Leading the Charge
Electrifying Travel in Cumbria

14th March 2023
The Pencil Factory,Keswick,Cumbria

Cumbria's Electric Vehicle Charging Partnership

In partnership with

electricity north west
Bringing energy to your door

Cumbria Tourism
At the heart of our visitor economy

Low-carbon Lake District

European Union
European Regional Development Fund

NORTHERN POWERHOUSE

Welcome and Update

Debbie Stevens – One Public Estate Manager

Cumbria's Electric Vehicle Charging Partnership

Background

- The One Public Estate (OPE) Manager was tasked to work with partners to develop Cumbria's Electric Vehicle (EV) Charging Infrastructure strategy in October 2020
- The partners involved include all Cumbria's local authorities, the county council, Cumbria Constabulary, Cumbria Local Enterprise Partnership (LEP), Cumbria Tourism, the Lake District National Park Authority (LDNPA), North Cumbria Integrated Care (NCIC) and Sellafield Ltd
- We've been engaging with several EV Charging Infrastructure specialists and experts in order to learn from their experience and gain the knowledge and understanding we need to develop a strategy that will be the most effective for Cumbria and consider both our residents' and visitors' needs going forward
- These specialists and experts include Cumbria Action for Sustainability (CAfS), Charge My Street, Durham County Council, Electricity North West Ltd (ENWL), the Energy Saving Trust (EST) and Zero Carbon Cumbria Partnership

The Need

- Previously each partner organisation had been working in isolation to apply for funding and install two or three chargepoints in very local areas
- This had created small pockets of infrastructure that were not widely known, lacked interoperability and, in some cases, were no longer fit for purpose
- The amount of work involved seemed disproportionate and had resulted in a considerable amount of inefficient duplicated effort
- Noting the government's commitment to phase out petrol/diesel cars between 2030 and 2035, CAfS calculated that we were likely to need up to 10,000 chargepoints by 2030 and in March 2021 we only had 227 across the county

Funding, Ownership, Procurement & Strategy

- Some funding was available but we knew much more was on the way, so we began to consider where the “hard to reach” places were across the county and where the ideal locations would be to install chargepoints: on street and in public car parks
- We considered the various ownership models and procurement options that were available and engaged with various people who had developed strategies covering similar rural areas
- We knew we needed a blended approach of destination and journey chargers along with some strategic hubs with rapid chargers in key locations
- We also knew we’d face some technical barriers around planning permission, land ownership, asset arrangements, underground works and District Network Operator (DNO) connections
- All the partners could see the logic of having a coordinated approach to applying for funding and managing the delivery of EV chargepoint installations across the county, so in January 2022 we took a briefing paper to Cumbria’s Chief Execs Group to gain their approval to bring in a dedicated resource and Phil Gray was seconded from Carlisle City Council to act as our Partnership Coordinator

Local EV Infrastructure (LEVI) Funding

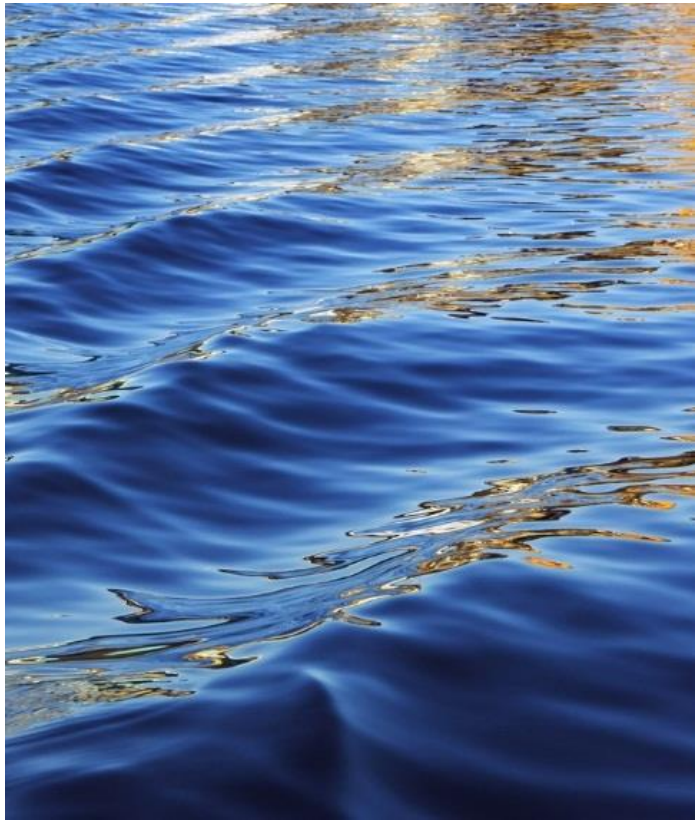
- Last summer, the Office for Zero Emission Vehicles (OZEV) announced that £400m of capital funding and £50m of capability revenue funding would be made available from 2023
- Ahead of this, they were releasing £10m of LEVI Pilot funding, so we quickly pulled a bid together, which requested funding for up to 900 chargepoints across the county
- Sadly, we were unsuccessful for this LEVI pilot funding in August 2022
- However, OZEV got in touch last month to say that more LEVI Pilot funding had become available and we have now been awarded £1.4m in order to begin to install EV chargepoints in a combination of off street car parks and on street locations in residential areas without access to a private drive, mainly making use of our existing street lighting columns

The Start

- The LEVI pilot funding is a starting point but we will need additional funding from government and the private sector to scale up our EV infrastructure in future years to meet our ~10,000 chargepoint target by 2030.
- OZEV announced last month that the full LEVI fund, which will offer up to £400m capital and £50m of revenue won't be run as a competition. Instead they intend to allocate a significant amount of funding to each Tier 1 authority, which in our case will be to our two new unitary authorities: Cumberland and Westmorland and Furness from April this year.
- Cumbria's EV charging partners are "leading the charge" and we want to work with private sector partners to make sure we all play our part to cater for the future demand in EVs across the county.
- Together, we can look forward to seeing the positive impact of this initiative on the environment and our communities in the years to come.

Leading the Charge

Electrifying travel in Cumbria



Public Charge Points in Cumbria

- Target (2030) 10,000
- Current (2023) 250

Cumbria's Electric Vehicle Charging Partnership

- Working in partnership
- Maximising our resources
- Responding to needs
- Accelerating the roll-out
- Aiming for the summit!

We've got a long way to go!

There’ll be bumps along the road!

But we know we'll get there!

Cumbria's Electric Vehicle Charging Partnership - Electrifying travel in Cumbria

electricity north west

Bringing energy to your door

Leading the Charge
Cumbria Tourism

14 March 2023

Lynn Tracey
Net Zero Business Engagement Manager

Stay connected...

www.enwl.co.uk

Our role – leading the North West to net zero

Our business plan 2023-28 – Leading the North West to net zero

1) **Enabling** – network capacity & reliability	2) **Leading** by example	3) **Helping** our customers take action on net zero
		Business
		Domestic
		Community

Electricity North West strategic update

Ian Smyth – joined as CEO

September 2022

Be Winter Ready campaign

October 2022

RIIO –ED2 final determination received from Ofgem

November 2022

Ofgem approves roll out of CLASS

December 2022

Launch of £1.75m partnership fund to support customers in the event of a power cut

February 2023

New business plan begins

April 2023 – 28

Reflecting regional variations and identity

We were one of most ‘bespoked’ RIIO-ED2 final determinations of any DNO with four bespoke deliverables

Smart Street
Improving energy efficiency and reducing bills for 250,000 customers

LineSIGHT
Safety monitoring and problem detection for 8,000km of overhead line

Borrowdale transformers
Replacing 223 old, rural transformers with lower inherent protection capability

Dig, fix and go
Reducing disruption by accelerating emergency street works to below five days on average

Reflecting regional variations and identity

One bespoke uncertainty mechanism for West Coast of Cumbria

Four bespoke uncertainty mechanisms proposed in final business plan adopted as common uncertainty mechanisms for all DNOs

Continues ED1 re-opener for the uncertain costs associated with the potential for new nuclear generation seeking to connect in Cumbria and subsequent network investment required with an expanded scope

Load related expenditure

LCT LV service solutions

Wayleaves and diversions

Polychlorinated Biphenyls

Now 38 different uncertainty mechanisms across the price control settlement

Network monitoring to facilitate EV connection

Installed over 350 innovative monitoring devices across Cumbria

Devices provide distributed intelligence and data capture on LV network

Growth of LCTs and load growth will put strain on our network

Proactive management of networks will become more important

Visibility of LV network is the first step to proactive management

State-of-the-art data analysis will give us vital insights

Will allow informed decisions on connections and reinforcement

Network reinforcement to facilitate EV charging

Supporting the installation of rapid charge points at Tebay south bound motorway services by Q3 2023

Improving the capacity and reliability of supply on three HV circuits fed from Windermere Primary

Supporting the installation of rapid charge points at motorway service stations in the area north of Carlisle

Reducing the cost of connections

Ofgem ‘access significant code review’ new arrangements from 1 April 2023

Different charging arrangements for demand and generation

Demand – no reinforcement charges

Generation – reduced reinforcement charges

Storage treated as generation

	Extension assets	Reinforcement assets at connection voltage	Reinforcement assets at connection voltage +1
Current arrangements	Connecting customer pays 100%	Connecting customer pays a proportion of the reinforcement costs	Connecting customer pays a proportion of the reinforcement costs
New arrangements (Demand)	Connecting customer pays 100%	Fully funded by the DNO via DUoS	Fully funded by the DNO via DUoS
New arrangements (Generation)	Connecting customer pays 100%	Connecting customer pays a proportion of the reinforcement costs	Fully funded by the DNO via DUoS

Some exceptions…

Further information

	**Lynn.tracey@enwl.co.uk**
	**enwl.co.uk/NetZeroForBusiness**
	**07900 165 889**

References	
DFES 2022	enwl.co.uk/dfes
Access significant code review	ofgem.gov.uk/publications/access-and-forward-looking-charges-significant-code-review-decision-and-direction

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EV and Charging Points

Have you considered switching to EV yet?

Energy Saving Trust

- We are an independent organisation, working to **address the climate emergency**.
- We work with **individuals, businesses, communities and governments** to save energy and reduce carbon emissions.
- Offices in London, Cardiff, Edinburgh & Belfast
- Today is part of a **Department for Transport** funded programme offering advice on electric vehicles to you, local authorities and fleets.

