

 Transport

 Energy  
Infrastructure

 Knowledge &  
Enterprise



# Net Zero, EVs and EVI in the UK

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# About Us Independent, Not-for-profit, Experts

- Established in 2005 by the UK Government
- UK's Centre of Excellence for Low Carbon & Fuel Cell Technologies
- Delivering Consultancy and R&D projects to accelerate transition to net-zero emissions in transport and energy systems
- Work with National and Local Government, Private Sector and International Governments



# Today...

1. *UK Net Zero*



2. *Zero Emission Transport in the UK*



3. *EV Infrastructure Strategy*



4. *Summary*



## What is Net-Zero?

- The Science could not be clearer: **Climate Change is undeniable.**
  - ‘By 2050, the world has to **reduce emissions to as close to zero as possible**’ – *Net Zero Strategy (UK Government)*.

### Can We Limit Global Warming to 1.5°C By 2100?



If we take aggressive  
action today\*...

we can limit temperature rise to  
1.6°C by mid-century and reduce  
to 1.4°C by 2100



If we take a  
high-carbon pathway\*\*...

temperatures could climb to  
2.4°C by mid-century and reach  
4.4°C by 2100.

Source: IPCC, WRI

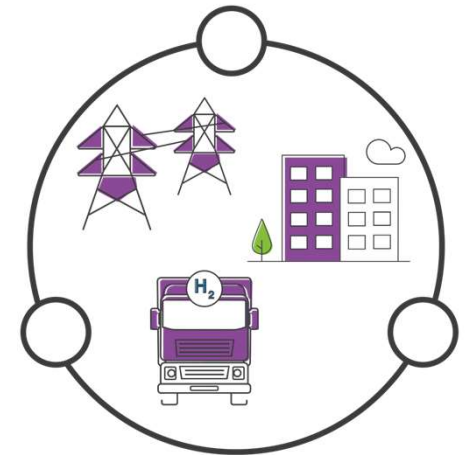
## The UK Net Zero Strategy aims to...

- **Power** – By 2035, UK will be powered by clean electricity, subject to security of supply
- **Fuel Supply & Hydrogen** – By 2030, Deliver 5GW of hydrogen production while halving emissions from oil and gas
- **Industry** – Deliver Carbon Capture and Storage clusters to capture 20-30 MtCO<sub>2</sub> across the economy
- **Heat and Buildings** – Set a path to all new heating appliances in homes and workplaces from 2035 being low carbon
- **Transport** – Remove all road emissions at the tailpipe and kickstart zero emissions international travel
- **Natural Resources** – Treble woodland creation rates in England
- **GHG Removals** – An ambition to deploy at least 5 MtCO<sub>2</sub>/year of engineered removal by 2030



## How can it be achieved?

- A systems approach to Policy Making!
- Action is required from multiple parties across the sectors
- Deliver at pace while considering all aspects – environment, social and economic
- Mitigate conflicts and ensure one policy doesn't put another in jeopardy
- Its not making the perfect policy all at once



Policy ambition is good, but don't forget the implementation plan and tangible action!

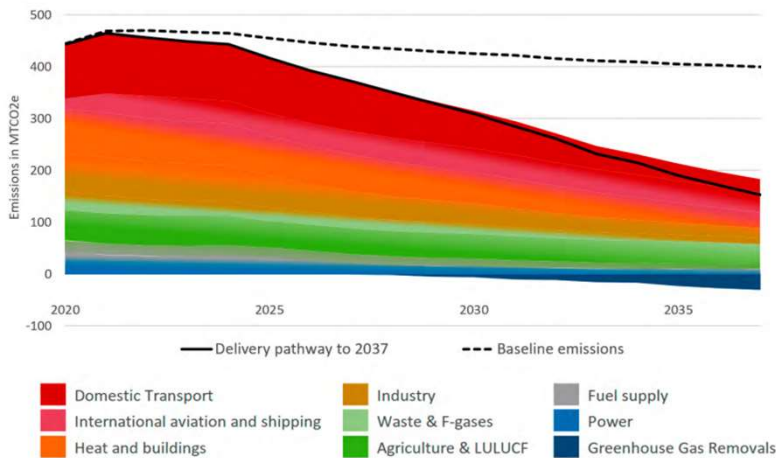
## The role of Data Access is vital

- Achieving this, cannot be done with the proper parties having access to Open Data on key systems and progress
- Open data can help align efforts and ensure nothing is getting missed
- It needs to work across all sectors that are interdependent



