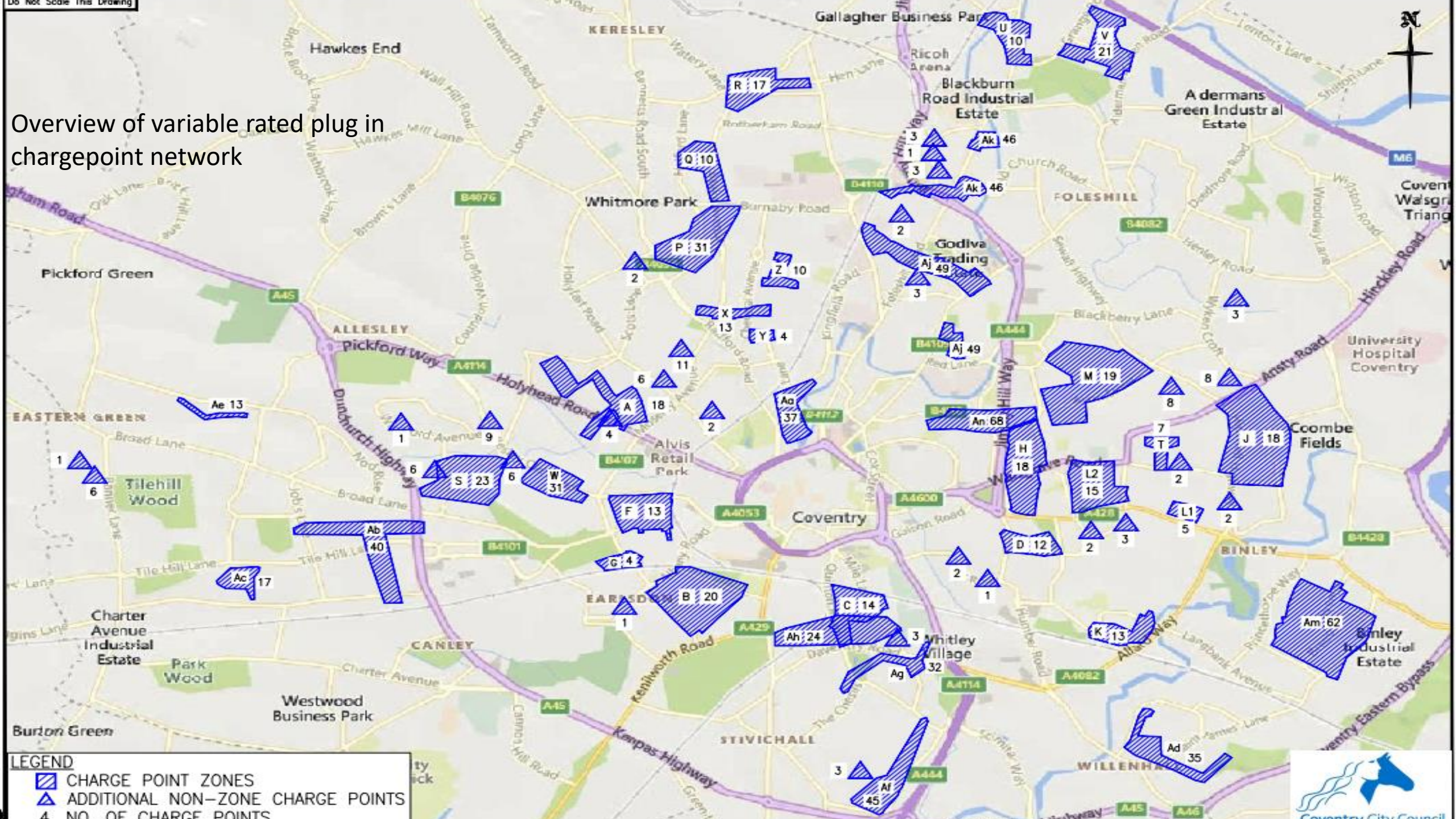


CPO installation:
Example of node box underground with the charging bollard above ground

Challenges:
Example of underground challenge during construction



Solution:
Example of R&D underground solution during construction


Do Not Scale This Drawing
Overview of variable rated plug in chargepoint network
Hawkes End
KERESLEY
Gallagher Business Park
Ricoh Arena
Blackburn Road Industrial Estate
Aldermans Green Industrial Estate
Whitmore Park
FOLESHILL
Godiva Trading
Pickford Green
ALLESLEY
Pickford Way
Holyhead Road
Dunchurch Highway
EASTERN GREEN
Broad Lane
Tilehill Wood
Alvis Retail Park
Coventry
Hinckley Road
Ansty Road
University Hospital Coventry
Coombe Fields
BINLEY
Binley Industrial Estate
Charter Avenue Industrial Estate
Park Wood
Westwood Business Park
Burton Green
CANLEY
EARLSDON
Kenilworth Road
Whitley Village
STIVICHALL
Kenpas Highway
WILLENHALL
Coventry Eastern Bypass
LEGEND
CHARGE POINT ZONES
ADDITIONAL NON-ZONE CHARGE POINTS
4 NO. OF CHARGE POINTS

Main Tips as a delivery medium

On-street Residential Chargepoint Scheme [ORCS]

- Residents are very protective of parking space outside their house, so avoid frontages.
- Engage with local DNO's as soon as internal consultation is complete to discuss power availability through the lighting column's or for a new supply.
- Identify any earthing issues with the DNO's. (eg; installation of O-PEN devices within the feeder pillars or Matt:e within the chargers)
- Use universal foundation, such as NAL sockets. This will avoid un-necessary costs and disruption when re-tendering for a new CPO
- Use your own civil's contractors to keep costs down.

Some useful links

Some useful links to information on EVCI

https://www.gov.uk/government/organisations/office-for-zero-emission-vehicles

OZEV's guidance document

https://energysavingtrust.org.uk/

https://www.cenex.co.uk/transport/

https://www.evaengland.org.uk/

https://www.r-e-a.net/

Some procurement links

https://www.crowncommercial.gov.uk/?gclid=Cj0KCQjw166aBhDEARIsAMEyZh67zdn4tgo3yVJKR1EGyM8_yJdV5HMf3doa5bEBk4e08WFA5OAvDhMaAvsHEALw_wcB&gclsrc=aw.ds

https://down.kcs.co.uk/resource/downloads/ps/KCS_User_Guide_EVCPAS.pdf

https://www.oxford.gov.uk/info/20011/environment/1518/dynamic_purchasing_system_dps_for_the_supply_of_electric_vehicle_ev_charging_infrastructure_and_associated_services

Thank You
Any Questions?

nationalgrid

On Street Variance Report

Alistair Gonoude

EV Lead Public Sector

Field Dynamics

Field Dynamics

Net-Zero Data Analytics Consultancy

- Fleets
- CPOs
- Authorities
- DNOs

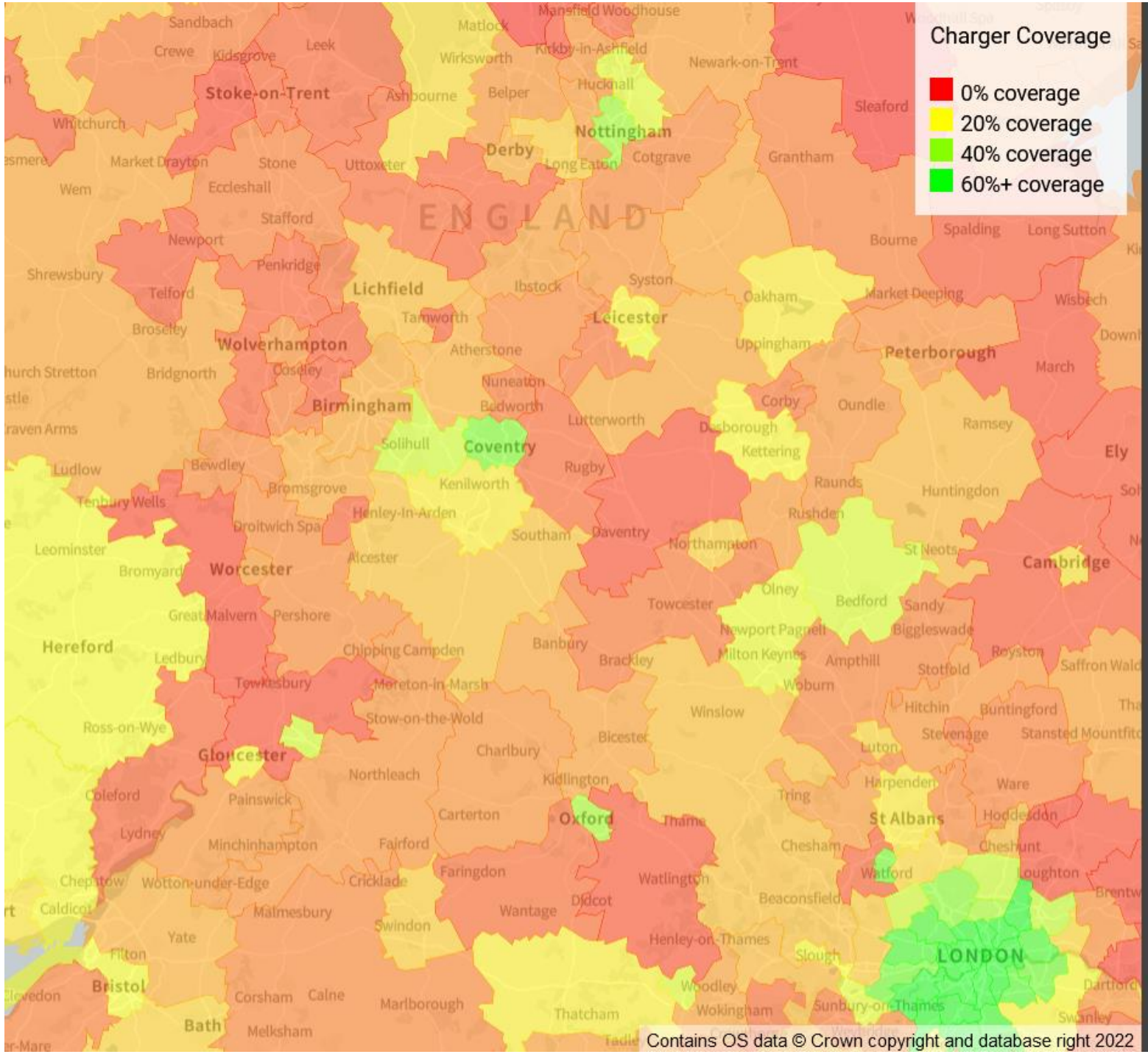
- In-Transit Charging
- Destination Charging
- Workplace Charging
- Residential Charging
- Fleet Migration

- SaaS BI, Spatial
- Electric Vehicle & Low Carbon Technology Expertise
- Smart algorithms and optimisation

Accelerated Insight Platform

Virgin media · SP ENERGY NETWORKS · Baringa Brighter together · BT · EE · YorkshireWater · Scottish Water Always serving Scotland · SOUTH WEST WATER · nationalgrid ventures · COSTAIN · Uber

centrica · SEVERN TRENT · Transport for West Midlands · serco · electricity north west · pwc · GRIDSERVE sustainable energy · London Borough of Redbridge



Solihull District (B)

Accelerated Insight Platform

Statistics

Total population: 217,487

Total number of households: 92,935

Total domestic charger grants: 1,634

Public Charging

Total public charging sites: 107

Charging sites per 1,000 On-Street households: 4.1

Variance 2020-22

On-Street Coverage	Public Charging Sites	Residential Chargers
+24.1 %	+282.1 %	+101.2 %

Households with access to off-street parking?

72% Yes	28% No
Total: 66,995	Total: 25,940

On-Street households in catchment?

29% Yes	71% No
Total: 7,491	Total: 18,449

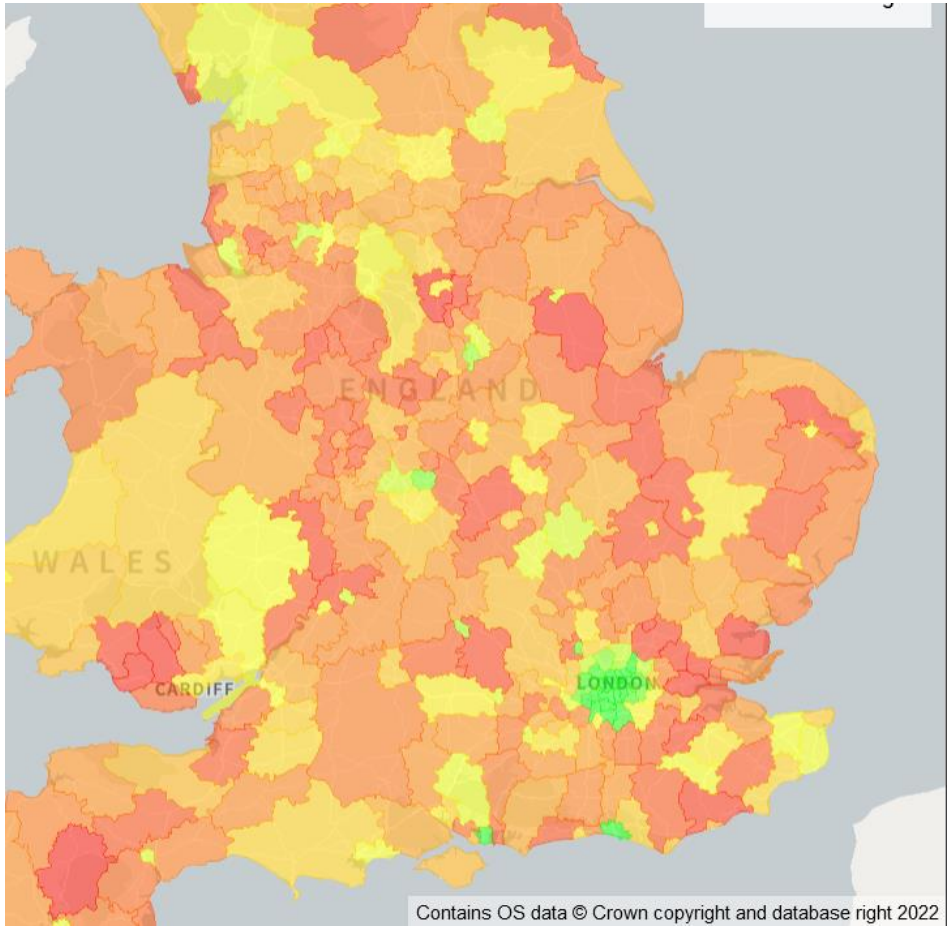
Key Findings

Coverage has improved by 42%, which is significant but not as significant as the 68% increase in ORCS chargers.