Independent

Impartial

Pragmatic

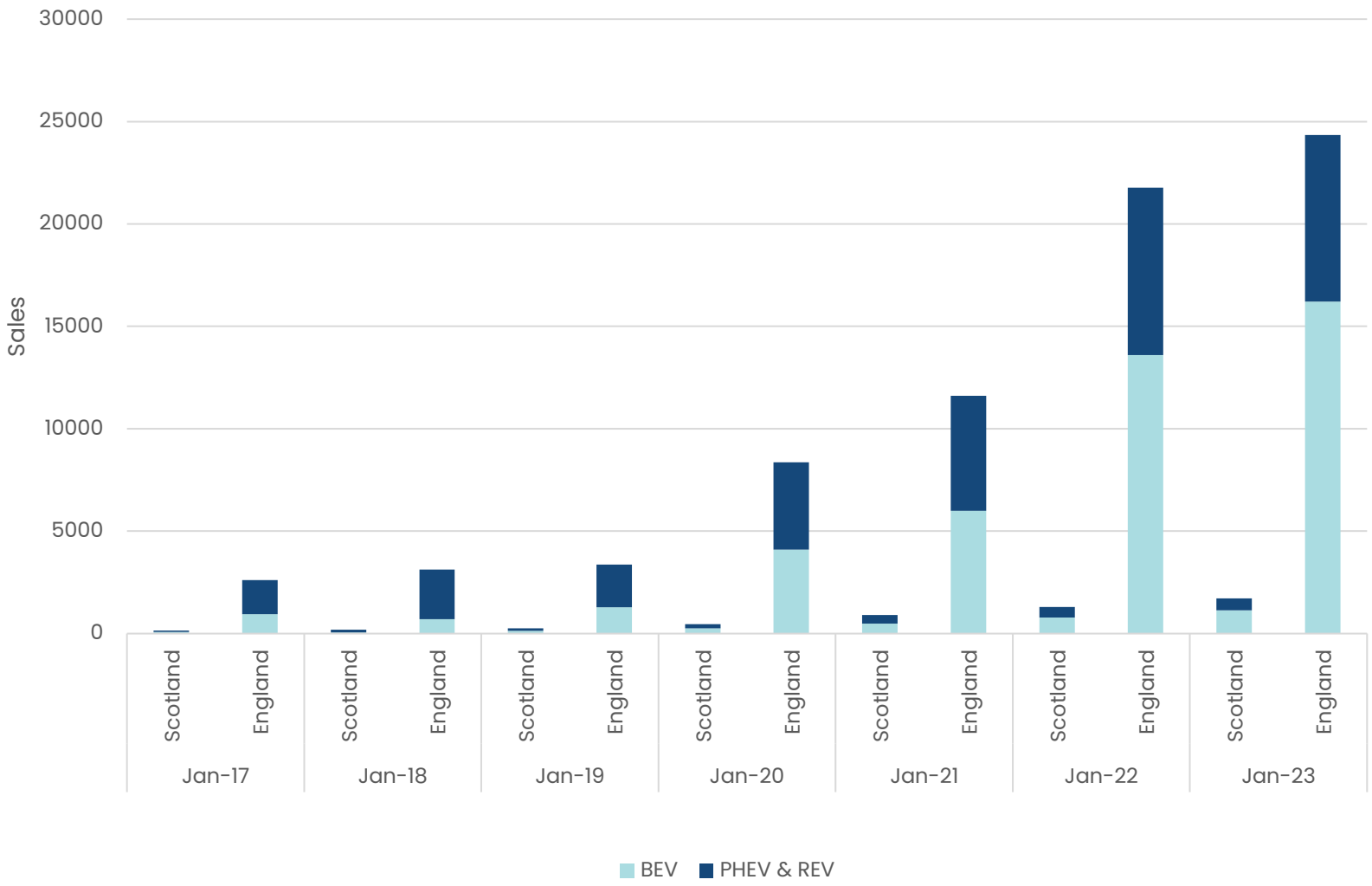
Office for Low Emission Vehicles

Department for Transport

Jan 2023 Statistics

UK: January 2023	Registrations	% Change on same month form last year
BEV’s	17233	+20%
PHEV’s	9094	+1%
Total	**26327**	

January Statistics 2017 - 2023



Home chargepoints – “Slow” Charging

3-pin plug (Mode 2)

- **Power:** 2.3 kW
- **Rate:** Takes **10-13 hours** to add **100 miles** to the battery

Not recommended for regular use, lacks safety features of Mode 3

Dedicated home chargepoint (Mode 3)

- **Power:** 3 kW or 7 kW
- **Rate: 7kw** takes **3 hours** to add **100 miles** to the battery
- The typical cost of a home charge point is between **£300 -£800**.

Public chargepoints – Residential and Destination Charging

- **Power:** 5*/7 kW – 22 kW
- **Rate: 7 kW** - takes **3 hours** to add **100 miles**
  22 kW – takes **1 hour** to add **100 miles**
- There are increasing numbers of solutions that provide convenient and cost-effective home **charging options for residents without off-street parking**
- Found on-street or in car parks
- Some have a dedicated EV bay
- Suited to longer dwell times – residential, shopping centres, visitor attractions
- Payment by App or RFID card

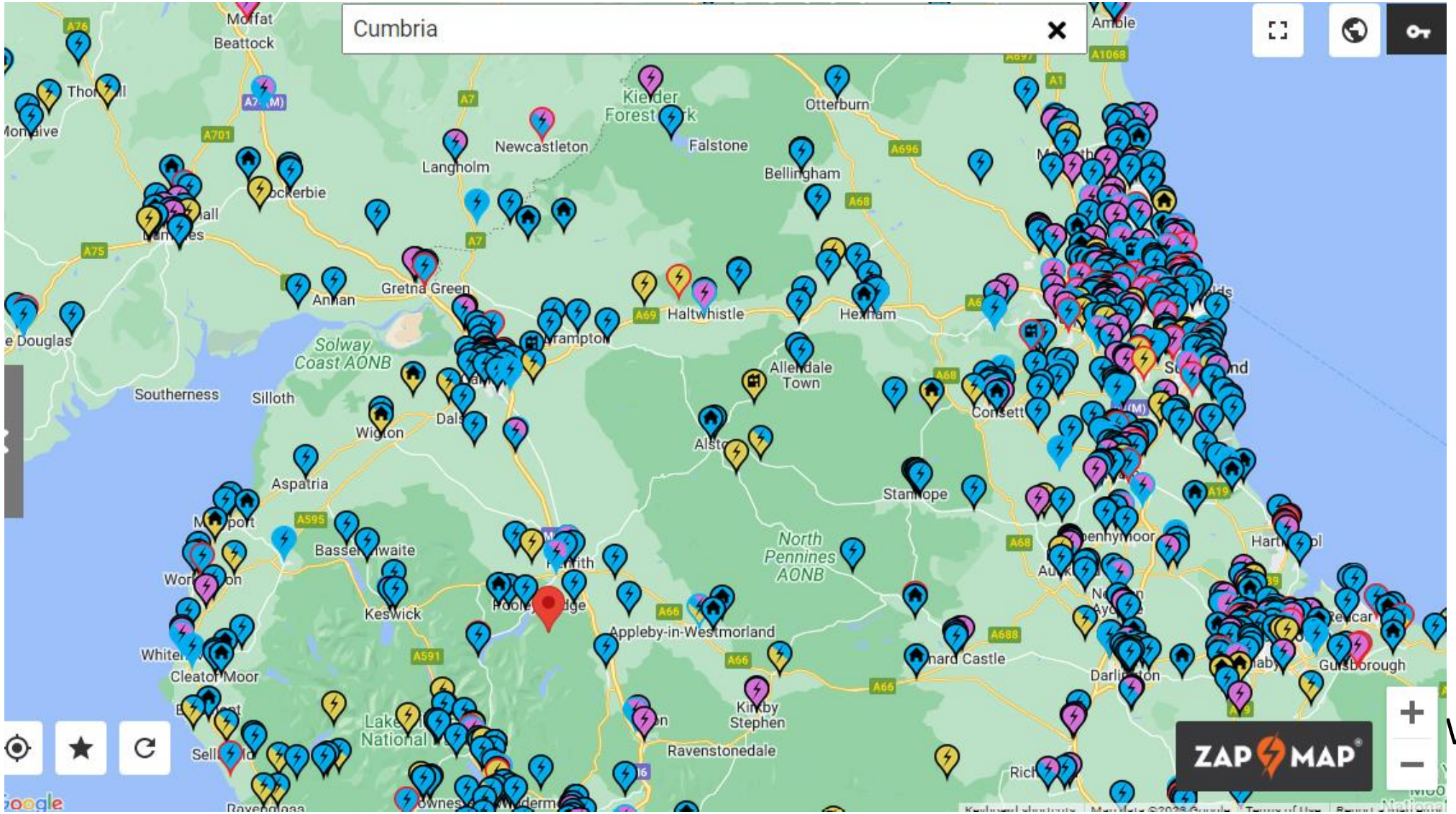
“Rapid” Charging

- **Power:** 43 kW (AC) or 50 kW (DC)
- **Rate:** Takes approx. **45 minutes** to add **100 miles** to the battery
- Tethered cables
- Found in car parks, charging hubs, motorway service stations
- Cost more to use but offer convenience

Chargepoint types

	Home charging 3.7/7 kW	Destination 7/22 kW	En route 50 kW	Charging hub 150 kW
				
Speed of charge	**Slow (10-12hr)**	**Fast (4-6hr)**	**Rapid (<1hr)**	**Ultra Rapid (15mins)**
Power rating		7 - 22 kW 		
	Lamp-column 3/5 kW	**On-street residential 7/22kW**	**Destination 50 kW**	**‘Electric forecourt’ 350 kW**