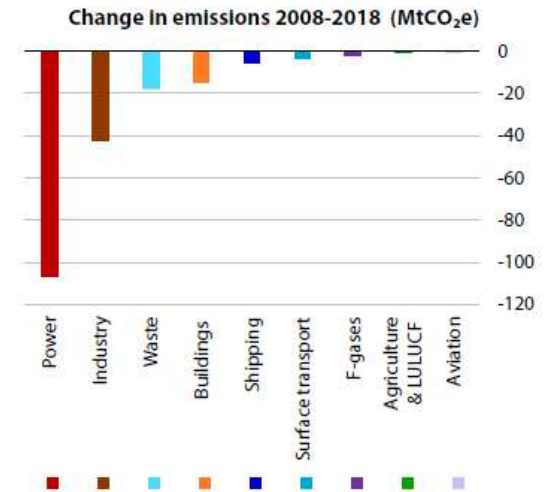
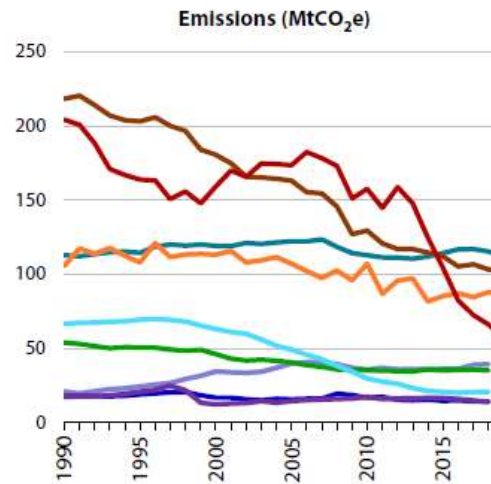
# The Pathway to 2037 and role of Transport

Figure 1: Indicative delivery pathway to 2037 by sector



Source: BEIS Analysis (2021)

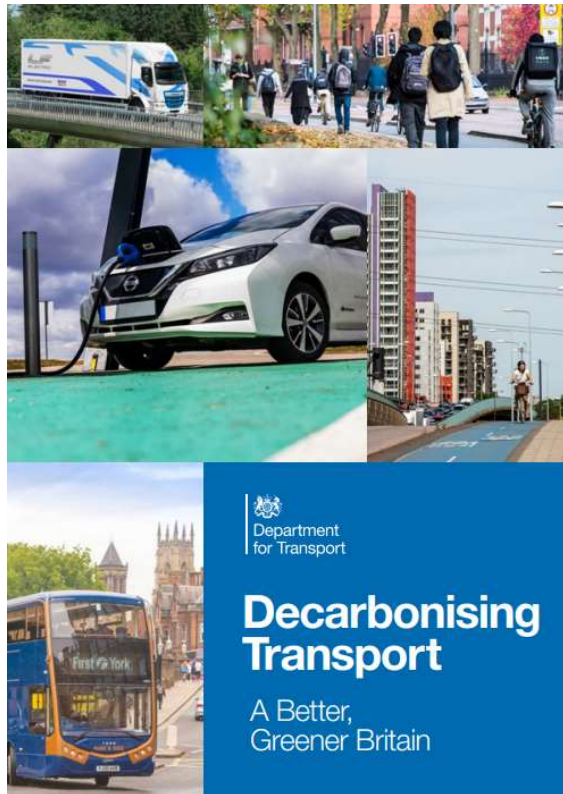
Transport is the worst performing sector – STILL!