Coverage is still inconsistent with London Boroughs achieving an average of nearly 60% coverage while Metropolitan councils average less than 14%.

Increases in coverage are very inconsistent across different councils with limited evidence of any contributing trends.

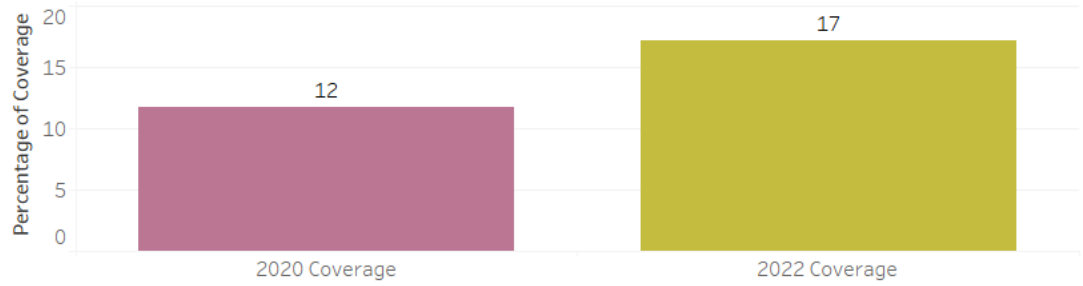
EV adoption is broader than commonly perceived. 293 councils have seen an average 50% increase in residential chargers since 2020.



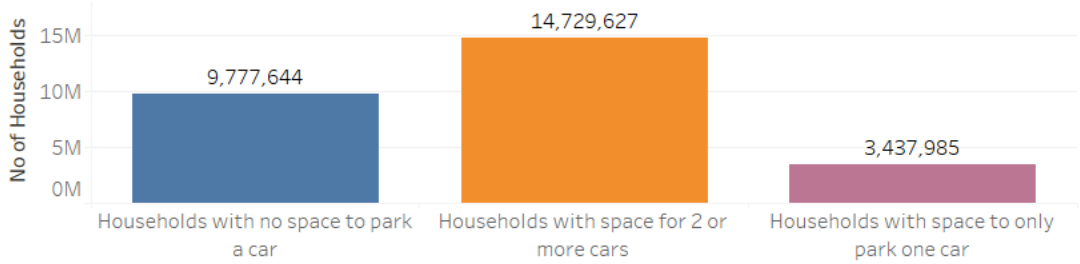
Field Dynamics

By Council type

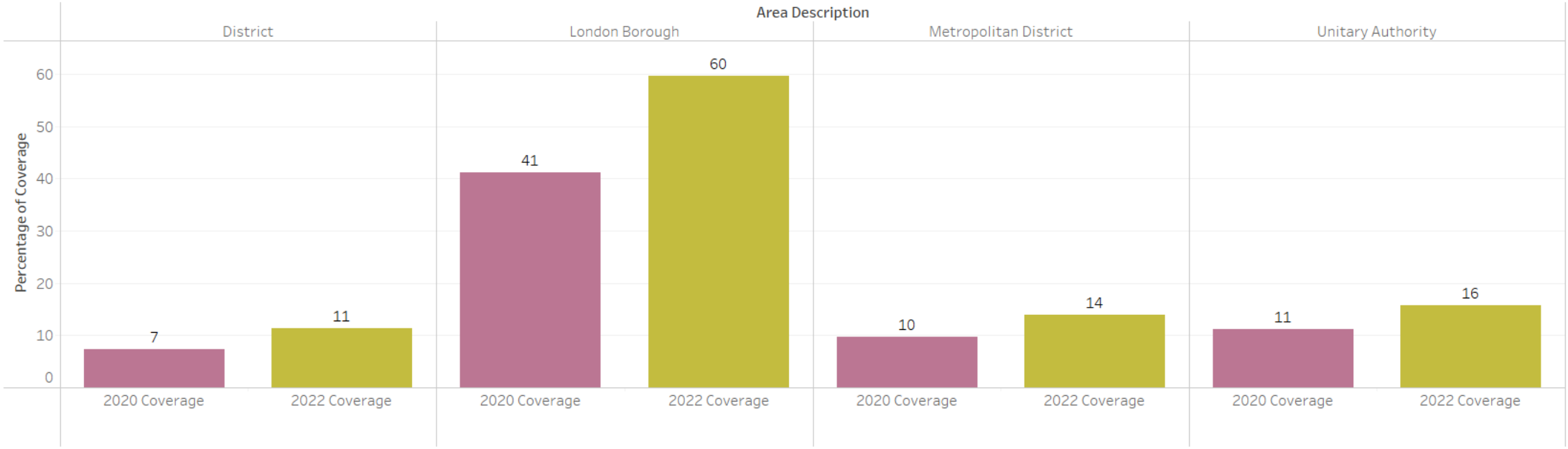
1.6 National Coverage Improvement



1.5 Parking v Non-Parking



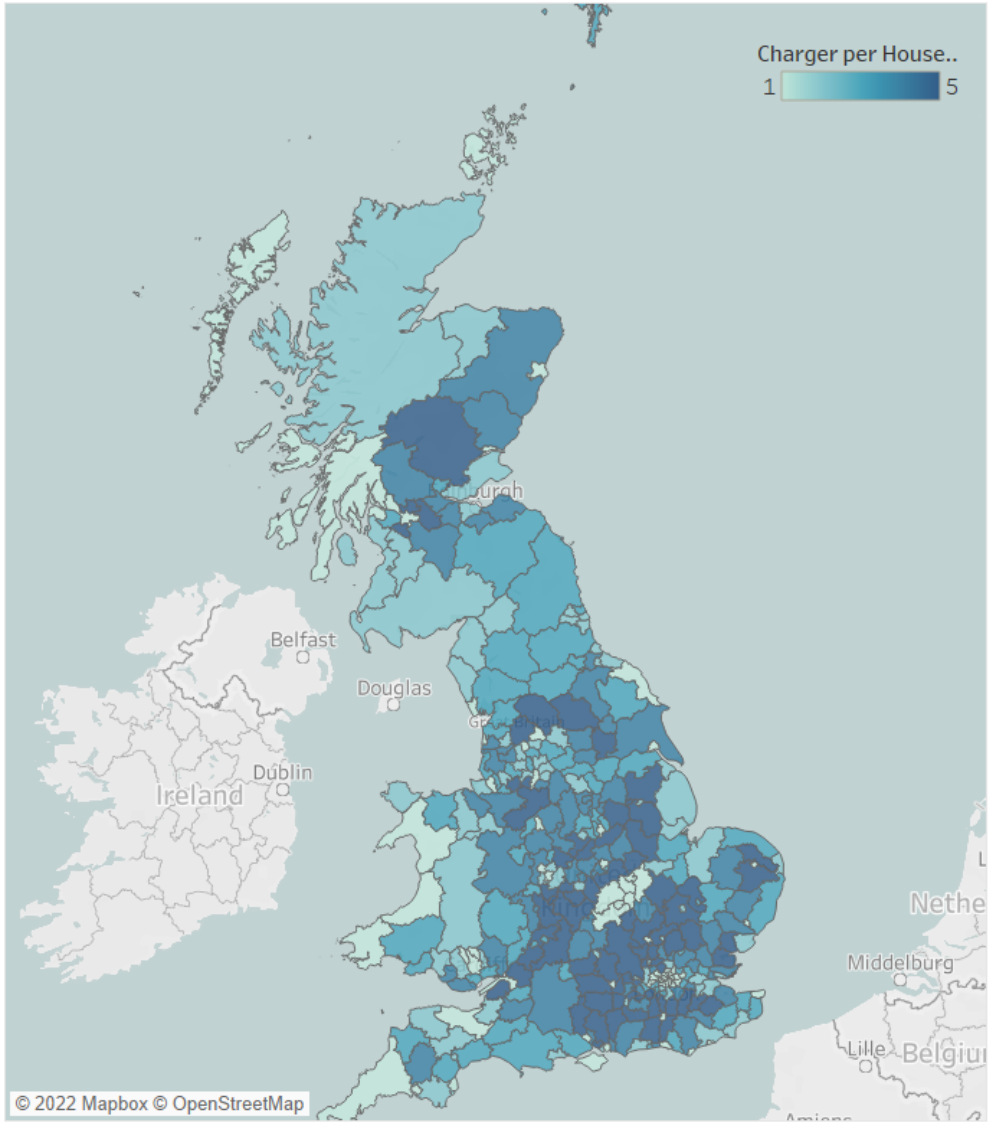
1.7 Coverage Improvement by council Type