Finding a chargepoint



Wh

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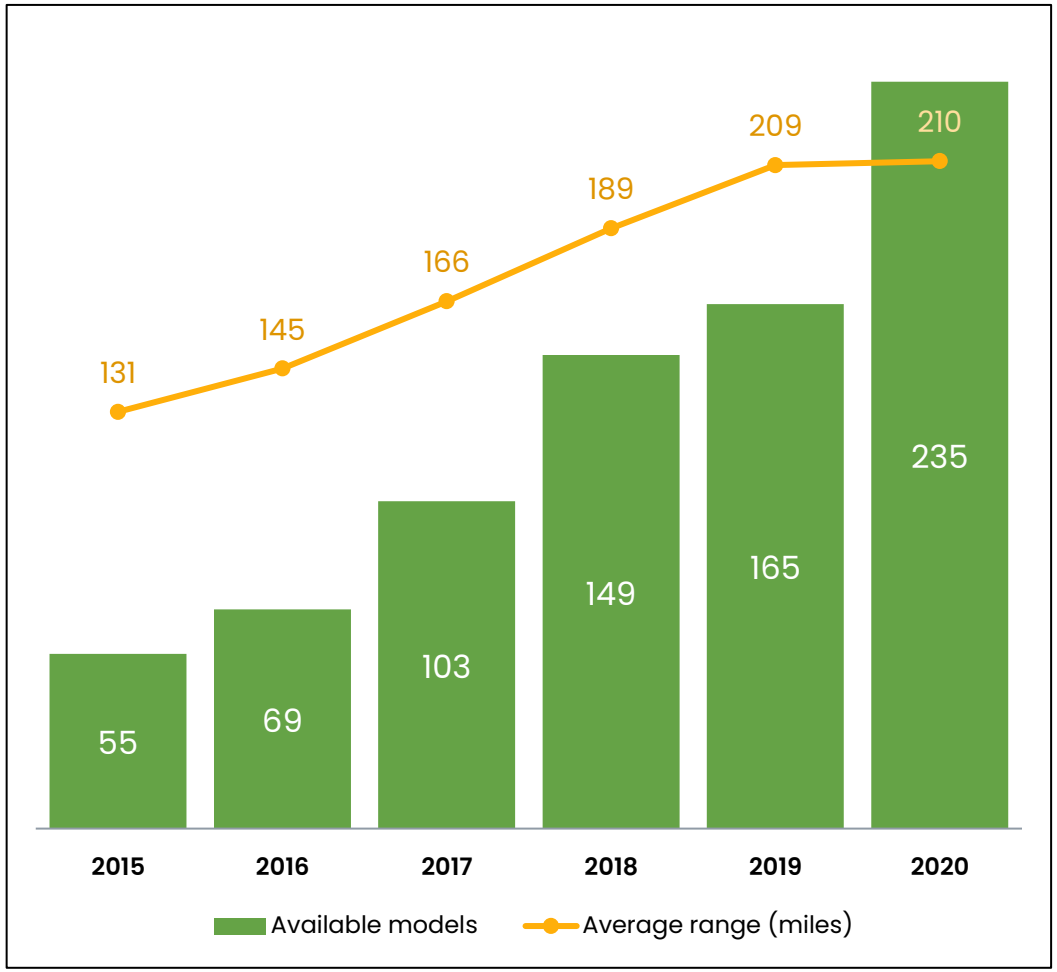
Myth busting

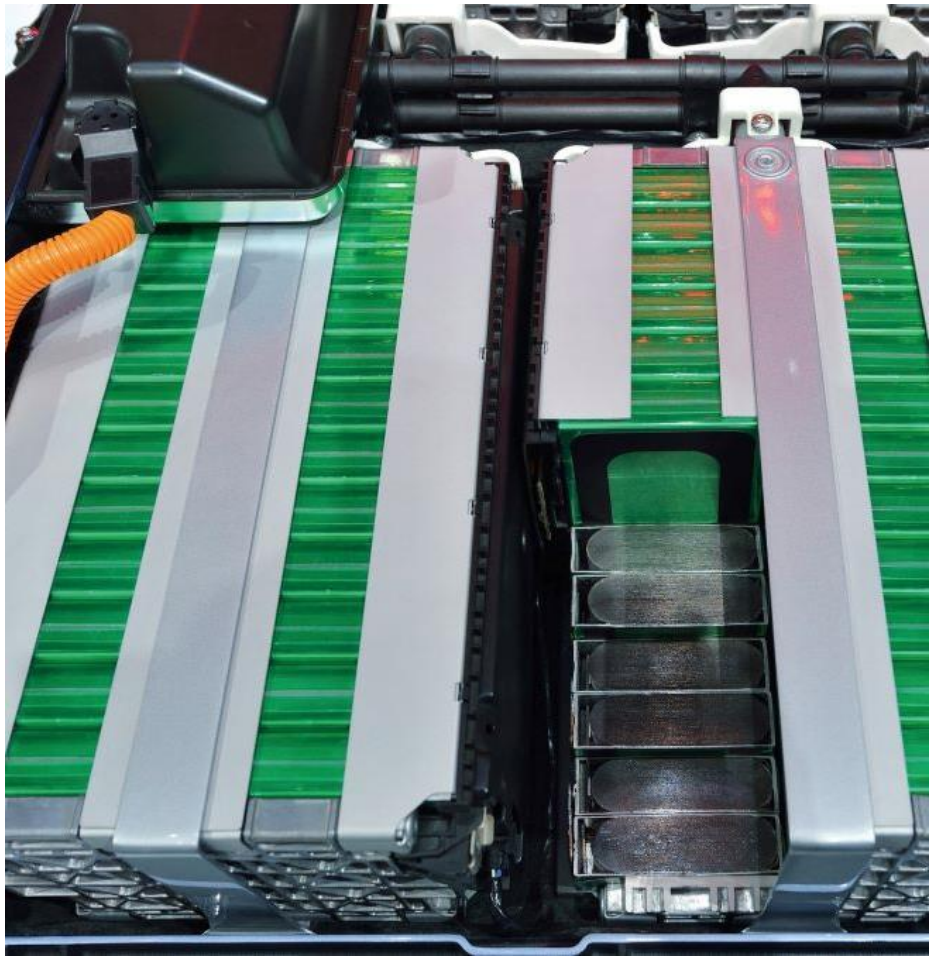
EV Range – Is it an issue?

- New EVs now typically have a range of **at least 200 miles**
- **Battery performance** can be impacted by a number of factors:
  - use/driving style
  - extremes of temperature
  - charging type, however, is less of an issue
- **Now more than 30,000 chargepoints** across the UK
- By 2023, the Government aims to have **at least 6 high powered chargepoints** at motorway service areas in England.



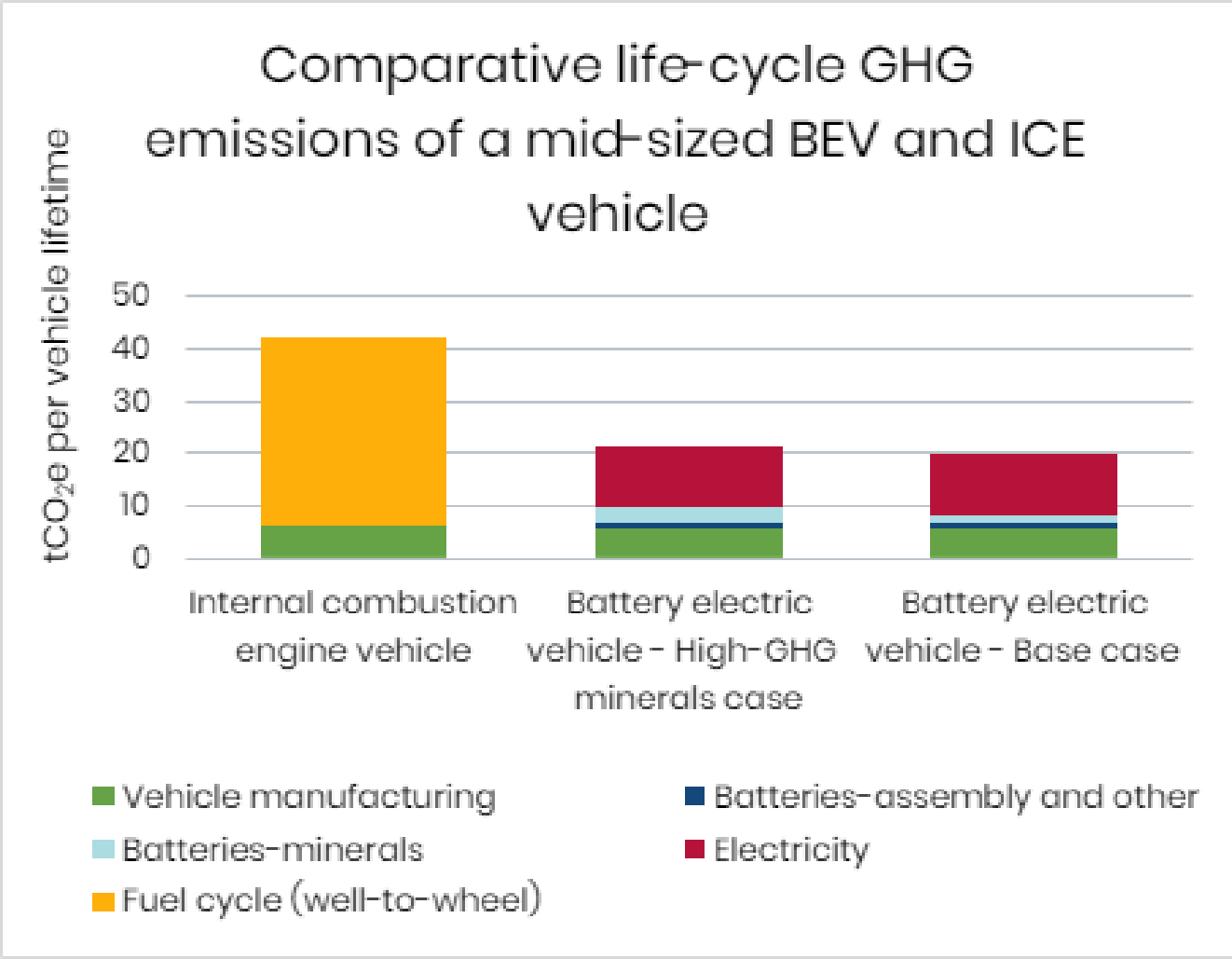
Number of plug-in car models available globally and their average range, 2015-2020. Data from IEA.