# Decarbonising Transport

Focus on transport not just electric cars or vans



## Strategic Priorities

1

Accelerating modal shift to public and active transport



2

Decarbonising Road Transport



3

Decarbonising how we get our goods



## Key National Action

- 2030 Petrol and Diesel car sales ban
- UK parliament and over 300 local governments declare a climate emergency

## The shift to EVs

- Private vehicles
- Company fleets and company cars
- Majority are cars and vans



- The shift is encouraged by the policies – plug-in car grants, company tax, low emission zones
- The challenge – EV prices, EV Infrastructure

## National and Local Transport Policies

- Plug-in car grants: A phased approach to incentivising EV purchase
- Low Emission Zones
  - London
  - Oxford
  - Birmingham
- London Taxis, Buses
- Coventry Taxis, Buses



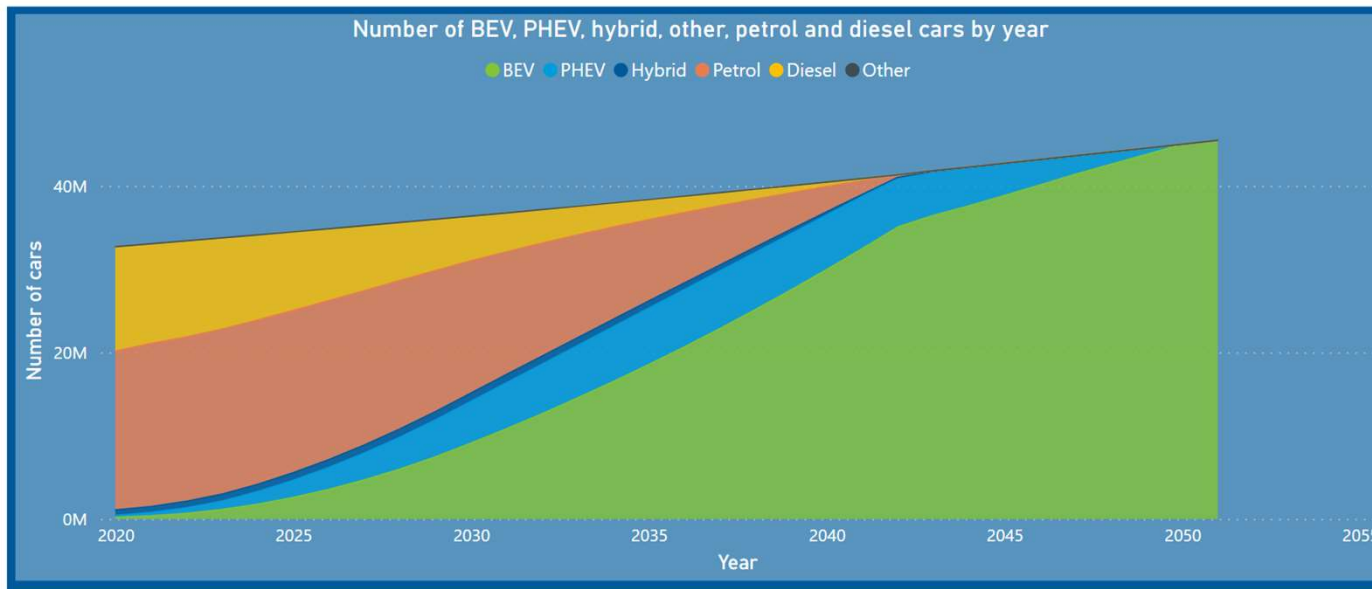


## What about Commercial Vehicles and Fleets?

- The transition is driven by the aforementioned ‘**carrot and stick approach**’
- Cenex helps the private and public sector with their fleet assessments
- Asses the vehicle and operation type, consider the baseline emissions, what options are available, charging and power requirements and practical implementation pathway