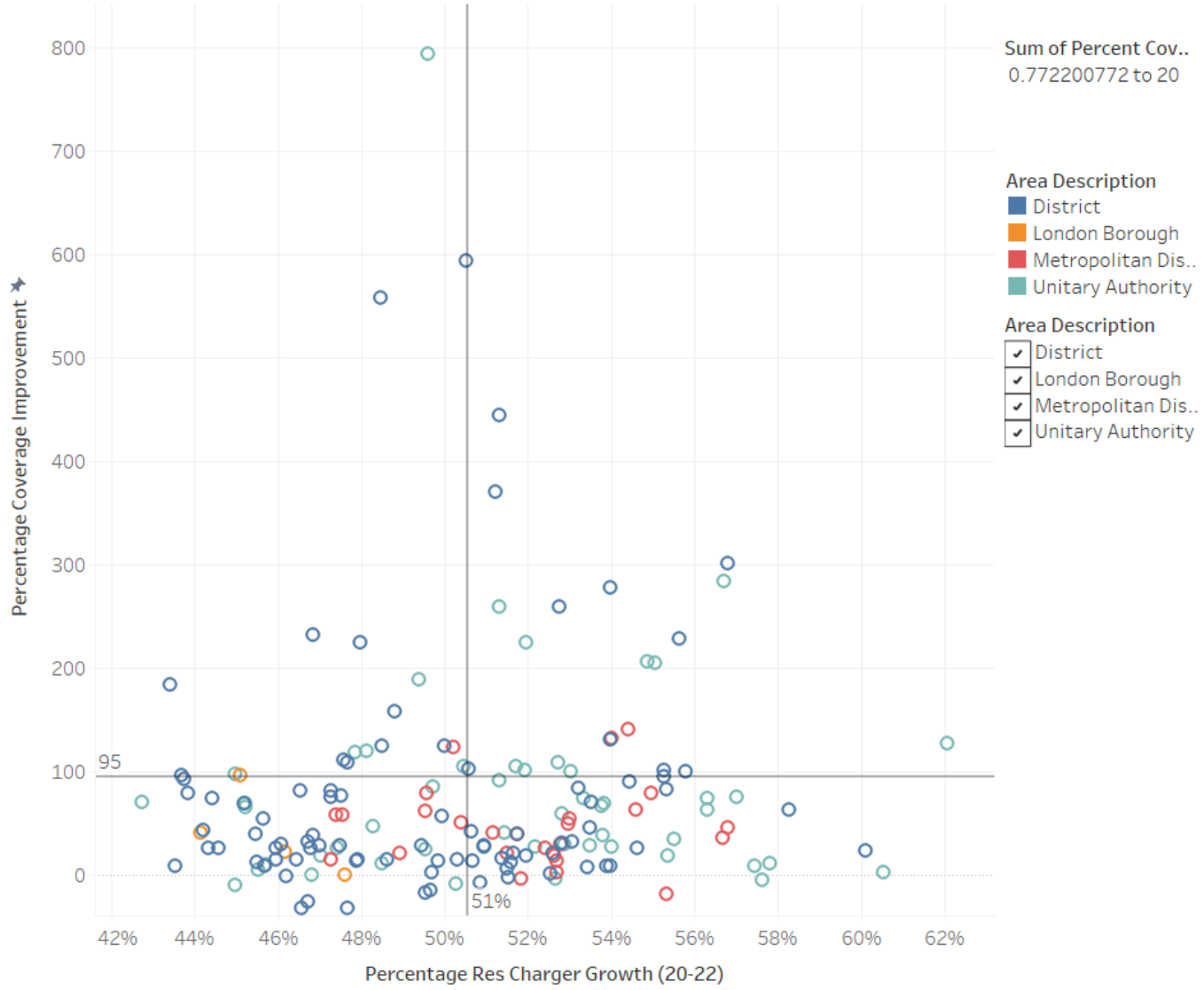
Field Dynamics

Adoption

4.2 Map of 2022 Res Charger/HouseH Ratio Quintiles



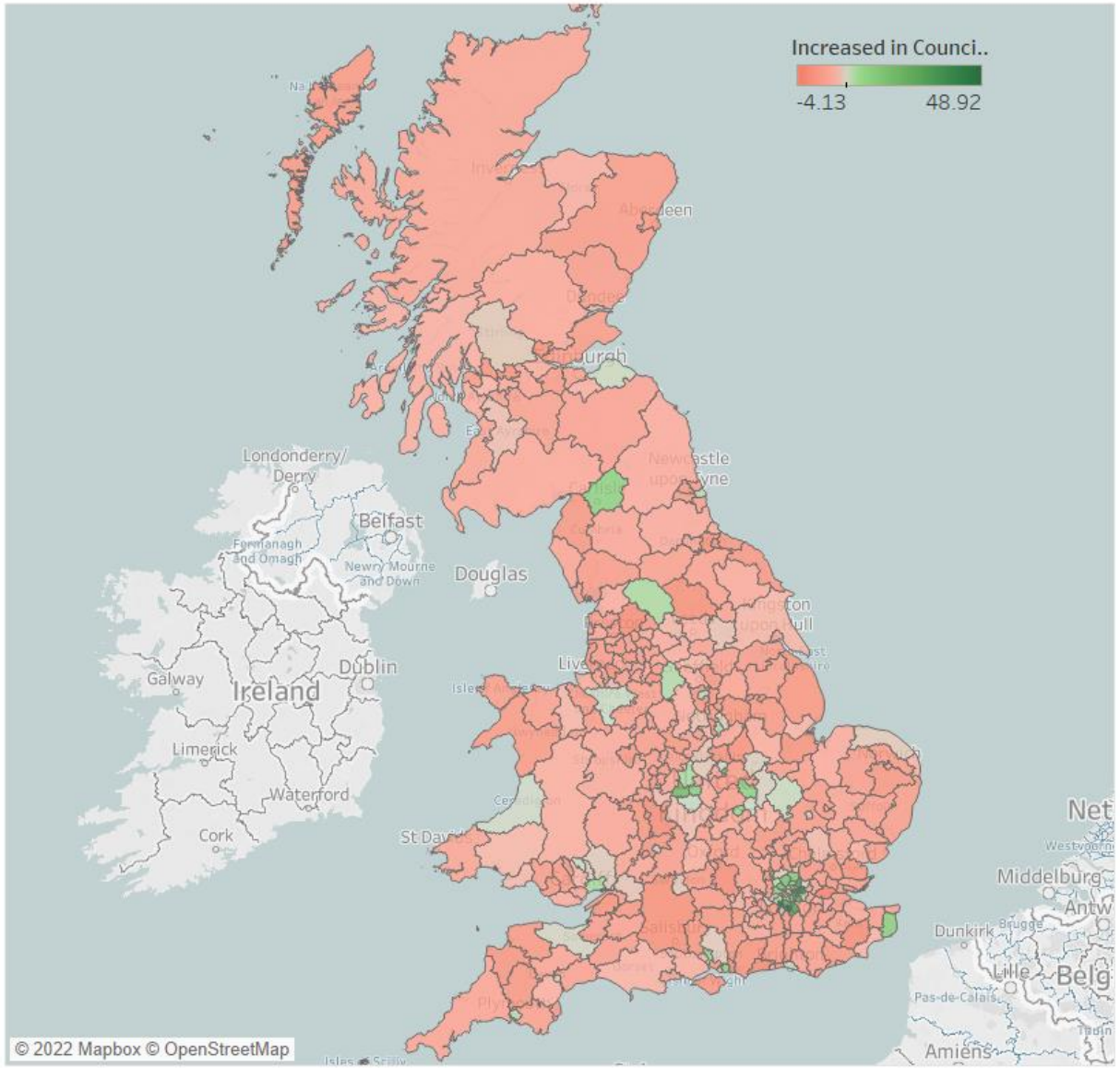
4.3 Relationship between increases in Res chargers and Coverage



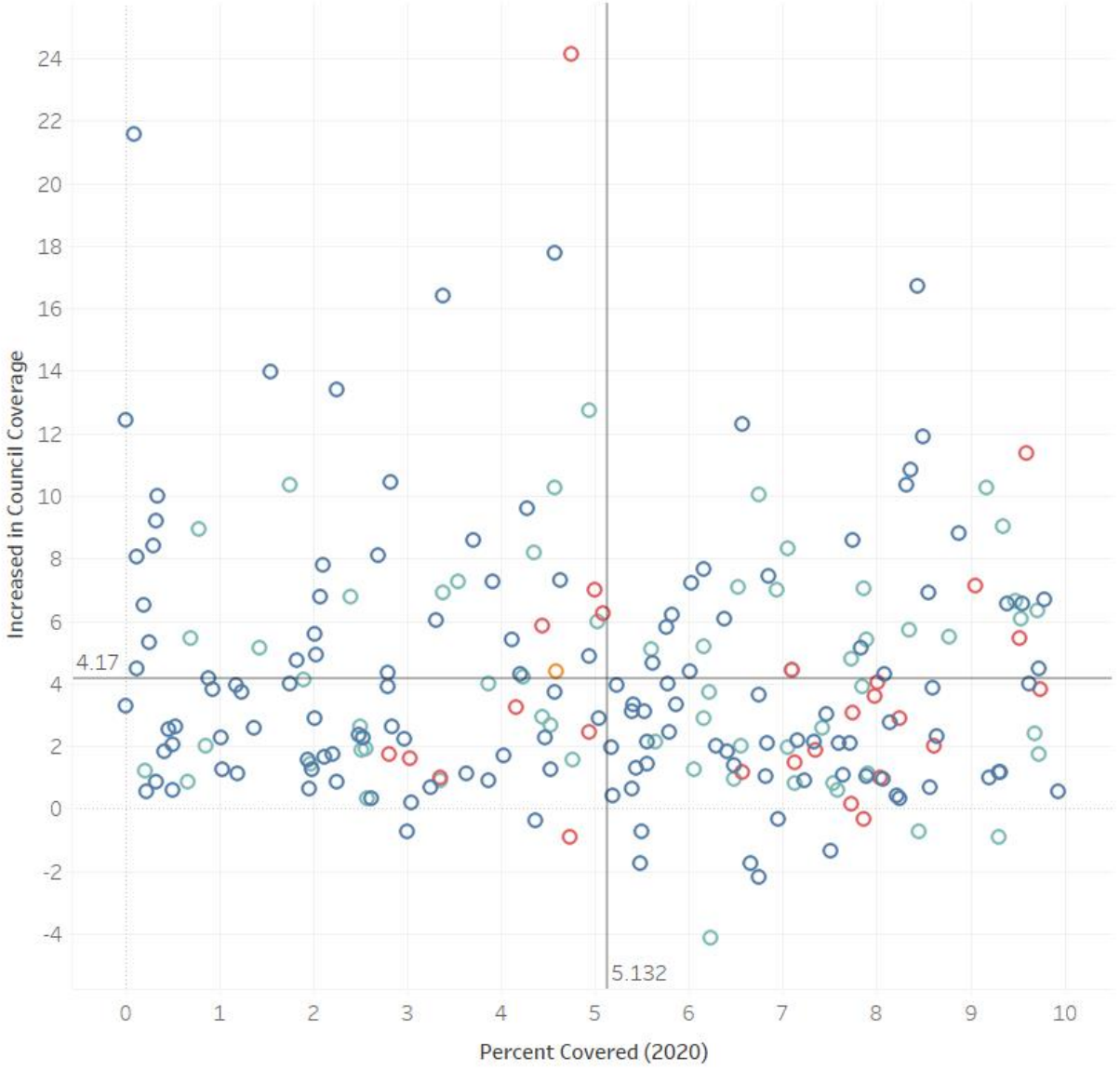
Dynamics

Distribution

2.5 Map of Distribution in improvement



2.6 Percentage covered (2020)v Improvement



Background – An Evidence Tool Set for local authorities

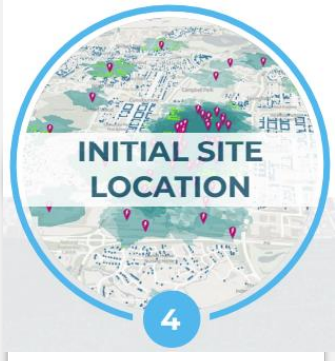
We developed **JumpStart** after speaking to a wide range of local authorities. The key role of JumpStart is to give the authorities a head start in understanding where their EV charging demand is.

JumpStart Project

Agree what initial level of adoption to plan for.

Calculate what scale of service would be required for the Initial Scenario.

Define how services will be allocated to zones different demand profiles.



Select ideal locations within demand zones for allocated services.

Disseminate findings and insight to Council

Key Activities

- Strategy & Policy Development
- Internal Business Case
- Grant Funding Applications
- Stakeholder Engagement

JumpStart Evidence Foundation - national, local and comparative data

Field Dynamics

Demand Zoning

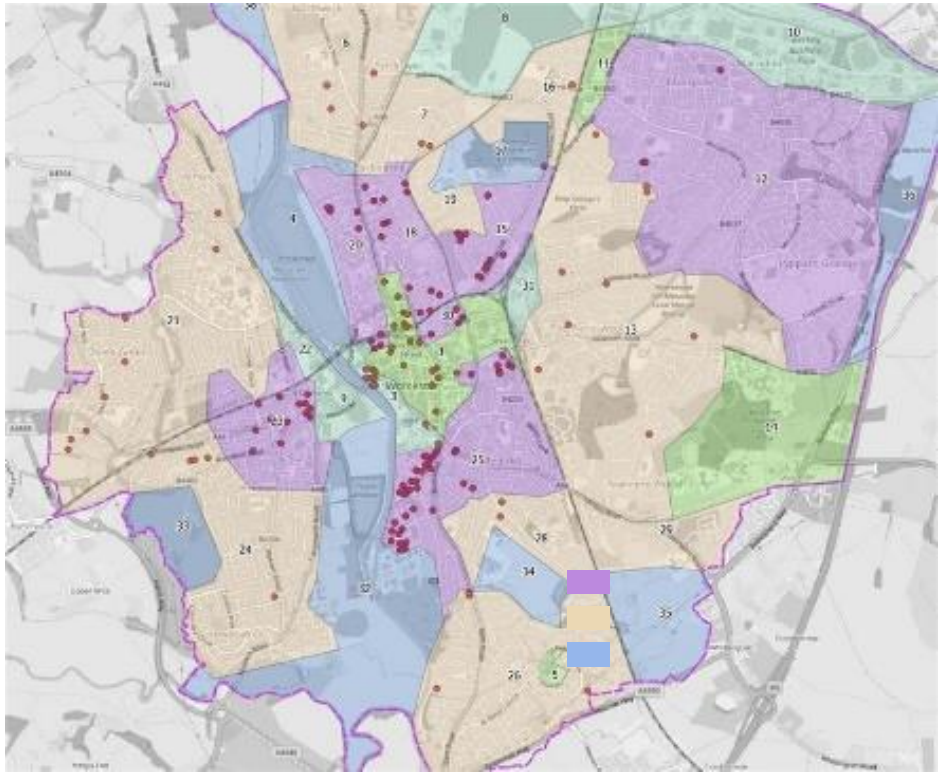
Not all areas within your Council require the same level of support.

Areas with high levels of Off-Street parking will require considerably less support then dense areas with predominantly On-street parking (Public Need). There are also areas with neither of these characteristics, Minimum Need, that need to be identified. Visitor areas show tourist areas and Commercial zones where the private sector will provide a high level of charging.

A robust dataset needs to differentiate these areas so that services and investment can be focussed accordingly.

Outputs:

- A set of zones for your authority
- A data set that details the characteristics of each zone that can be loaded in to CatchmentModeller and your own GIS



Field Dynamics

Zone definitions

CatchmentModeller

Deliverables - Workshop and Excel workbook

As the hosting platform for the data, we will provide access to our CatchmentModeller solution.

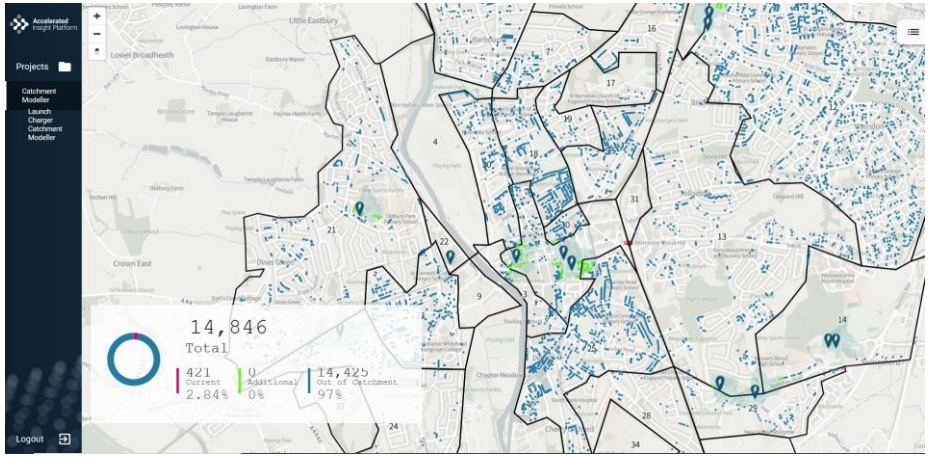
The zones (Public Need, Off Street, Commercial, Visitor and Minimum Need) for each authority will be loaded into CatchmentModeller.