Batteries for Electric Vehicles



- Rarely need to replace a whole battery
- Warranties available to cover battery performance
- End of life EV batteries can be used for energy storage
- Growing industry focused on battery repurposing and recycling
- Manufacturers are increasingly cautious about their supply chains
- Reducing manufacturing emissions, mainly through streamlining processes

Carbon emissions from EVs



Source: IEA

- The life cycle emissions associated with a BEV is half of that of an internal combustion engine vehicle
- Emissions from battery production can vary across different countries
- As renewable electricity generation increases further, emissions will fall
- Many chargepoint networks use renewable energy tariffs

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Your route to driving an EV

Buying a new EV

Get researching

Look for an EV Approved retailer

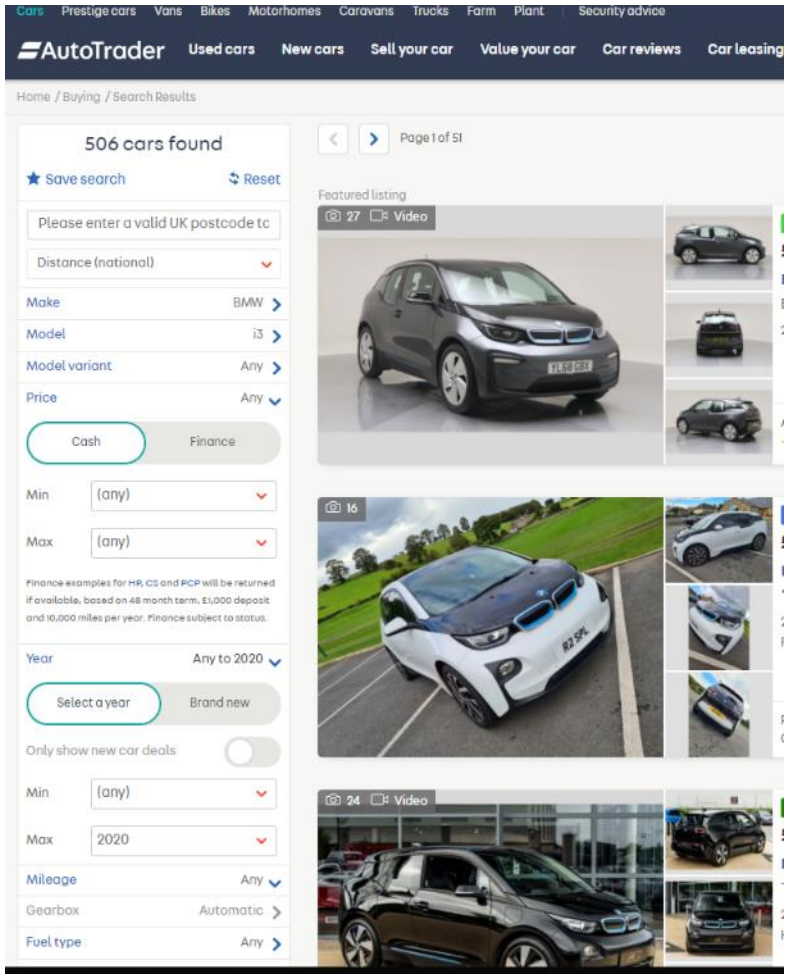
Electric Vehicle Database

- Sales and aftersales staff will be properly trained in all things EV
- Provide accurate info on details such as warranties
- Correct facilities and equipment to service EVs
- On-site charging provision
- Opportunity to test drive EVs (extended test-drives often available)

love my EV

EVA
Electric Vehicle Approved

Alternative routes to driving an EV



Lease/subscription service

- All new EVs available on finance
- Lease companies are increasingly understanding the reduced risk due to lower maintenance costs

Buying a used EV

- 700,000+ plug-in vehicles on the road in the UK, 64,000 sold in the 1st quarter of 2022 alone = growing used market
- Check specification and consider the range you need/battery size – charging cables included?
- Check battery lease
- Increasing knowledge and number EV specialist dealerships

Car club membership

- Opportunity to 'try before you buy'?
- Multiple options in many areas with a range of EVs available

Workplace Charging Scheme

- WCS voucher based and provides support towards upfront costs towards purchase and installation of CP's
- Available in England (UK Wide)
- Run by Office for Zero Emission Vehicles (OZEV)
- Open to businesses, charities and public sector organisations
- £350 per socket – Up to 40 sites
- Once installed, claim back cost within 6 months
- 1st link is to the WCS website
- 2nd link is for advice from EST about last mile deliveries – use e-bikes etc

- Workplace Charging Scheme: guidance for charities and small accommodation businesses - GOV.UK (www.gov.uk)
- https://energysavingtrust.org.uk/wp-content/uploads/2020/10/EST007-01-ESTDFT-Electrifying-last-mile-deliveries-guide-WEB-02.pdf

Glossary

Battery Electric Vehicle (BEV)	A car that runs purely on electric power, stored in an on-board battery that is charged from mains electricity (typically at a dedicated chargepoint).
Plug-in hybrid electric vehicle (PHEV)	A car with a combination of a traditional internal combustion engine and a rechargeable battery, allowing for either pure electric-powered driving or extended range from a combination of the petrol engine and electric motor.
Plug-in vehicle (PiV)	A blanket term for any vehicle with a plug socket, including BEVs and PHEVs.
Ultra Low Emission Vehicle (ULEV)	A car that has official tailpipe carbon dioxide emissions of less than 75g/km, and is therefore eligible for grants and benefits from the UK government.
Full Hybrid or “Self-Charging” Hybrid	A 100% fossil fuelled hybrid car. The most common is the Toyota Prius. A small battery is charged through regenerative braking that generates some electric power in combination with a combustion engine, but the car’s energy originates from petrol. The electric motor can only power the car itself for short periods at low speeds.
Kilowatt	A measure of one thousand watts of electrical power.
Kilowatt hour (kWh)	A unit of energy equivalent to the energy transferred in one hour by one thousand watts of power. Electric car batteries are typically measured in kilowatt hours. 1 kilowatt hour is typically 3-4 miles of range in a BEV.
Smart charging	A catch-all term for a series of functions that a Wi-Fi connected chargepoint can perform. Typically this refers to things like load balancing, energy monitoring and “managed charging”, i.e. shifting charging periods away from periods of high grid demand and/or low grid supply and to periods of low grid demand and/or high grid supply.
Range	Range refers to the distance an electric or hybrid vehicle can travel before the battery needs to be recharged.

Source: https://pod-point.com/guides/driver/ev-dictionary

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Thank you for listening

Any Questions?

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Cumbria's Electric Vehicle Charging Partnership

Cumbria Tourism
Low-carbon Lake District
European Union
European Regional Development Fund
NORTHERN POWERHOUSE

Break
11:30 – 12:00

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Bringing energy to your door

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Low-carbon Lake District
European Union
European Regional Development Fund
NORTHERN POWERHOUSE

Lloyd Motor Group

Supporting Local Businesses Making the Switch

Lloyd Motor Group

Founded in 1976, Lloyd Motor Group has supported drivers for nearly half a century. Representing some of the world's premier automotive brands, including BMW, MINI, Jaguar, Land Rover, Volvo, Kia and Ineos Grenadier.

Delivering market-leading sales and aftersales experiences across our 33 retail and service centres across Cumbria, Lancashire, the North East, North Yorkshire and Southern Scotland, we can cater to businesses of all sizes, no mater what your needs.

As a family-owned business, we're passionate about helping you nurture an attractive company culture. Whether you want to attract the right talent with a sustainable fleet, offer a great company perk, or ensure a financially viable option for your staff, our Business Specialists are on hand to help.

"We've been sourcing cars for our fleet through Lloyd Motor Group for over 10 years now. Their service and professionalism is second to none. They appreciate that the needs of a business can be very different from those of retail customers. The whole process is straightforward and efficient, and I cannot recommend them highly enough."

- AW Jenkinson

Why Go Electric?

✓ Running costs

On the whole, electric cars are more cost efficient than petrol cars, and they're cheaper to refuel, meaning you can travel further for less.

✓ Better for the planet

They release fewer emissions than any other fuel type, making electric ideal for those who are environmentally-conscious.

✓ Performance

Many of the more common electric cars can now travel over 100 miles on a single charge, with some even having a range of over 300 miles. They can also outperform combustion engines with their instant power and torque.

✓ Tax Benefits

With a Benefit-in-Kind rate of just 2% until 2025 on electric cars, you'll get substantial savings for you and your business,

Frequently Asked Questions

Do electric vehicles run out of charge quickly?

Although range depends on many factors, such as the size of the vehicle and driving styles, many fully-charged electric cars are capable of between 100-300+ miles of range.

Are electric vehicles cheaper to maintain?

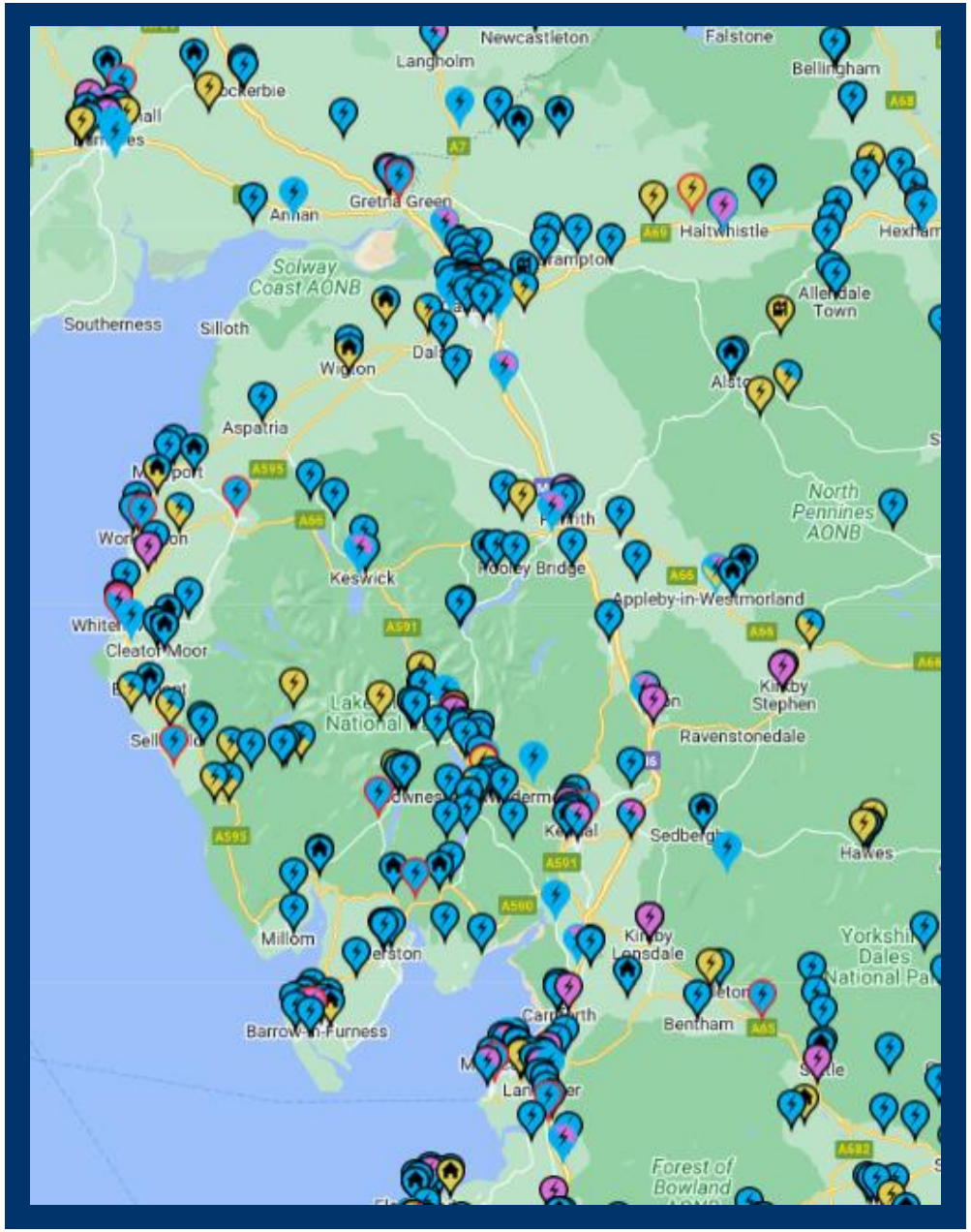
In comparison to non-electric vehicles, yes, because they have no need for oil changes, they don't have combustion engines, and there are fewer moving parts that require maintenance.