# EV uptake is responding towards 2030 mandate



Cenex NEVIS Insights Toolkit Projections, 2022

## Key stats:

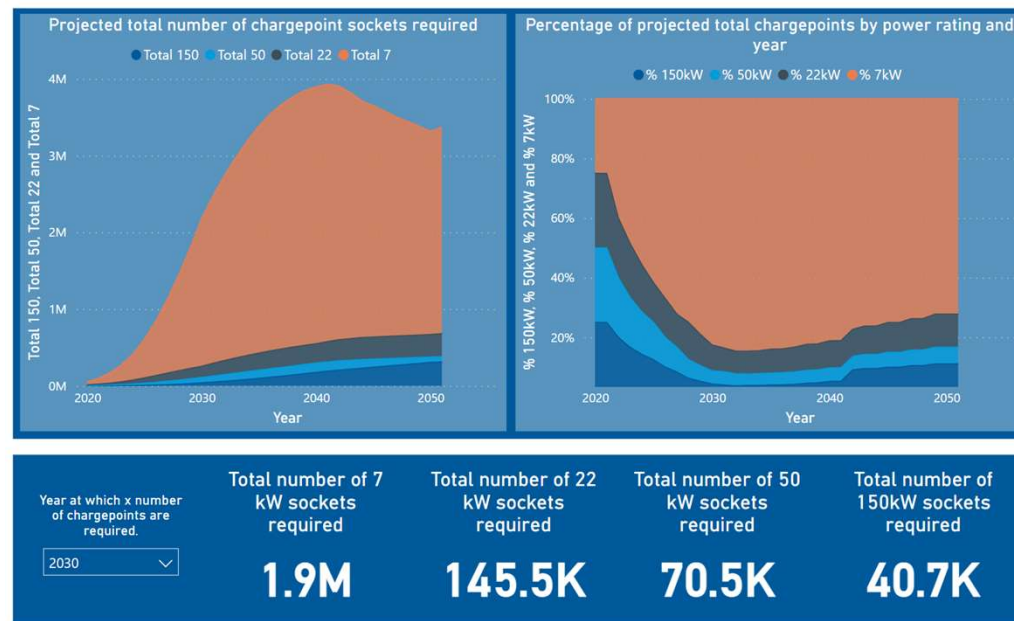
- ~14% of new vehicle sales were Battery Electric (YTD Jan 23\*)
- 100% of all sales expected to be Battery or Plug-in Hybrid Electric by 2030
- 50% of all vehicles on UK roads may be electric by 2032

➤ Despite reductions in new car sales, BEV sales are broadly in line with the 2030 target

## This means sizeable implications for infrastructure

### Key stats

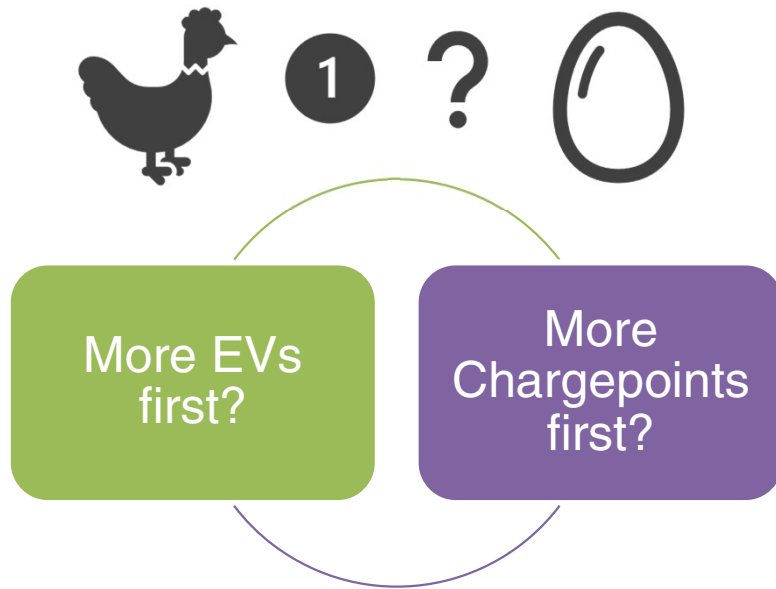
- 44,401 public connectors registered in the National Chargepoint Register at the end of Feb 2023
- Chargepoints needed to support the electrification of cars and vans:
  - 90,000 by 2025
  - 295,000 by 2030
  - Nearly 600,000 by 2040
- And that's before heavier vehicles are included...



Insights Toolkit - © Cenex 2022

- A significant increase in public charging will be needed in this decade to enable the targeted EV adoption rates

## Which first, and who needs to act and implement?



- National Government
- Local Government
- Industry
- ..?

It needs coordinated effort!