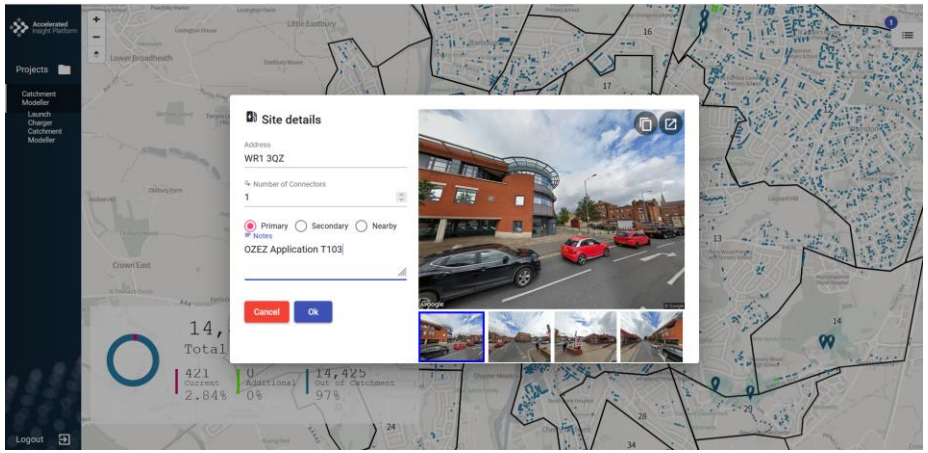
You will have access to your zones to select sites for future scenario modelling and funding applications

A Workshop will provide guidance on using the tool and the methodology behind creating numerous charging scenarios.

You can save as many scenarios as needed and project charging scenarios based on date or specific locations.

Sites are output in a schema optimised for funding applications.





https://solihull.acceleratedinsightplatform.com/dashboard/projects

Username: alistair.gonoude

Field Dynamics

Alistair.Gonoude@field-dynamics.co.uk

Field Dynamics – Local Gov - Net Zero Projects

EV-Up!

Role: Creation of EV adoption methodology and platform model to simulate residential EV demand uptake across LV network infrastructure. Nominated for **Data Project of the Year** at UK Network Awards. Project extended to model decarbonisation of heat assessing technology and legislative scenarios.

Baringa / EDF Renewables

Role: Detailed comparative site profiling analysis of current and proposed sites for roll out as part of work for EDF's investment into Pivot Power. Work included a repeatable model to consider a number of demand and utilisation parameters for local and remote demand.

Charge Point Site Optimisation

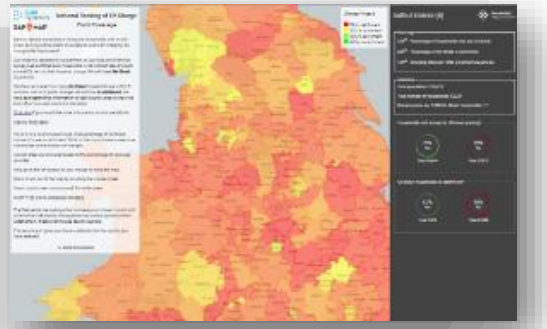
Role: Create a model to assess optimal zones and areas for Charge Point Locations across the Borough

Looking to optimise where there will be suitable on-street demand for public vehicle charging.

On-Street Households EV Research

Role: National study of the comparative level of on-street residential charging across non-London local authorities.

Analysed 24m households, 7,652 charger sites and compared results across 335 local authorities.



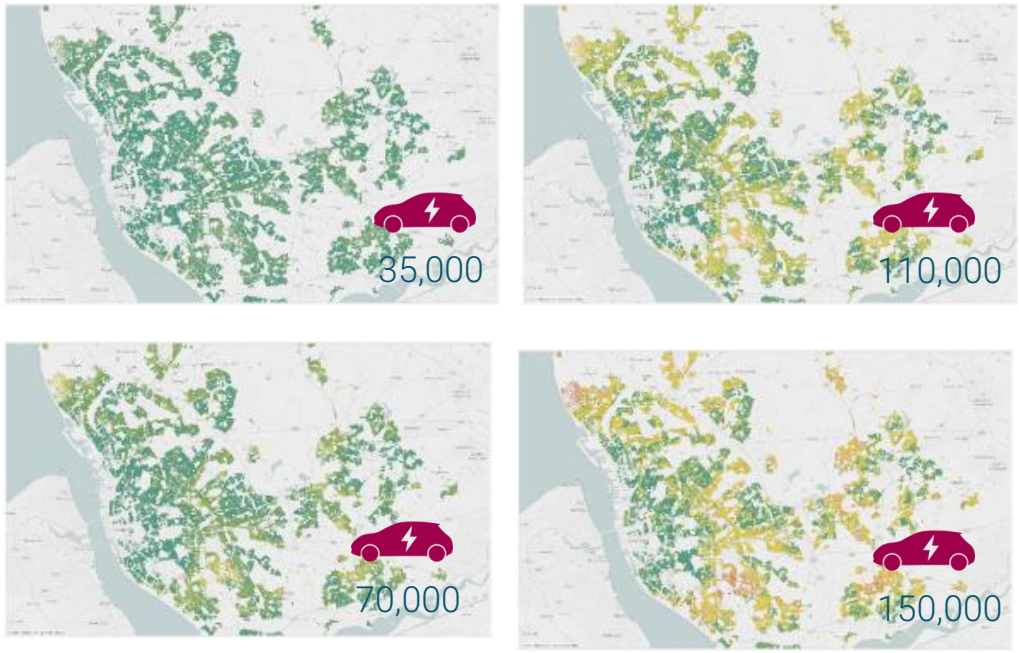
EV UP – Press Release

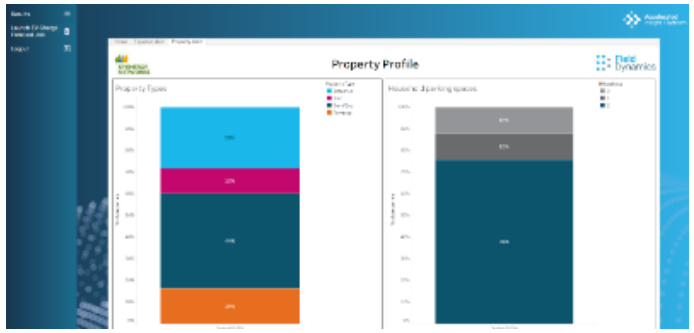
EV Up, a partnership project between SP Energy Networks and Field Dynamics, has been shortlisted for Data Project of the Year at the Network Awards 2020.
Created by the team behind industry magazine Network, the annual Network Awards show honours the people, projects and innovations that are changing the shape of the energy industry.

Field Dynamics has worked with SP Energy Networks to develop the EV Up tool on its Accelerated Insight Platform. Output from the model will allow the network operator to better understand where demand for electric vehicles will come from so that it can plan and prioritise investments in network resilience. The tool will help SP Energy Networks enable communities across the UK to support Government targets on climate change and ultimately deliver a low carbon society.

Charlie Gilbert, Partner at Field Dynamics, said: "We are really proud to have been shortlisted alongside other leading data projects in the sector. Our EV adoption methodology combined with the power of our cloud intelligence platform is enabling access to a completely new tier of insight."

Nicol Gray, Senior Project Manager at SP Energy Networks, said: "We are delighted to have been shortlisted for a Network Award and are really proud of what our EV Up project is set to achieve. At a time when decarbonisation is high on the agenda, we are ready to play our part in delivering against net zero targets, which projects like this are critical to."





Accelerated Insight Platform

Field Dynamics

PANEL DISCUSSION

Zemo Partnership © Copyright 2022

EV Infrastructure WORKSHOP

Monday 17 October 2022
9am-5pm

THE TECHNO CENTRE
UNIVERSITY TECHNOLOGY PARK
Puma Way | Coventry CV1 5FB

LUNCH

Coventry City Council

Zemo Partnership
Accelerating Transport to Zero Emissions

Transport | Energy Infrastructure | Knowledge & Enterprise

cenex

Delivering Local EV Infrastructure Through the LEVI Fund

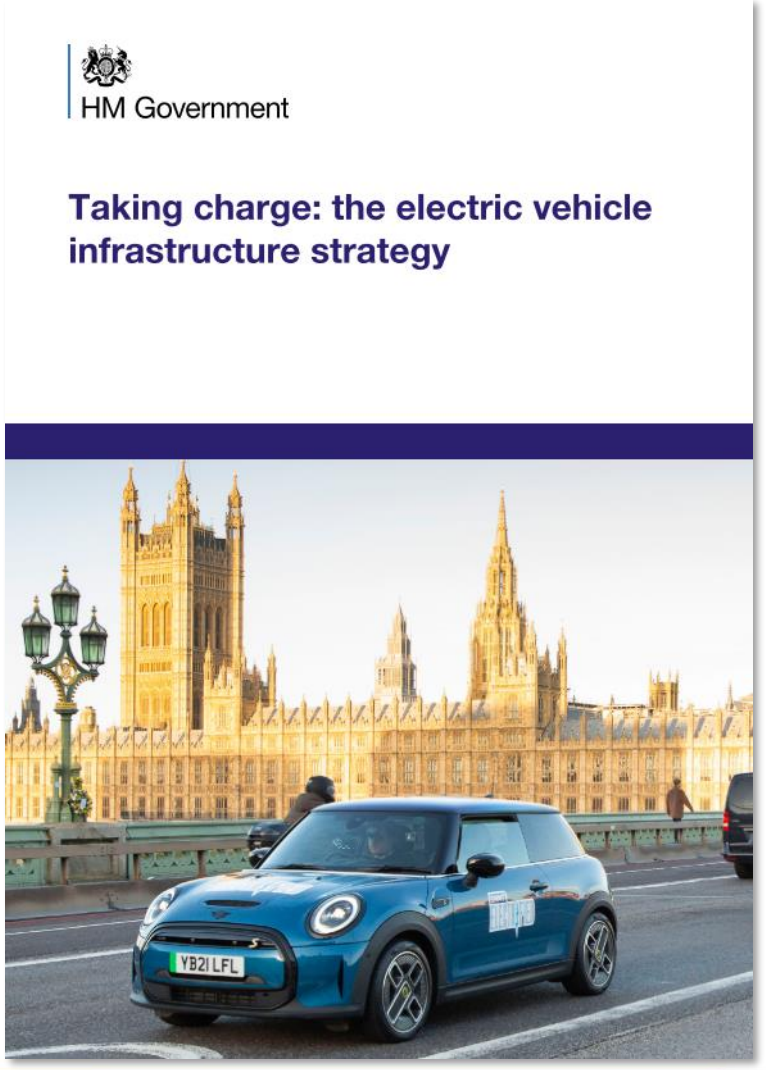
Chris Rimmer

Deputy Head of Department, Energy Systems & Infrastructure

The Vision

EV Infrastructure Strategy aims that:

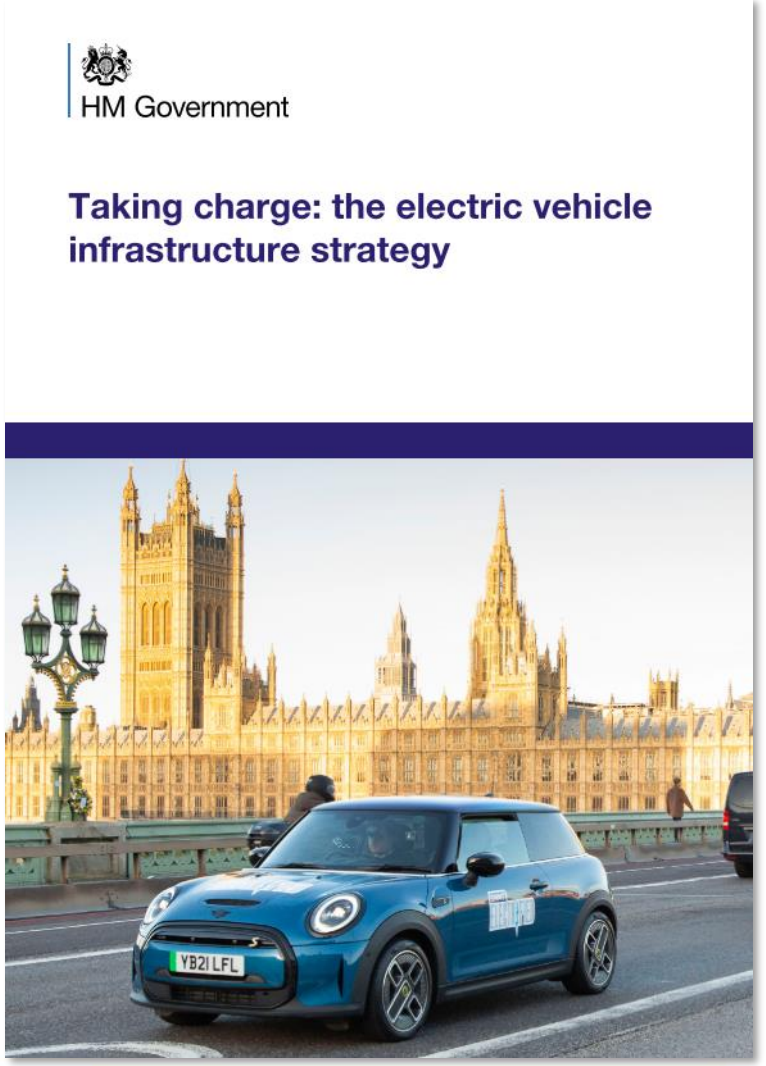
- Everyone can find and access reliable public chargepoints wherever they live;
- Effortless on and off-street charging for private and commercial drivers is the norm;
- Fairly priced and inclusively designed public charging is open to all;
- Market-led rollout for the majority of chargepoint delivers a thriving charging sector;
- Infrastructure is seamlessly integrated into a smart energy system; and
- Continued innovation to meet drivers' needs lowers cost and increases convenience



Barriers to overcome

However:

- The pace of rollout is too slow;
- Too often, public charging lets people down;
- The business case for commercial deployment can be challenging;
- Connecting new chargepoints to the electricity system can be slow and expensive; and
- More local engagement, leadership and planning is needed.