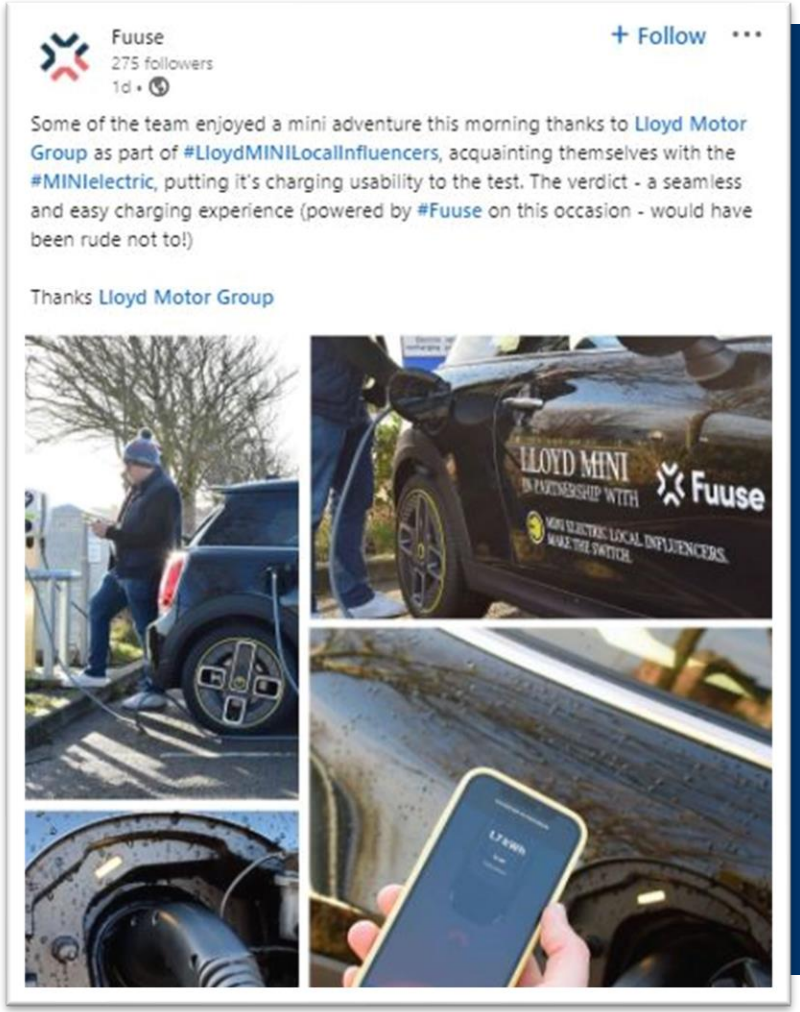
How many charging points are there?

As of February 2023, there is over 38,900 public charging points in the UK – a 33% increase on February 2022. The Zap-map on screen shows the current charging points in Cumbria. Zap-map will also tell you the live availability, type of charge and charging fee (if applicable) so you can plan your journeys accordingly.

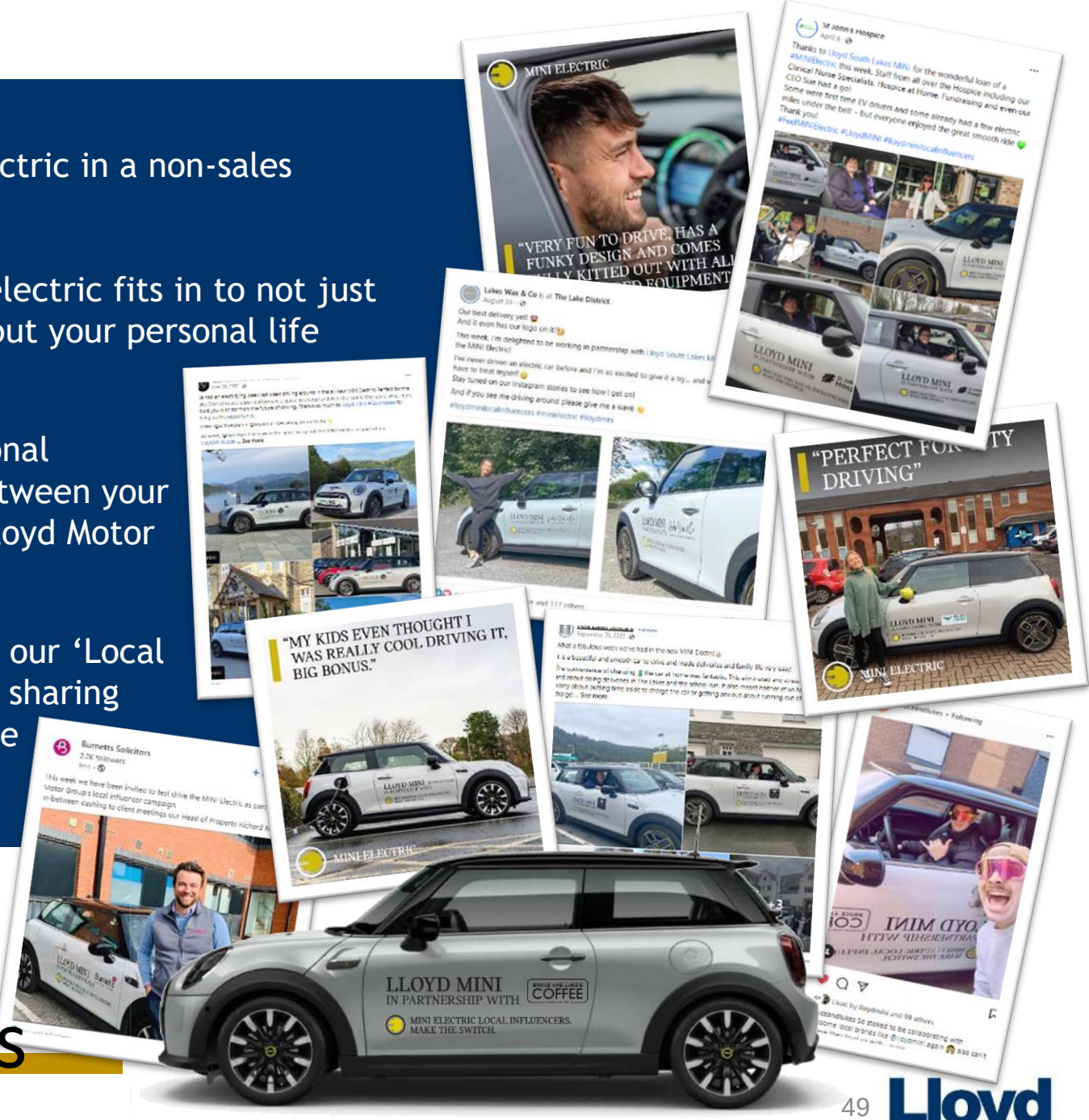
How long will it take to charge my electric vehicle?

Charging times vary according to factors such as the size of the vehicle's battery and the type of charger you decide to use. The higher the kW (kilowatt) rating of a charger, the faster it can charge your vehicle.





- ✓ Experience electric in a non-sales environment
- ✓ Discover how electric fits in to not just your business but your personal life too
- ✓ Cross-promotional partnership between your business and Lloyd Motor Group
- ✓ Become one of our ‘Local Influencers’ by sharing your experience



#LloydMINILocalInfluencers

Lloyd Motor Group x Cumbria Tourism

#ThePerfectPlaceToGoElectric

Over the past few months, we've teamed up with Cumbria Tourism for an electric road trip of the ages, starting with an all-electric BMW iX, and more recently, a Volvo XC60 Plug-in Hybrid.

With sustainable tourism being an increasingly important focus for Cumbria Tourism, supporting their members to work in the most sustainable way is a key part of this. Our partnership with Cumbria Tourism builds on the joint project between them and their patrons Electricity North West to support small tourism operators wanting to provide electric vehicle charging for their visitors.