# The UK Government Response

## EV Infrastructure Strategy vision:

- 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



HM Government

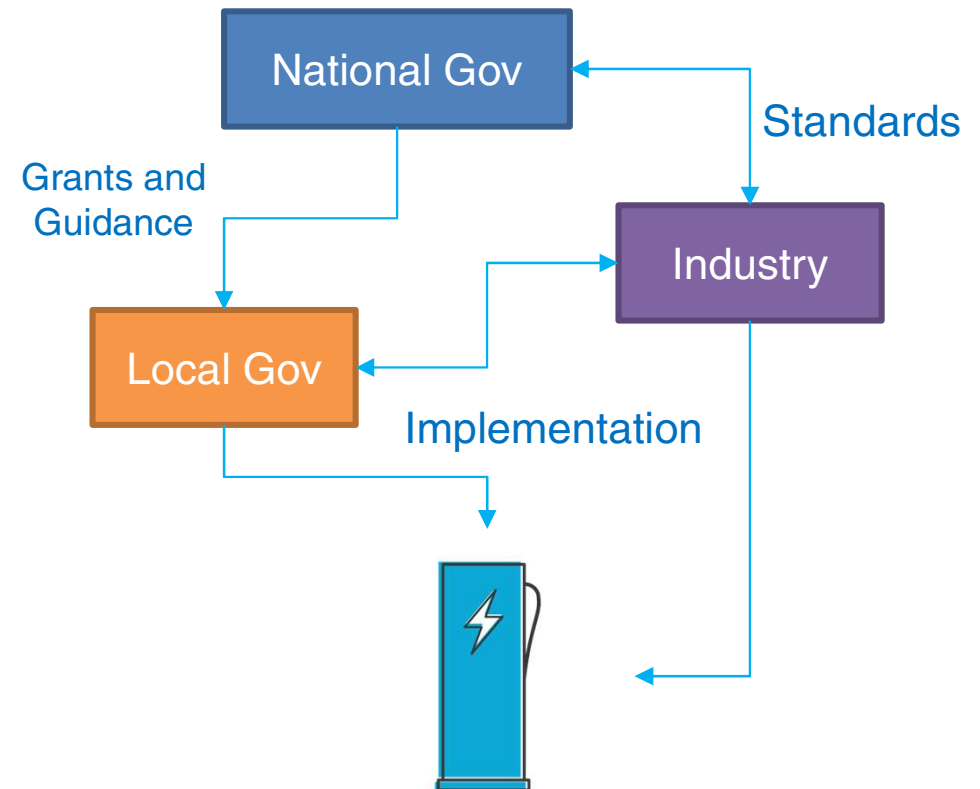
**Taking charge: the electric vehicle  
infrastructure strategy**





## The plan?

- National Government releases grants for Local EVI
- Guidance is provided to Local Governments to help implement
- In parallel, the Government consults with Industry to set standards where appropriate
- The Industry moves in areas which have a strong business case, the grants fill the gap where the business case is not strong (on-street)



# LEVI Scheme - England

## The challenge:

- Getting high-quality chargepoints
  - In the right numbers, of the right type
  - Installed in the right place, under the right commercial arrangement

## Delivery requires:

- Capital availability
- Cashflow needs
- Capacity of organisations
- Capability of staff
- Competition and Compliance



## LEVI fund

- ~ £450m for capital and capability available to Local Governments
- A total of £1bn + of total investment in EVI with the industry
- Funded by Office of Zero Emission Vehicles
- Support provided by the LEVI Support Body

## The LEVI Support Body advises, guides, resources



energy  
saving  
trust

*Building strategies of all types is underpinned by common analysis, information and insight*

**NEVIS**  
DELIVERED BY CENEX



**Insights Toolkit:** LA-specific quantitative data and modelling



**Knowledge Repository:** qualitative advice and guidance



**Networking:** connect with other officers



**Roadshows:** educate and equip LA officers

# Summary



Net Zero pledges need coordinated action to meet ambitious targets



Ambitious policies need clear implementation pathways but policies may not always be right the first time



Transport is still the worst performing sector despite focussed efforts in this area alongside energy



Strategic action is required on the Infrastructure side to keep the momentum of the EV transition



Strategic action needs to be taken Nationally and Locally while working alongside industry and independent experts to set the right standards at the right time

Transport

Energy Infrastructure

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Thank you – [sagar.mody@cenex.co.uk](mailto:sagar.mody@cenex.co.uk)



# Cenex-Events 2022 Stats

**4,692**  
ATTENDEES

**82**  
SPEAKERS

**208**  
EXHIBITORS

**71**  
PRESS



**LCV: 6th-7th September 2023 UTAC Millbrook, United Kingdom**

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