Transport | Energy Infrastructure | Knowledge & Enterprise

Zemo: LEVI Fund

UK Automotive calls for EV chargepoint mandate governed by independent regulator to level up network for consumers

16 FEBRUARY 2022 #ELECTRIC & ALTERNATIVELY-FUELLED VEH

Electric car charging points: Why 1,000 new chargers probably still aren't enough for all the EVs in the UK

Charge points will be built in nine local authorities across England but the rising use of EVs might outpace the installation of chargers

UK will fail to deliver the electric vehicle infrastr by 2030, with four in five EV drivers calling on g "do more"

Wednesday 5th October 2022

One of the UK's largest vehicle leasing businesses, Novuna Vehicle Solutions, underlines the scale of the challenge facing the UK in its Electric Vehicle Ecosystem Report

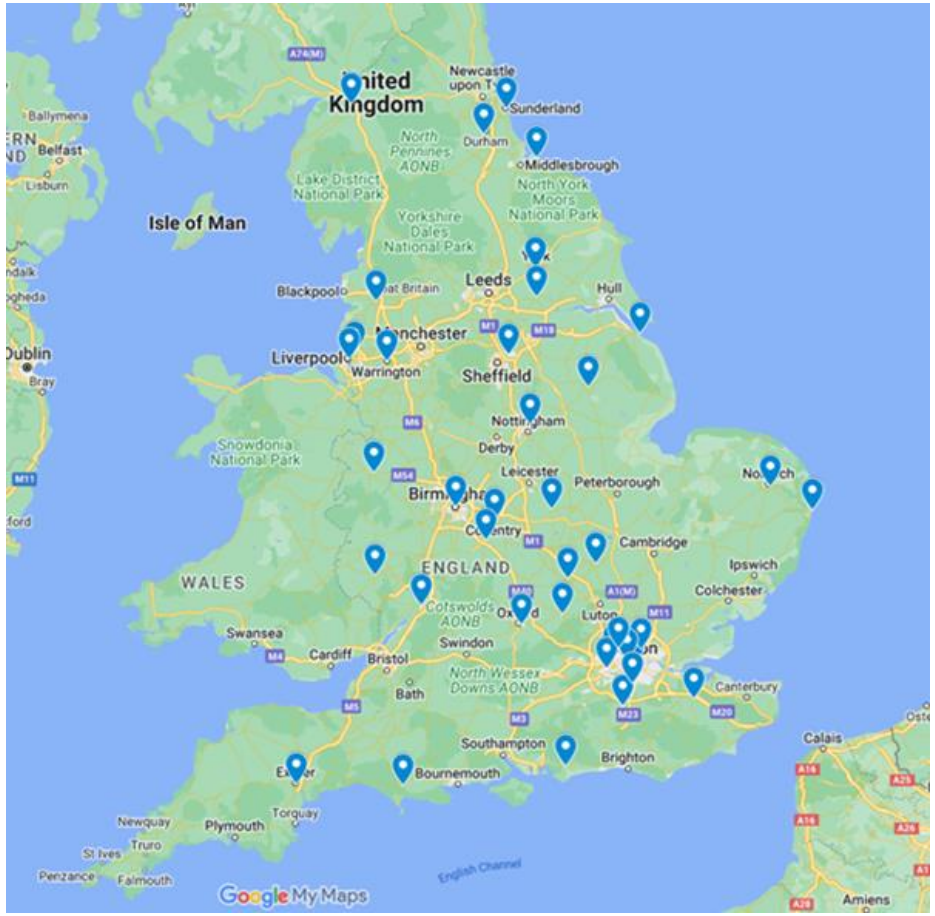
The ratio of electric cars to chargepoints has grown from 5:1 to 15:1 in just three years, and is forecast to hit 54:1 by 2030

Enter the LEVI Fund

Main Fund:

- £400m capital fund
- £50m resource fund
- Support local close-to-home charging
- Help get closer to ~300,000 public chargepoints projection
- Rapid charging included
- Scheme runs 2022/23 – 2024/25

LEVI Pilot Applications



Transport | Energy Infrastructure | Knowledge & Enterprise

Zemo: LEVI Fund

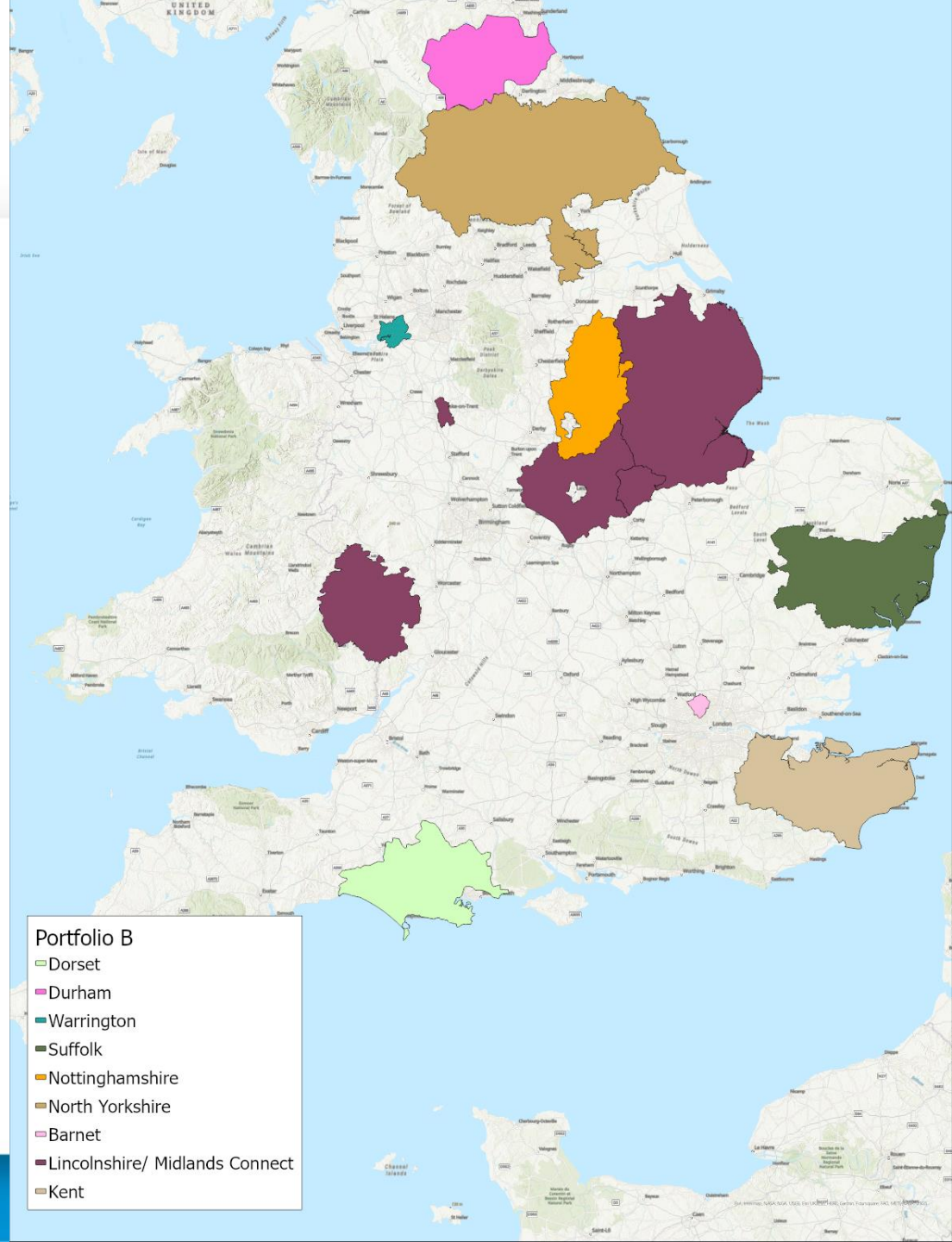
Successful pilot applications

Portfolio highlights:

- £10m LEVI funding
- £20.5m in total funding (public & private)
- 1,038 chargepoints, 300 gullies

Portfolio rationale:

- Highest scoring
- Widest geographical spread
- Strongest deliverability
- Accessibility and safety of use
- Wide variety of project types



LAs have access to the Support Body

- Provide expert technical and commercial support to enable successful grant applications. Offering pre-application support to shape and develop proposals. Assist in understanding eligibility, and establishing project fit against criteria

energy saving trust

- Fund awareness
- Application process
- Application support
- Grant management

PA

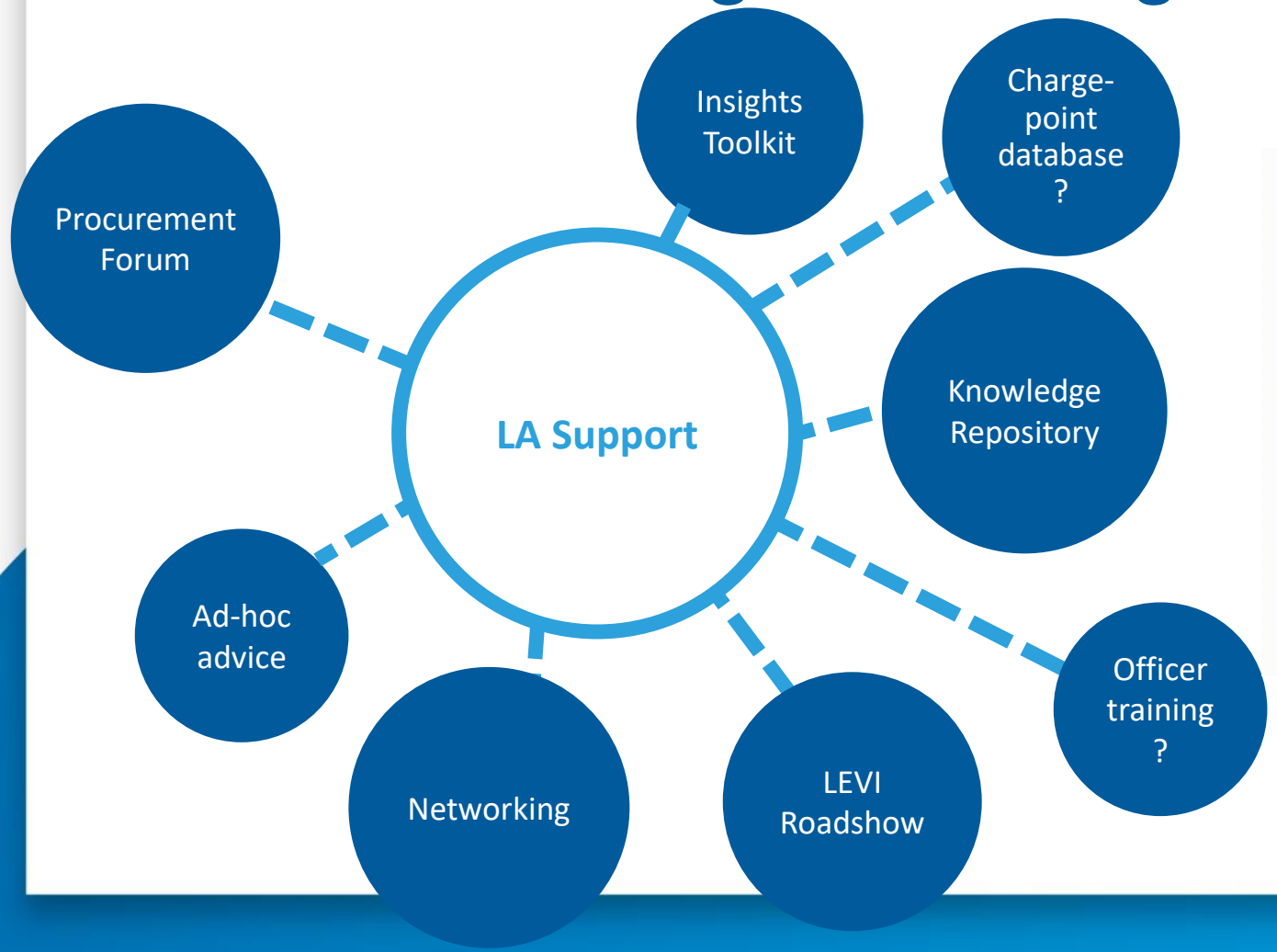
- Commercial advice
- Business model advice