"A special thanks goes out to the Lloyd Motor Group, who have made this important county-wide tour possible."
Gill Haigh, Managing Director of Cumbria Tourism

Tracy Millmore

Durham County Council

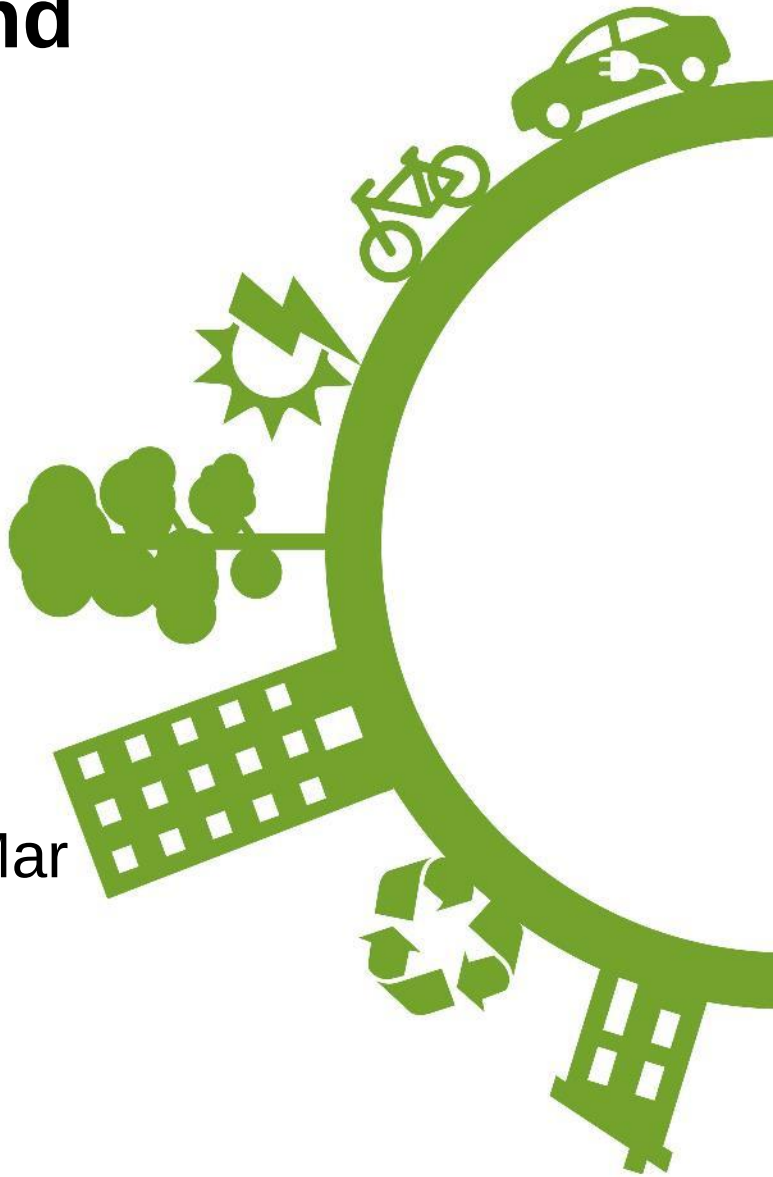
Senior Electric Vehicle Project officer

The story of Durham – EV infrastructure

- We need to tackle carbon emissions from all sectors.
- **30% carbon emissions are transport related.**
- In 2019 we had broken, unfixable Charge point infrastructure.
- **40% of residents who do not have a drive or garage way to charge EV at home.**
- Our Street lights are on the property side, rather than the Kerb side.
- Cables across pavements cause hazards which we cant control.
- Lack of DNO available or can be costly.
- Cost of EVs is still expensive.
- Car parking isn’t big enough, reluctancy to make bays EV.
- Accessible EV charging bays.
- Site selection when installing EVs.

Durham County Council Background

- 2018 Set up EV working group with internal services (highways, parking, procurement assets etc.)
- Innovate UK funding in 2019 for SOSCI project
- Appointed an EV officer in 2019 to work on EV infrastructure (stand alone).
- Secured funding for x2 ORCs projects 2020
- 2021 EV community group with residents.
- Secured funding for REV-UP research project (Aug 21-Mar 22.)



Durham County Council Progress

- Completed WEVA project in December 2021 ‘National demonstrator project (ORCs)
- Completed SOSCI project in January 2022 ‘Best EV project’ MJ awards 151 EV sockets
- Completed REV Up project in March 2022 – Produced a best practice guide for LA’s and x2 EVCPs.
- DCC has an EV strategy.
- Accessible EV reports for Accessible charging points.
- Installed 175 Sockets / connectors to date
- A further 26 are ready to switch on soon.

- In progress, we have LEVI Pilot, Pilot Gul-E, 2 more ORCs projects focused on communities.
- 2022 – Became an EV team.

Durham’s - EV Team

Tracy Millmore

Senior EV Project officer

Andrew Shiel

EV Monitoring Officer

Ethan Kerry

EV Technical officer

- Aim to secure funding for EV infrastructure.
- Build and develop EV Infrastructure.
- Monitor EVs usage.
- Provide stats on EVs in Durham.
- Operate the EVs with CPO.
- Provide technical support of EVs
- Plot, plan where to install EVs.
- Ensure new car parks have the EV infrastructure.
- Social Media and communications of EVs inc. stakeholder engagement.
- **Communicate** with internal services in the council to install EVs.

Best Practice Guide / Lessons learnt

1. Member Support
2. Resources
3. Strategy
4. On-Street Charging
5. Equalities and Accessibility
6. Legal – Procurement and Assets
7. Planning Permission
8. Electricity and Grid Connection
9. The STEP solution

Available on request from evcharging@durham.gov.uk

LEVI Pilot
(Local Electric Vehicle Infrastructure)

STEP Model (Standard Terminal for EV Points) Solution.
Installing 250 EV charge points.

Underground – Public sector provide the permanent socket for all future chargepoints. Partnership with PowerGrid to provide cost estimates on DNO connection in advance of funding bids to OLEV.

Overground – Chargepoint suppliers, apps, e-mobility, payments and innovation, procurement, competition. All taken care off by private sector.

The model involves OZEV funding, DCC and Private investor funding for underground.

Overground CPOs – smaller contractual terms and less risk for a CPO.

Working with our DNO more closely Northern Powergrid.

Leading the way and setting examples for installing EV charging.

Thank you for listening.

For more information: InstantAtlas Durham – SOSCI – Scaling on Street Charging Infrastructure (durhaminsight.info)

Contact details:
Evcharging@durham.gov.uk

tracy.millmore@durham.gov.uk
Tel: 03000 268034

LDNPA:
Transition business travel to electric vehicles

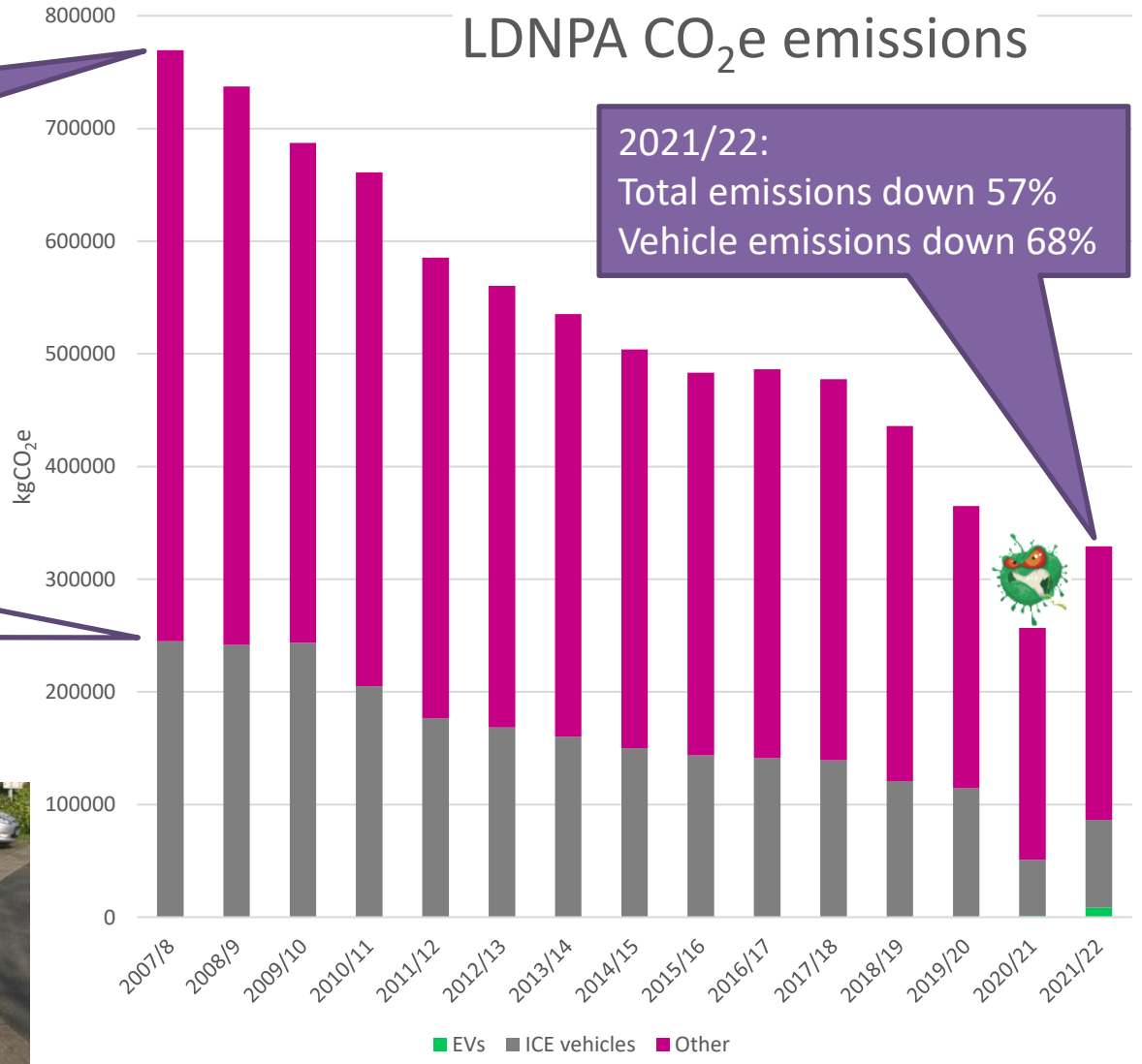
Martin Sleath,
Sustainability Adviser

Low-carbon Lake District
European Union
European Regional Development Fund
NORTHERN POWERHOUSE
Lake District National Park

Carbon reduction at LDNPA

Starting point total emissions: 772 tCO_2e

Vehicles: 478,728 miles 271 tCO_2e



*ICE = internal combustion engine

Electric vehicles at LDNPA

Previous fleet:

Pool vehicles:

- 12x Ford Fiestas
- 5x Citroën Berlingos
- 1x Fiat Doblo
- 1x Peugeot Partner

177,671 miles = 41.6 tCO_2e

Working vehicles:

- 10x Land Rover Defenders
- 5x Isuzu D-Max pickup
- 4x Ford Ranger pickup
- 1x Mitsubishi L200 pickup
- 1x Ford Transit

?...

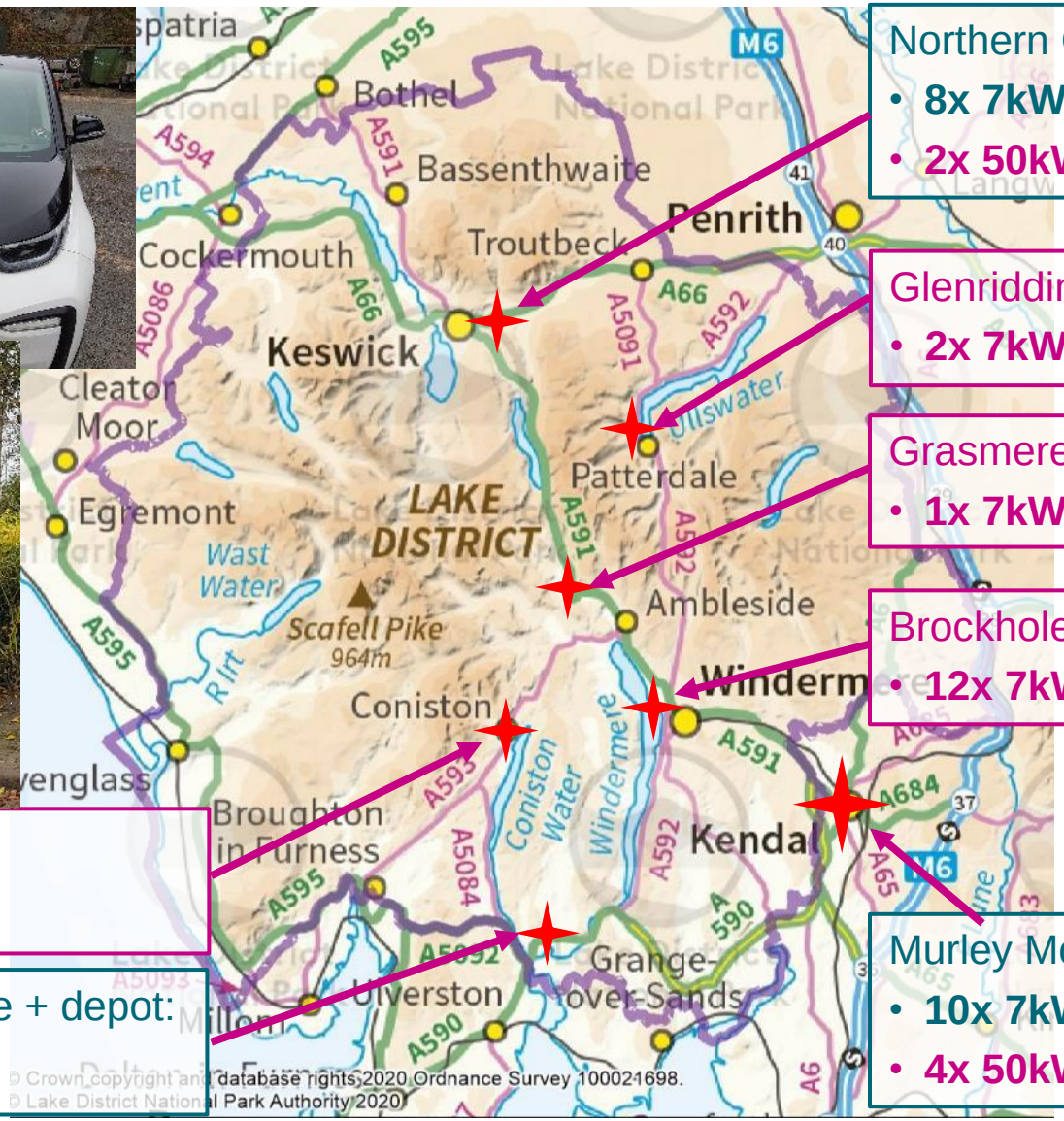
New fleet:

Pool vehicles:

- 13x BMW i3s
- 5x Renault Kangoo EVs

177,671 miles =
16.3 tCO_2e (grid electricity)
1.3 tCO_2e (green electricity)

LDNPA chargepoints



Northern Office + depot:
- **8x 7kW**
- **2x 50kW**

Glenridding car park:
- **2x 7kW**

Grasmere car park:
- **1x 7kW**

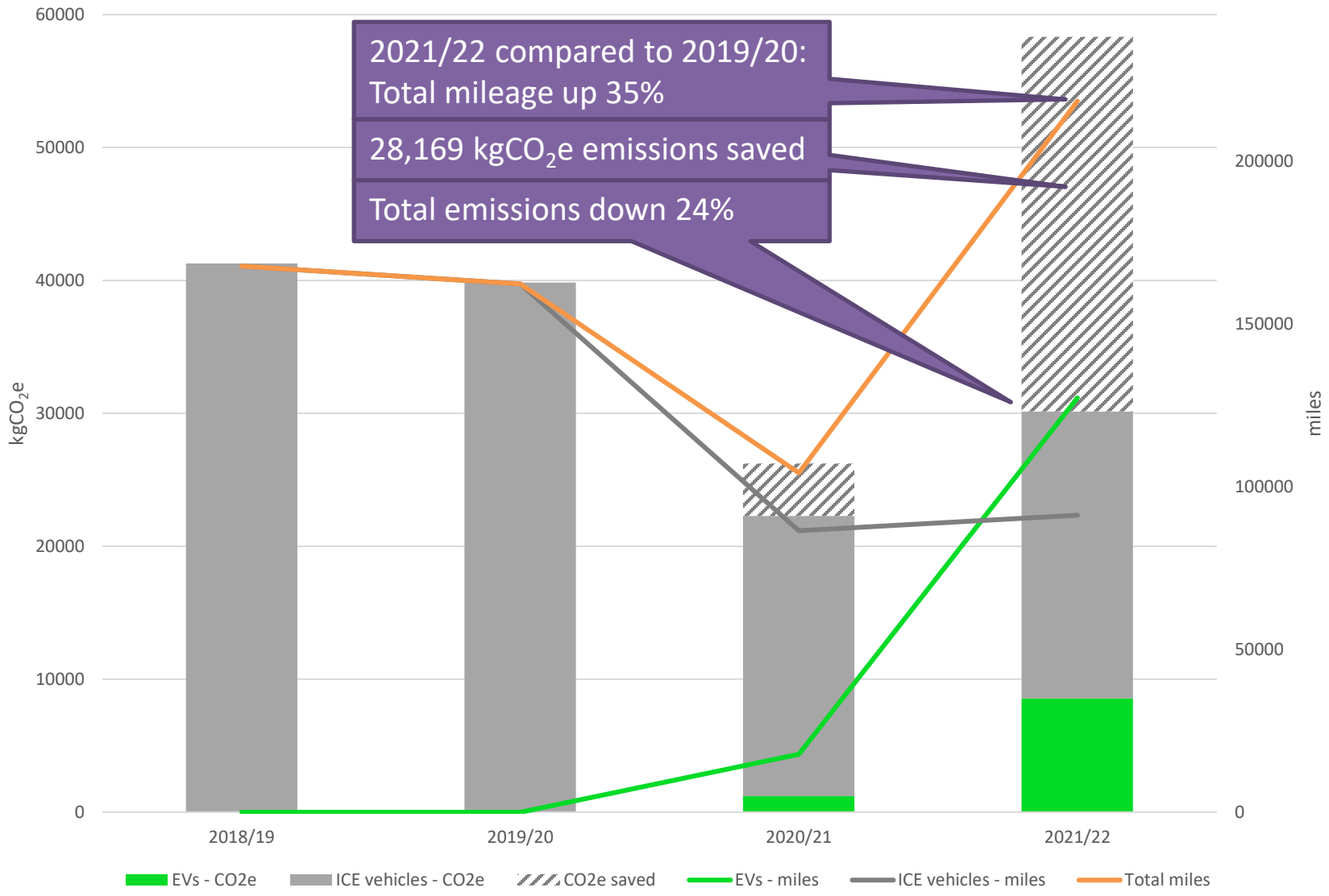
Brockhole Visitor Centre:
- **12x 7kW**

Coniston:
- **6x 7kW**

Southern Office + depot:
- **6x 7kW**

Murley Moss HQ:
- **10x 7kW**
- **4x 50kW**

Pool vehicle emissions and mileages



Costs

	Diesel Fiesta	Battery-electric BMW i3
Ownership		£2,937
Vehicle tax		
MOT		
Servicing		
Fuel	10p/mile £1,000 per 10,000 miles	1 mile = 0.211 kWh 4.5p/mile £451 per 10,000 miles

EV charging for visitors and residents in the Lake District

Emma Moody, Lead Strategy Adviser, Recreation and Sustainable Transport

Strategy

- Commitment in our partnership plan to decarbonise and develop sustainable transport
- To play our part in encouraging move towards EV for visitors and residents
- Working with Cumbria-wide group and supporting C-volt strategy

Delivery

- Opportunities in LDNPA owned car parks and offices.
- Mainly destination chargers – people staying longer.
- Secured funding through ERDF – low carbon Lake District Funding and BMW ‘recharge in nature’ support for National Parks.
- Supported others through ERDF Low Carbon Lake District funding such as Charge my Street.

European Union
European Structural and Investment Funds

Case Study 1 –

Brockhole Solar Roof Innovation project

Low Carbon Projects at Brockhole Windermere delivering cutting-edge EV charging via a solar array, a sustainable lake source heating system, and other innovative works funded through the Low Carbon Lake District ERDF funding.

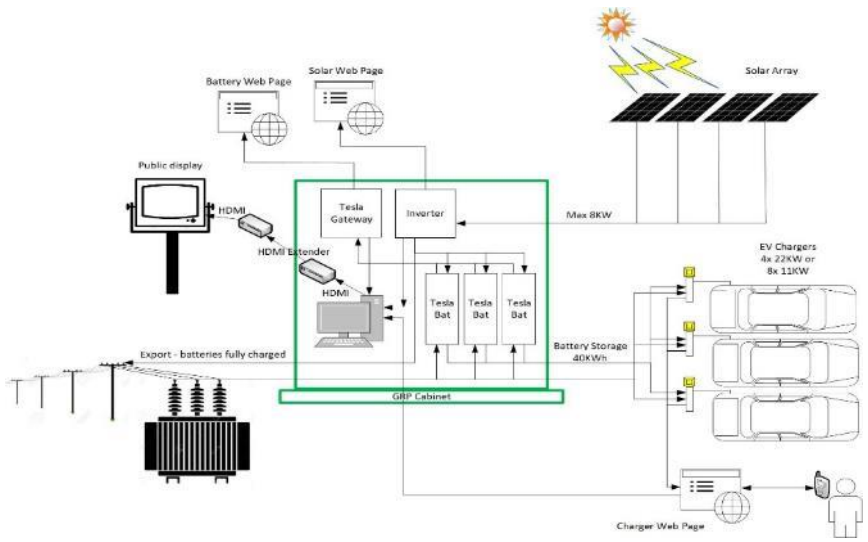
- Visitor centre with over 300,000 visitors a year.
- Education for schools and groups.