cenex

- Technical advice and support

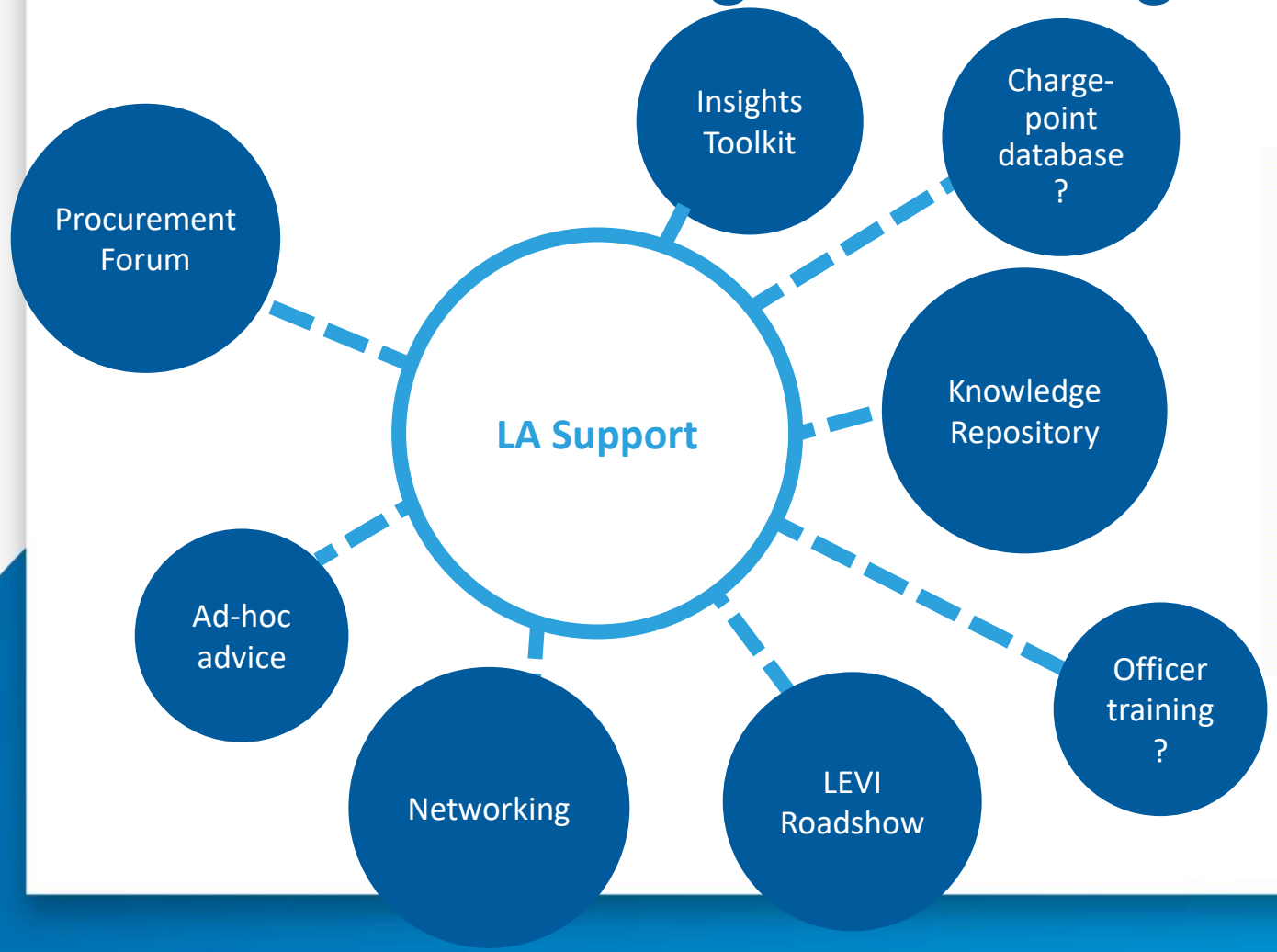
Zemo: LEVI Fund

We are offering LAs a range of support



Zemo: LEVI Fund

We are offering LAs a range of support



How to access the support

If you an are LA, consider:

- Contacting the Support Body to express interest: levi@est.co.uk
- Registering to use the NEVIS service: nevis.cenex.co.uk
- Attending one of the LEVI Roadshows: 26th Jan (probably!) in Bristol
- Requesting access to the Networking Teams Channel to share and exchange knowledge

If you are not an LA:

- Come and discuss with us your data needs

Transport

Energy Infrastructure

Knowledge & Enterprise

cenex

Thank you for listening

Chris Rimmer

Chris.rimmer@cenex.co.uk

Black Country Transport

Building the Business Case for EV Infrastructure Funding

Kester Sleeman – ULEV Programme Manager

in partnership with

Transport for West Midlands

Black Country *LEP*

Sandwell Metropolitan Borough Council

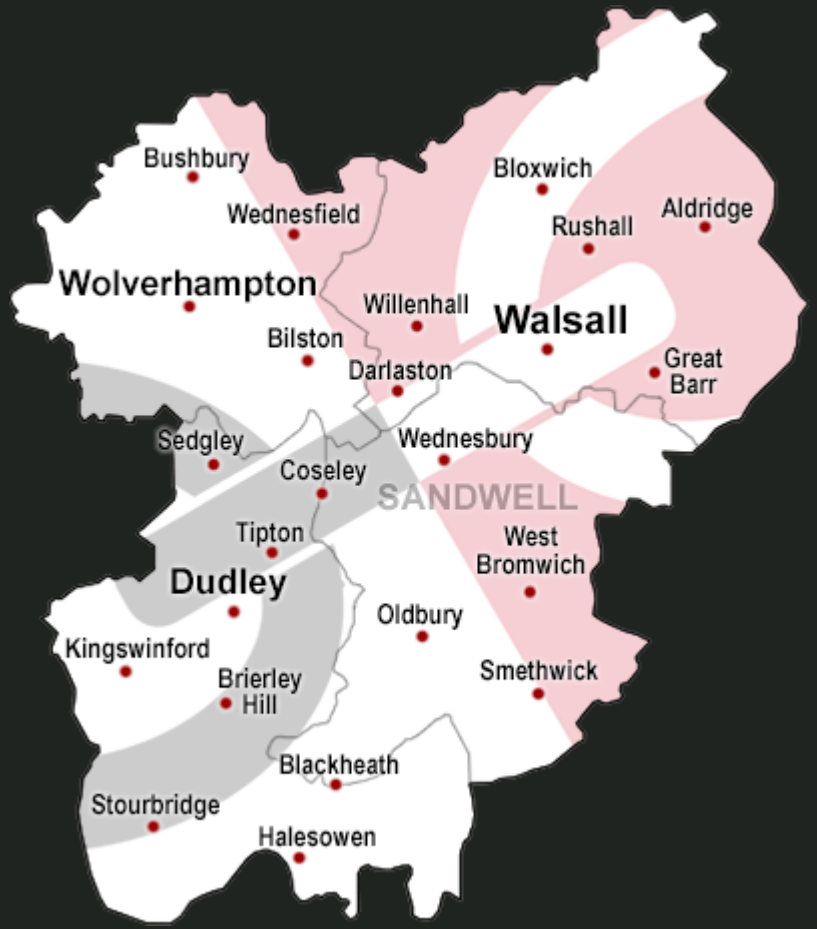
Dudley Metropolitan Borough Council

Walsall Council

City of Wolverhampton Council

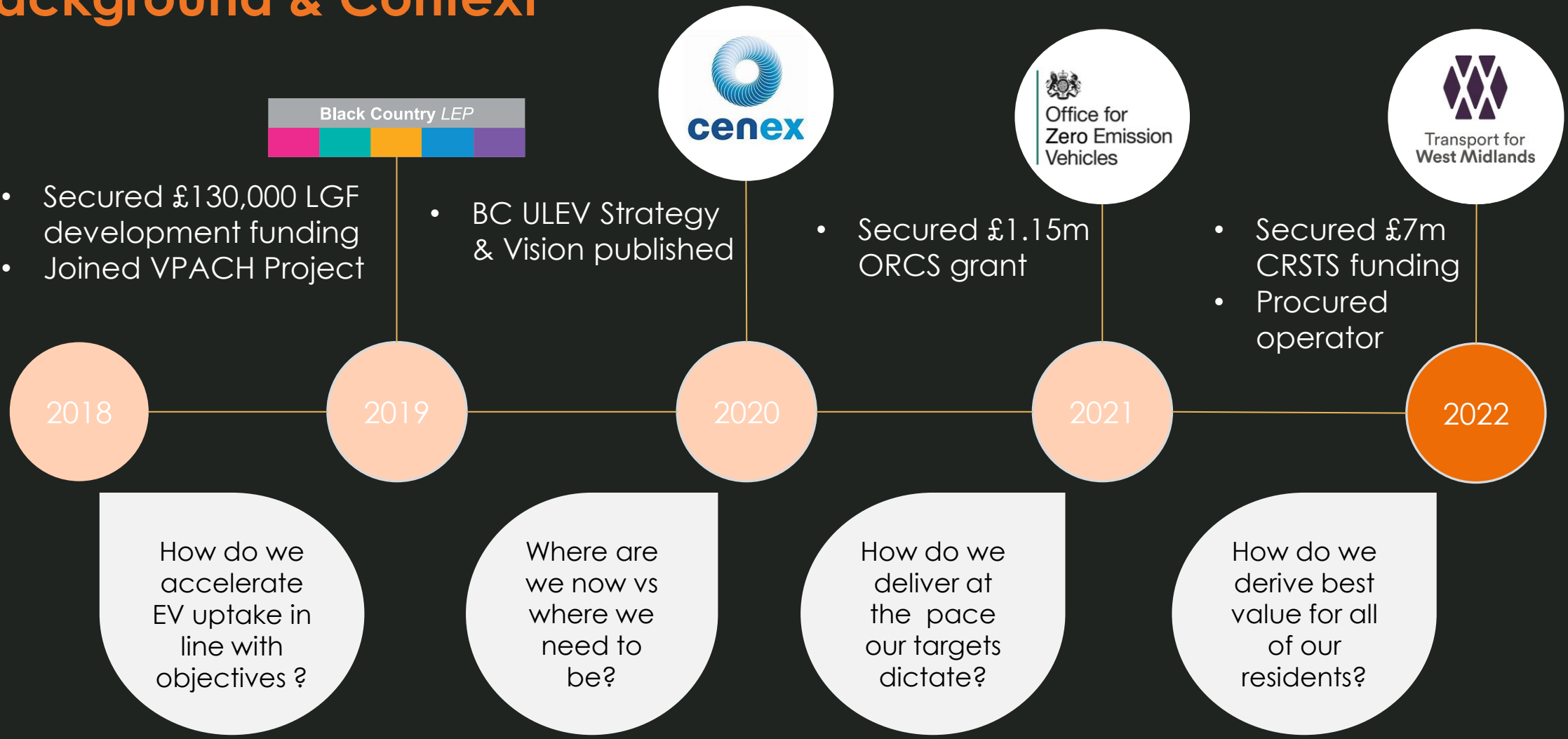
The Black Country

- Four local authorities west of Birmingham
- 1 million+ residents
- Mixed picture politically
- Strong PT offer, but highly polycentric nature results in reliance on private vehicles
- ~30% of households without off street parking
- Real lack of public charging infrastructure
- Black Country Transport set up to support collaborative working on strategic transport



Black Country Transport

Background & Context



Black Country Transport

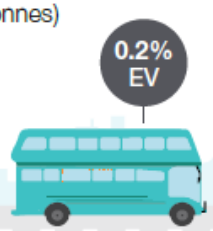
Black Country Ultra-Low Emission Vehicle Vision

Black Country Transport

The Black Country will lead the West Midlands on the road to net-zero by accelerating and amplifying the EV transition in anticipation of a 2030 ban on the sale of conventional vehicles.

Current Emissions (tonnes)

- CO_2 1.54 million
- NO_x 3.02 thousand
- PM 96.55



2020

Launch **Public Engagement** Programme

- Consult on **Proposal** & Adopt **Policy**
- **Full Business Case Development**
- Initiate **Regional** Co-ordination

2021

Begin Infrastructure Rollout

Resource the ULEV Programme

- Deploy Measures to **Reduce Vehicle Parc**

2022

- Install First **Rapid** & **Ultra-Rapid** Charging Hubs
- Begin **Council Fleet Electrification**
- Publish Public Transport **Decarbonisation Plan**

2023

- **Refresh Planning** Policy
- **Taxi Licencing** Review

2024

Refresh the **ULEV Vision** and **Strategy**

- CO_2 -4%
- NO_x -13%
- PM -37%

- Equip **Council Sites** with Chargepoints

2025

£5.7m investment

Chargepoints installed:

- **761** Standard
- **214** Fast
- **19** Rapid

2028

Wolverhampton Council **Net-Zero target**

2030

£23.6m investment

Chargepoints installed:

- **3200** Standard
- **630** Fast
- **196** Rapid

Walsall Council **Net-Zero target**

- CO_2 -23%
- NO_x -40%
- PM -62%

Benefits

£72m
Total Annual Savings
from Emissions reduction

>90% of Black Country
under 5 minute drive
from a Rapid chargepoint

>95% of Black Country
less than 500m from a
public charging point

Building Growth with MIDLANDS ENGINE

WCC 1649 01/21

Black Country Transport

#electricblackcountry

2025 OBJECTIVES

OVER 95%
of urban areas
WITHIN 500M
of a Public Chargepoint

>90%
of Black Country land area
UNDER 5 MIN DRIVE
from a Rapid or
Ultra-Rapid Chargepoint

ADDITIONAL CHARGEPOINTS INSTALLED:

761	214	19
STANDARD	FAST	RAPID

EMISSION REDUCTIONS:

-4%	-13%	-37%
CO_2	NOx	PM

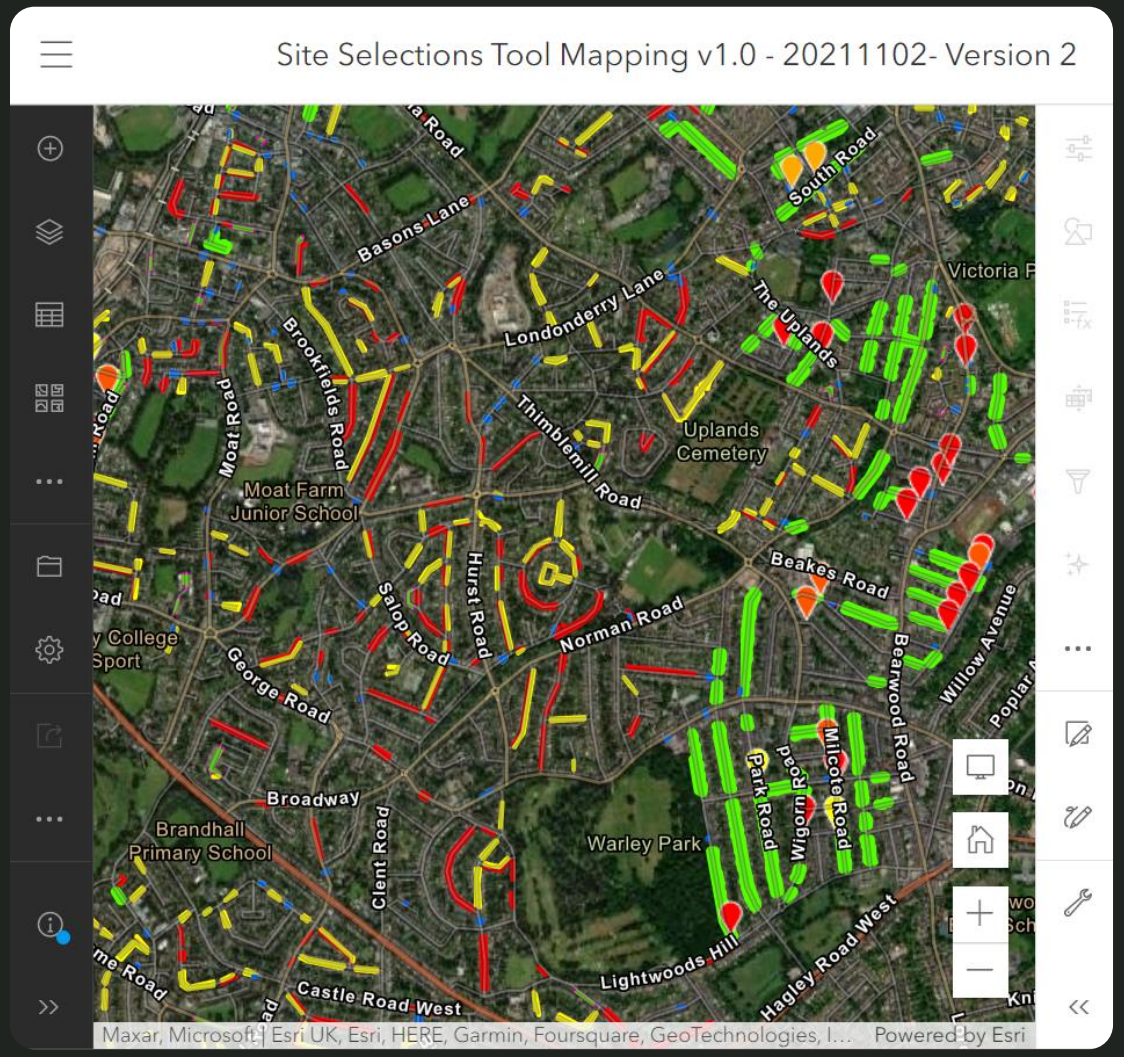
7.5% EV SHARE

£5.7M
INVESTMENT REQUIRED
for delivery of infrastructure

£21M
TOTAL ANNUAL SAVING
from emission reductions

In partnership with: Dudley Metropolitan Borough Council, Sandwell Metropolitan Borough Council, Walsall Council, City of Wolverhampton Council, Black Country LEP Building Growth with Midlands Engine, Transport for West Midlands

Infrastructure - Spatial Planning



- We have developed a tool to assist in identifying suitable locations for on-street charge points, which includes:
  - TROs
  - Junctions
  - Footway and road width
- Currently working on case for a regional procurement approach and looking at different delivery options for different use cases

Black Country Transport

Policy Recommendations

Modal Shift

- **Deploy Measures to reduce Vehicle Parc by 2021**

Council Fleets

- Devise in depth vehicle replacement Strategy
- **All new (appropriate) cars and vans EV after 2022**

Public Transport

- Include ULEVs as a weighted tendering measure for new transport contracts
- **Publish Public Transport decarbonisation plan by 2022**

Taxi Licensing

- Encourage Licensing reviews across all LA's and adopt collective approach
- **New Licenses to be EV after 2028**

Planning Policy

- **Update existing or creating new SPD for developers by 2023**

Black Country Transport

Resourcing

£5.7M

For infrastructure (Includes DNO Costs)

1 FTE ULEV Programme Manager

To coordinate BC programme delivery

£7M

Rounded ask for infrastructure, connections and resourcing

Funding Streams

- BEIS
- OZEV
- WMCA
- BC LEP
- DfT

Black Country Transport

Consultation, Engagement and Equity

- Consulted on strategy, and more recently consulted on specific ORCS sites
- Huge swing in public opinion in last two years
- Members and officers focused on equity of delivery over short-term revenue
- Very few areas of considerable latent demand
- Uncomfortable directing significant public money to already affluent areas
- Working with ALMO to provide chargers for social housing fleet and residents
- Investigating car club as means of providing affordable EV access in short term

Black Country Transport

Black Country Transport

Thank you for listening

in partnership with

Transport for West Midlands

Black Country *LEP*

Sandwell Metropolitan Borough Council

Dudley Metropolitan Borough Council

Walsall Council

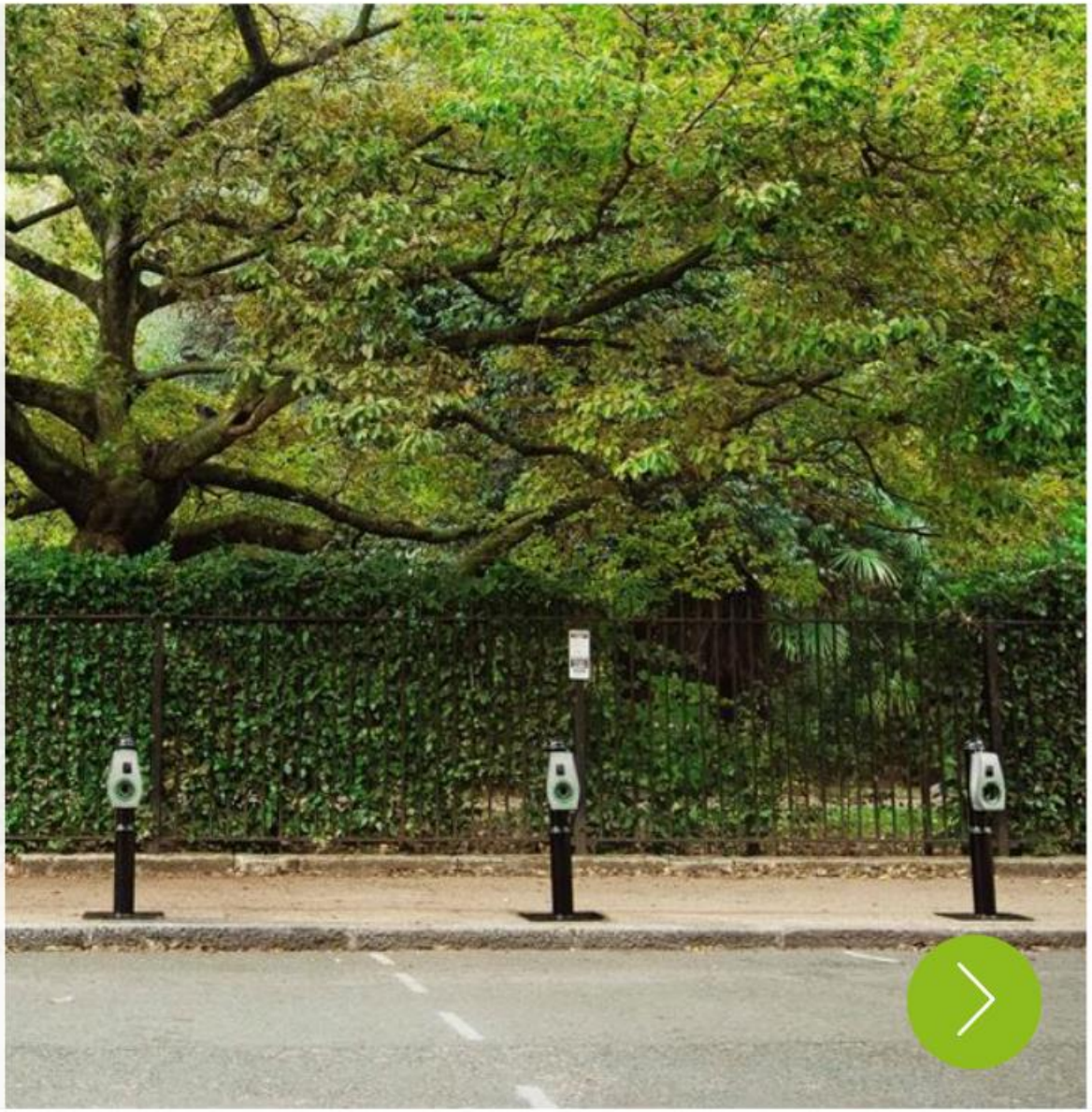
City of Wolverhampton Council

CONNECTED KERB

THE FUTURE OF YOUR STREET

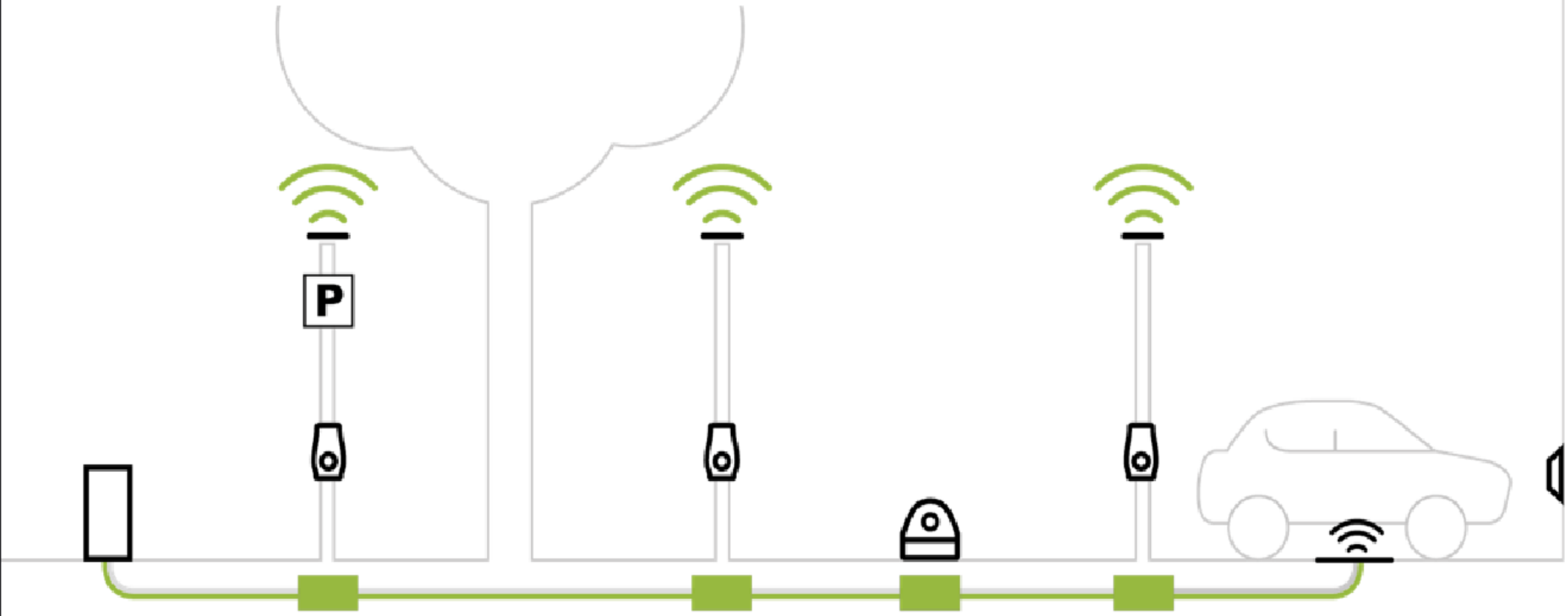
Connecting electric vehicles with power and data

Ben Boutcher-West, CDO



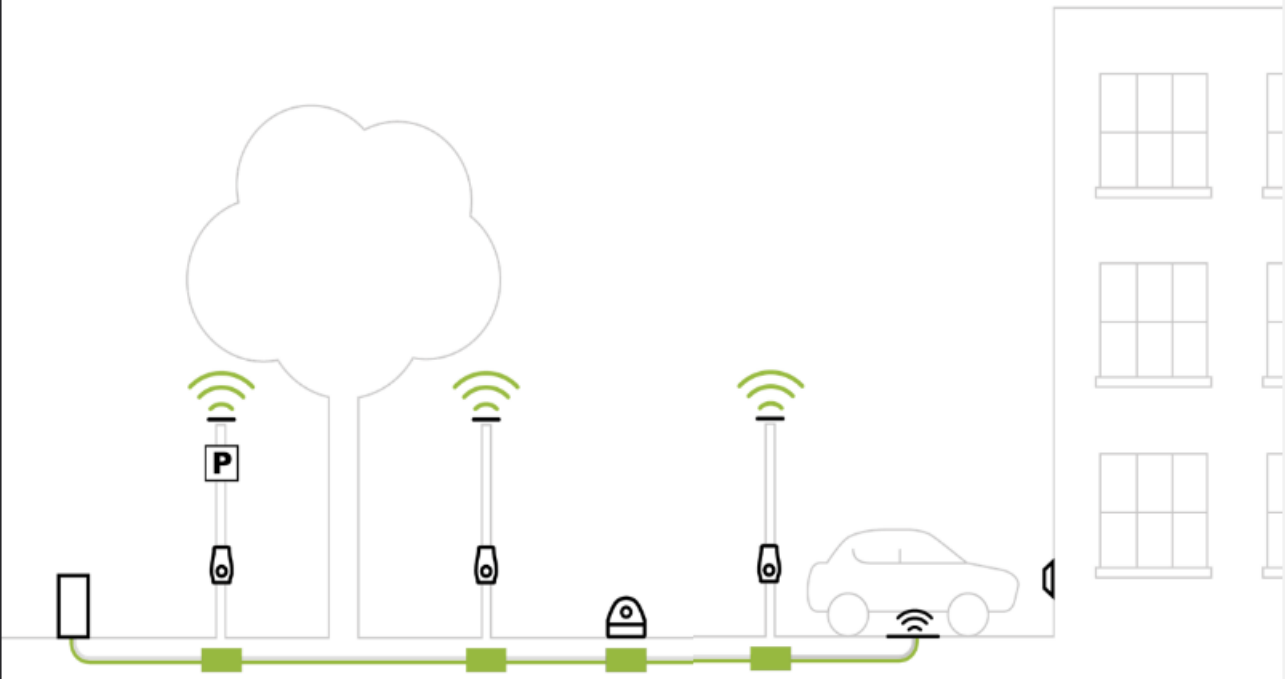
OUR SOLUTION: AWARD WINNING EV INFRA.