European Union
European Structural and Investment Funds

- Cars can be charged overnight by battery power from the day's sun.
- 'Trickle' charge overnight at cheap rates. Discharged rapidly during the day for charging of visitors' electric cars.
- Can be used areas where there is a limited electrical supply in the network that would require prohibitive infrastructure upgrades.
- Initial planning concerns - asked to reduce the scheme.
- Final application was well received by the Planning Committee.
- Received positive feedback since.

Connecting solar panels to battery storage for EV charging

- Solar canopy covers 6 car parking spaces.
- Collects over 8KW in full sun.
- Stores energy in 40KWh batteries for when it is needed, and not just when it is sunny.
- Connected to 4 dual 22KW Electric Vehicle chargers allowing up to 8 cars to be charged at once.
- EVs can be charged directly from the batteries when power is available, or from the mains supply.



Connecting solar panels to battery storage for EV charging

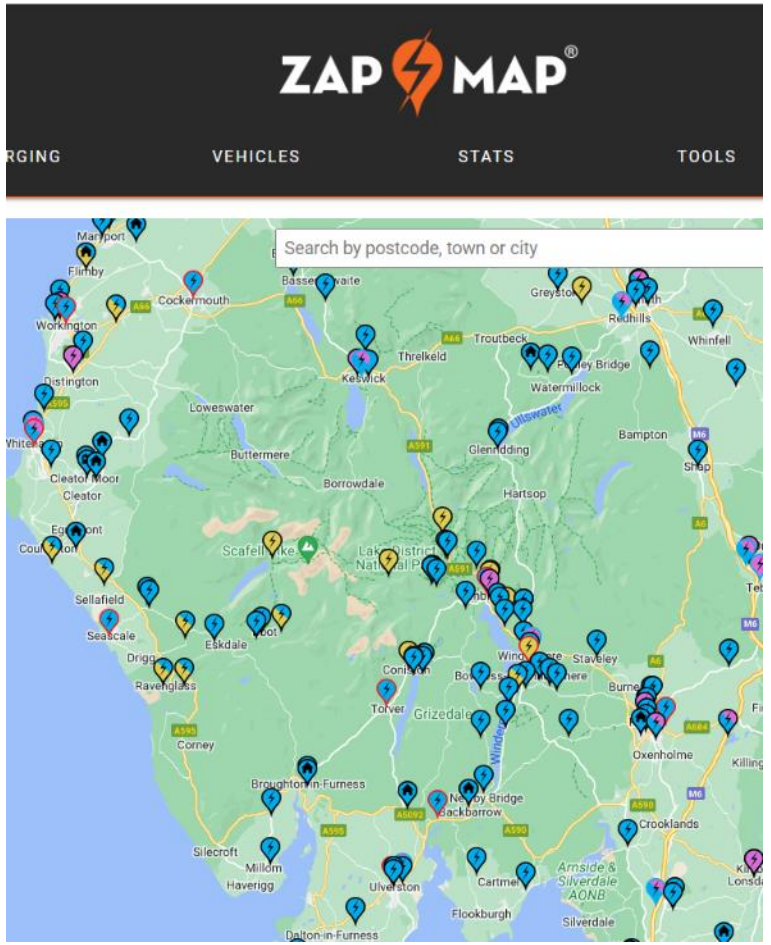
Challenges:

- Planning - timescales and planners are sceptical by nature
- Approach - consider charging and parking policies up front.
- Funding - check grant conditions
- Electricity North West - timescales/cost of upgrading power.
- Battery storage is expensive - even recycled batteries.
- Batteries only store so much - 40KW battery gives only 2 hours EV charging at 22KW.
- Allow for future expansion

Connecting solar panels to battery storage for EV charging

Challenges:

- Long lead in times on some materials.
- Some companies turning away work, or not responding.
- Zap maps – getting registered correctly.
- Consider noise and appearance implications.
- Public reaction – feedback on good and bad EV experiences.
- Reliability – need a good maintenance agreement.



Connecting solar panels to battery storage for EV charging

So why do it? What are the benefits?

- It is the right thing to do.
- Brings people to the site.
- Increased dwell time on site.
- Increased secondary spend on site.
- Can generate income from charging.
- Can reduce your running costs (charging your own).
- Grants out there to help.
- ENW assistance.
- Can generate great PR.

Case Study 2 - Standard EV charging

- LDNPA manage and own 44 EV chargers across the National Park
- This is made up of mainly 7kw/h chargers, some 14kw/h and super chargers too at Murley Moss and our Northern Office at Threlkeld
- We’re investing in bringing in large power supplies into our car parks, including 100amp 3 phase to car parks such as Waterhead, Hawkshead and Ravenglass.
- Mostly Podpoint but some AMP-EV/Rolec – subject to procurement

Next steps

- We’re about to install charging at Beech Hill next, thanks to ESIF funding
- Future proofing electricity supply at car parks, allowing us the capability to have 27 destination chargers (7kw/h) at each of these location.
- Working with C-Volt partnership to deliver more.
- Demand will continue to grow….

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European Structural and Investment Funds

KEEP IN TOUCH

Emma Moody

Emma.moody@lakedistrict.gov.uk

https://www.facebook.com/lakedistrictnationalpark

https://twitter.com/lakedistrictnpa

Woolly Saddle Cargo Project

Kendal cargo bike trial,

5 Sept- 6 Oct 2022,

Jo Haughton, SLACC Volunteer

SOUTH LAKES action ON CLIMATE CHANGE
TOWARDS TRANSITION

waste into wellbeing
KENDAL PEOPLE'S CAFE

Kendal Town Council

Woolly Saddle Cargo Project

The trial was made possible thanks to:

- 13 amazing SLACC volunteers
- £500 from SLACC
- £500 from Kendal Town Council
- Free bike hire from Raleigh Bikes

The problem to solve...

Waste into Wellbeing project:

fantastic work reducing emissions by redistributing food 'waste' but using cars/vans for transportation for short journeys

Could riders with e-bikes do the job?

How could we test this?

What would be difficult?

Would others be interested?

Could costs/resources be shared?

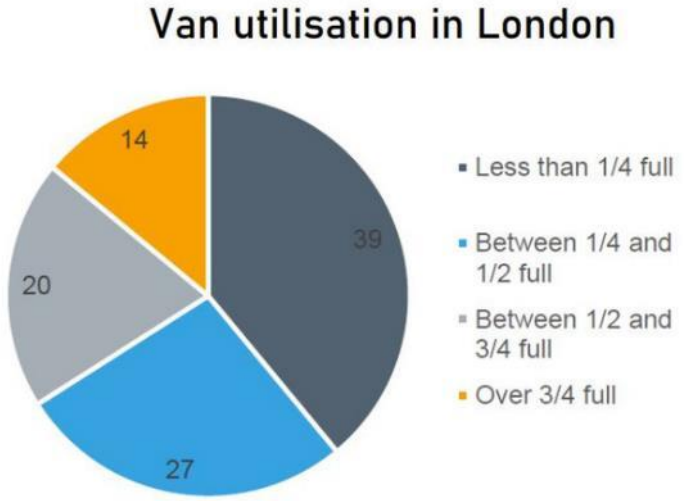
Why use cargo bikes?

Thank you to Cargodale for the next few slides!

Bikes are efficient

Sources: Riese & Müller, Ford

Van delivery isn't



Source "White Van Cities" report, Urban Transport Group

Less impact on residential areas

Lower training/insurance/running costs

CARGODALE

Cargo bike delivery in darkest Calderdale

Feelgood factor

Able to cope with...

And...

(Both photos taken on the same day)

CARGODALE

Cargo bike delivery
in darkest Calderdale

WoollySaddle Project

Cargo bike benefits

- they carry a lot of stuff and/or people
- make zero emission journeys for business/personal use
- can create green, healthy jobs
- reduce congestion and pollution
- demonstrate commitment to, and support behaviour change
- great marketing opportunity - being seen to be green
- Smiles per mile!

WoollySaddle Project

Aims and objectives

- Trial collections for Waste into Wellbeing
- Test activity with 1-3 businesses
- Organise 2-3 public facing events to drive awareness and interest
- Find E-cargo bike riders and cargo bike training opportunities
- An online resource page with links and case studies
- A report on the findings with recommendations for next steps

Report headlines

- 12 riders cargo-bike trained to Bikeability L3
- 300kms cycled
- 51 cargo bike trips made
- 21 trips replaced car/van trips for collections/deliveries
- 16 trips made for practice or training
- 14 trips made for events, meetings, and courtesy calls

- Waste into Wellbeing collections
- Kendal Town Council – workday on the allotments
- National Trust Rangers at Sizergh - conservation and garden work.
- The Fleece Inn/Gateway Inn – laundry runs for pub/ holiday cottage.
- Growing Well at Low Sizergh – crop share collections.
- Personal trips by volunteers for shopping, tip runs, Oxfam and 'joy' rides!
- 20+ organisations/groups engaged in total
- Hosted visit by Bicycle Mayor of Cumbria and County Council elected members looking at infrastructure

Challenges

- Bike storage
- Insurance
- Rider confidence
- Cycle infrastructure (or lack of..)
- People resource - reliance on volunteers
- Logistics/rider communication

Next steps

- More insight required from businesses
- New Sustainability Hub - potential for bike scheme modelled on Staveley Community E-bike scheme
- Next phase to broaden scope of bike types/carrying solutions
- Identify and apply for funding

Information and support

Energy Savings Trust

DeCarbon8

European Federation of Cycling

MP Smarter Travel

Rural Cargo Bike Network on LinkedIn

SOUTH LAKES action ON CLIMATE CHANGE TOWARDS TRANSITION

woollysaddle.org

Thanks for listening...

Panel Q & A

chaired by Jonathan Murray
Policy & Operations Director at Zemo Partnership

electricity north west
Bringing energy to your door

On the panel we have:

- **Patrick Taggert** from the **Energy saving trust**
- **Lynn Tracey** from **Electricity North West Limited**, who have experience transitioning their own fleet to EV
- **Emma Moody** from the **Lake District National Park Authority**, who is involved in providing charging for visitors
- **Rachel Tyson** from **Cumbria Tourism**, who took part in the Lloyds Motor Group EV influencer campaign
- **Phil Gray** project co-ordinator from the **Electric Vehicle Charging Partnership**

Cumbria Tourism
Low-carbon Lake District
European Union
European Regional Development Fund
NORTHERN POWERHOUSE

Cumbria's Electric Vehicle Charging Partnership