The CK system separates the power and data pack (charging unit), which is installed within an underground node box, separate from the above ground plug in socket.



OUR SOLUTION: STANDARDS

We applaud the continued roll out of standards and measures to ensure safe, security, quality infrastructure preparing for FS and ensuring democratised access for all.



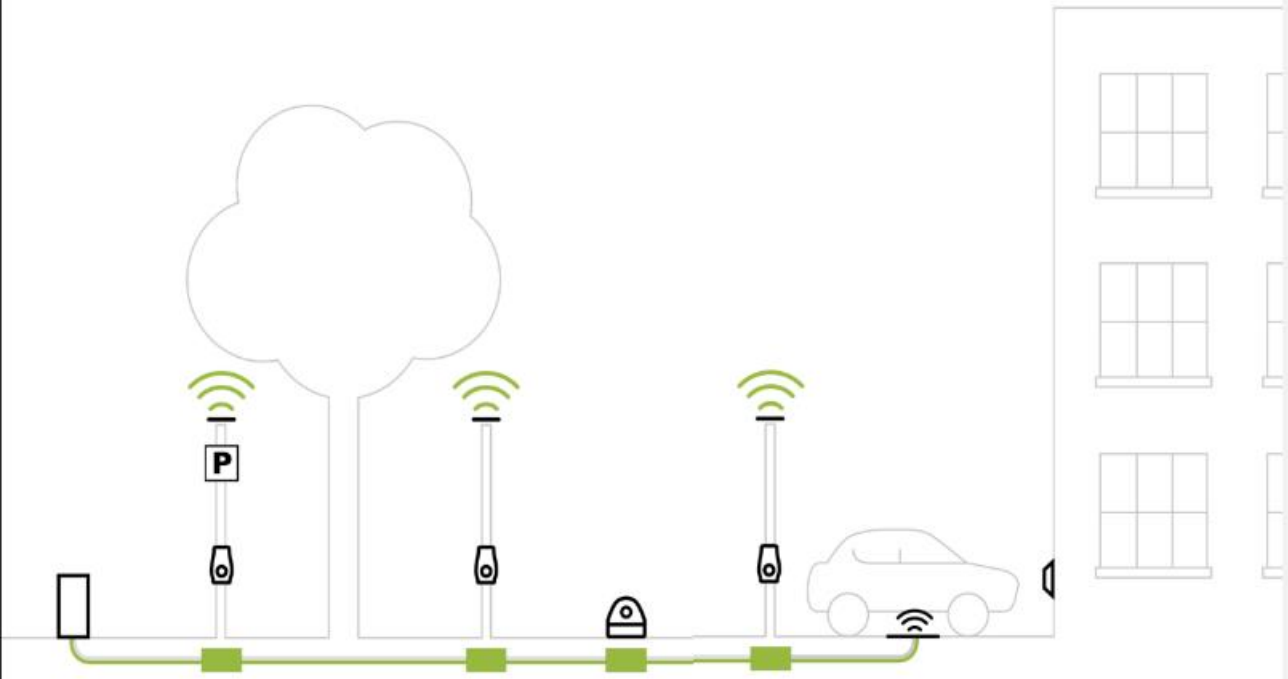
Scalable Infrastructure needs

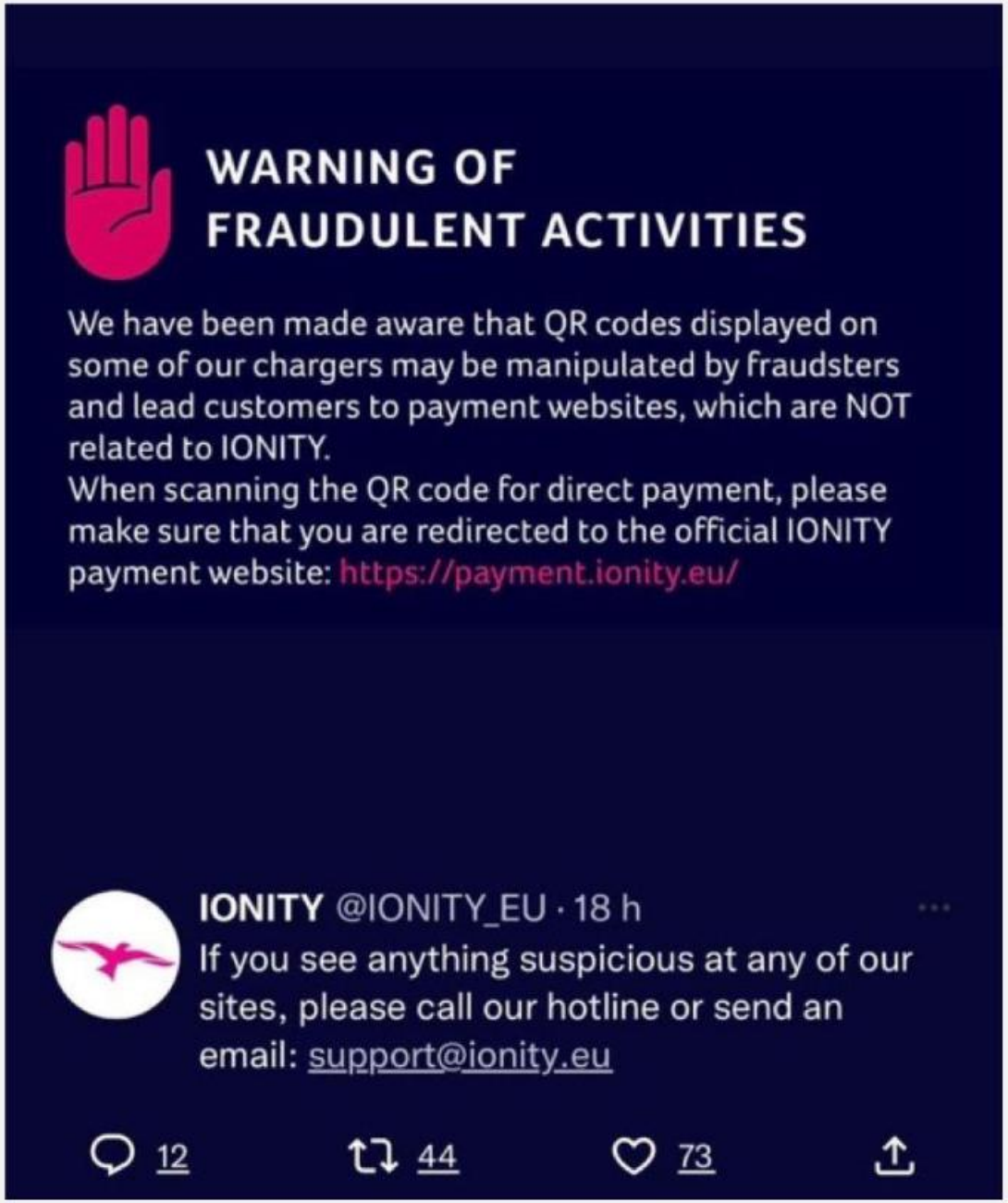
- Cyber Essentials, ISO27001, IoT Code of Practice
  - All CPO's considered CNI
- ETSI EN303645 (DINSPEC27072)
  - authentication, encryption, updates
- ISO15118
- PAS 1878/1879
  - Accessibility, Security Logs, FS
- Office for Product Safety & Standards
  - Smart EVCP Guidelines, FS
  - June, then Dec 2022

SAFETY FIRST: PROTECT DATA

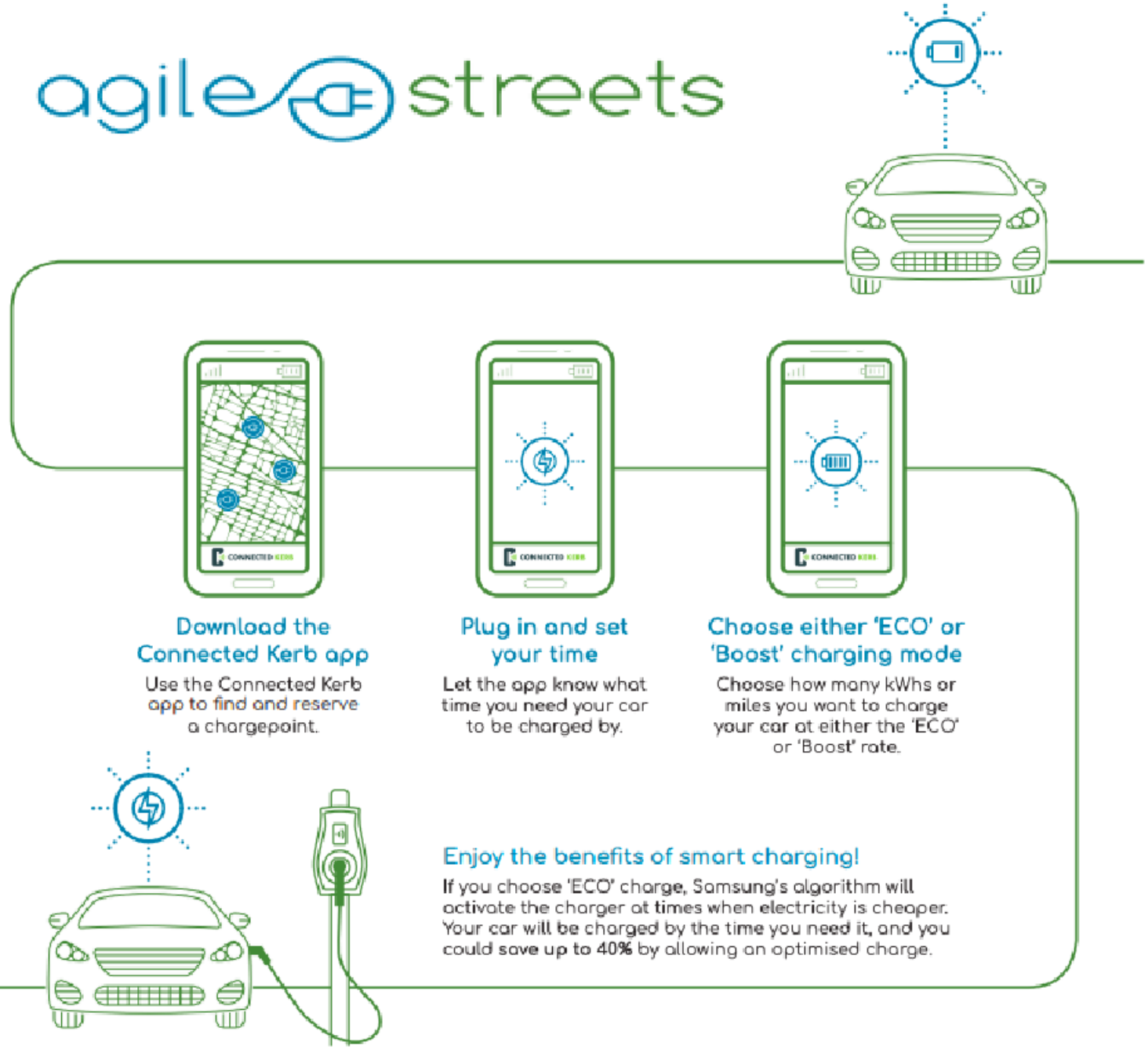
Doing the right thing is key for success: cadence of Penetration testing, ICT implementation, training and collaboration.

Don’t forget about the physical.





agile streets



- Integrates smart metering technology with smart residential on-street charging
- Optimised tariffs offering cheaper charging during periods of low demand
- Levelling up – offering access to tariffs usually reserved for those with off-street charging
- Reducing strain on the grid during peak periods by shifting demand

CONNECTED KERB

What is Agile Streets?

BEIS funded project

Comprised of two delivery phases

Phase I:
R&D of solution

Phase II:
Install, trial, evaluate

Solution integrates

Residential on-street EV charge points

with

Smart metering technology

Key benefits

Provides **security benefit** to charging assets – vital as we near 2030

Optimised tariff for on-street charging - opportunity to take advantage of tariffs normally reserved for those with home charging

100 charge points

Average 9,000kWh/month

CONNECTED KERB · energy saving trust · octopus energy · UNIVERSITY of STRATHCLYDE POWER NETWORKS DEMONSTRATION CENTRE · SAMSUNG · SLS

Thank you

Zemo Partnership

Accelerating Transport to Zero Emissions

Any questions? Please get in touch

Alec Thomson
Project Manager
E: Alexander.thomson@zemo.org.uk

Interested in joining the Partnership?

Drop us a note to find out more

E: hello@zemo.org.uk

Zemo Partnership, 3 Birdcage Walk, London SW1H 9JJ
T: +44 (0)20 7304 6880 | E: hello@zemo.org.uk @Zemo_Org | www.zemo.org.uk

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