CCN
COUNTY COUNCILS NETWORK

CCN ANALYSIS

Electric Vehicle Infrastructure:

Analysing the challenges in powering England's plug-in vehicle revolution

September 2023

About

At the County Councils Network (CCN) one our core objectives as a national representative body is to deliver insights on the policy issues impacting our member councils, the communities they represent, and the wider local government sector.

CCN Analysis seeks to provide the latest data analysis on local economies, service demand, council finances and the wider public sector landscape, both within county areas and across England.

It contains commentary on what the latest trends mean for national and local policy making, and the implications for public services, businesses and communities across our 37 member council areas.

CCN Analysis is just one of CCN's regular publications that sits alongside our *Policy in Focus* series, best practice report *County Spotlight* and our range of externally commissioned research publications.

Download all CCN's reports and publications here.

CCN ANALYSIS

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Overview

The United Kingdom has ambitious decarbonisation targets, pledging to reach net zero by 2050. [1]

With vehicle emissions the largest polluter in the country, one of the biggest success factors in decarbonising the country will be switching to electric plug-in vehicles.

Compared to five years ago, there has been a dramatic uptake in electric vehicles with England seeing a 560% increase in plug-in vehicle registrations in March 2023 compared to March 2019, with the number of these vehicles on the road now topping one million across the country.

With the transport industry dramatically ramping up their production as these vehicles become a mainstream consumer choice, it is now commonplace to see plug-in vehicles regularly on England's roads; the same could not have been said of early 2019. This is undoubted progress, but the proportion of plug-in vehicles as a percentage of all vehicle registrations is still small, as this analysis shows.

If the country is to hit its decarbonisation targets (and the next government is unlikely to dilute such a pledge) then building on this early success and encouraging more people to go electric is key.

With the County Councils Network's (CCN) member authorities setting their own ambitious carbon reduction targets, reducing transport emissions in their areas where vehicles are more heavily relied on will be key.

This CCN analysis seeks to explore the progress made so far. It outlines the successes to date, but also the barriers for county residents in switching to electric vehicles. Importantly, it also sets out how CCN member councils can be supported to continue to play their role in powering England's plug-in vehicle revolution, while driving the government's wider net-zero strategy.

Key Findings

- The number of publicly-available electric vehicle charging points in county areas now stands at 13,542 as of July this year, up from 7,968 in October 2021: a 69% increase. Whilst this is significant progress when compared against road lengths within CCN member council areas, there is just one charger for every 9.5 miles in those places.
- This is an improvement on 2021's ratio of one charger for every 16 miles, but CCN member councils are still lagging behind other types of local authority areas. London has one charger for every 0.7 miles, whereas the metropolitan boroughs have a charger for every 4.5 miles. Non-CCN unitaries have the same ratio. The Core Cities and Key Cities combined have one charge point for every 3.7 miles.
- This lack of electric vehicle infrastructure arguably is hindering efforts to encourage county motorists to switch to plug-in vehicles. CCN members' areas had the lowest percentage of plug-in vehicle registrations as a proportion of all vehicles as of the first quarter of 2023 – 2.1% - compared to other local authority tiers. Inner London had the highest at 7%, followed by non-CCN unitary councils at 5.3%.
- Despite this, there has been real progress in encouraging more people to drive plug-in vehicles. As of the first quarter of 2019, there were just 70,000 electric vehicles registered in CCN member areas. Fast forward to 2023 and there were 385,761 plug-in vehicles registered: a rise of 448%. Going forward, the key will be building on this success and ensuring this surge does not ground to a halt as we approach the middle of the decade.

Electric Vehicles:
Becoming a mainstream choice

Table 1 below shows that across England, the number of electric vehicle registrations has grown by almost 1 million since early 2019: up from 188,704 to 1.106m this year. This represents an increase of 486%.

In county and CCN unitary areas, the number of plug-in vehicle registrations has increased rapidly by 448% – up from 70,377 as of the first quarter of 2019 to 385,761 as of the first quarter of 2023.

Year-on-year there has been a 44% increase, with over 100,000 registered in counties. This shows there has been no let-up in electric vehicle purchases over the last twelve months even as household costs have risen.

The county and CCN unitary council percentage increase, while significant, is the second lowest out of all the local government tiers (though its year-on-year increase of 44% is tied second-best), which reflects the rural and county-specific challenges switching to electric vehicles.

Equally, the county and CCN unitary figure of over 385,000 is only 35% of England's total, despite those areas being home to almost half of the country's population.

Types of EV vehicles

- **Battery electric vehicle (BEV)**
  Rather than a petrol or diesel engine, battery electric vehicles feature an electric motor powered by batteries, which require recharging at an electrical vehicle charger. They are zero emission and their range depends on a number of factors, not least the size of the battery.

- **Plug-in hybrid (PHEV)**
  A plug-in hybrid vehicle uses batteries to power an electric motor, and either petrol or diesel fuel to power an engine.
  The batteries can be charged in the same way as a BEV – by plugging in. A PHEV will typically start in electric mode and will run on electricity until the battery pack is depleted. You can also choose to save the electric range for urban use. Non-plug in hybrids are similar, but cannot be charged using a charger and instead are powered by the car's petrol or diesel engine.

Table 1 - Number of plug-in vehicle registrations, all types: 2019 compared to 2023

Council Type	Q1 2019	Q1 2023	No. -/+	%. -/+
County & CCN Unitary	70,337	385,761	**315,384**	**+448%**
Met Boroughs	39,093	236,957	**197,864**	**+506%**
London	25,749	139,006	**113,257**	**+439%**
Unitary (Non-CCN)	49,876	326,458	**276,582**	**+554%**
England	188,704	1,105,169	**916, 475**	**+486%**

Figure 1 - Percentage change in plug-in vehicle registrations, all types: 2019 compared to 2030

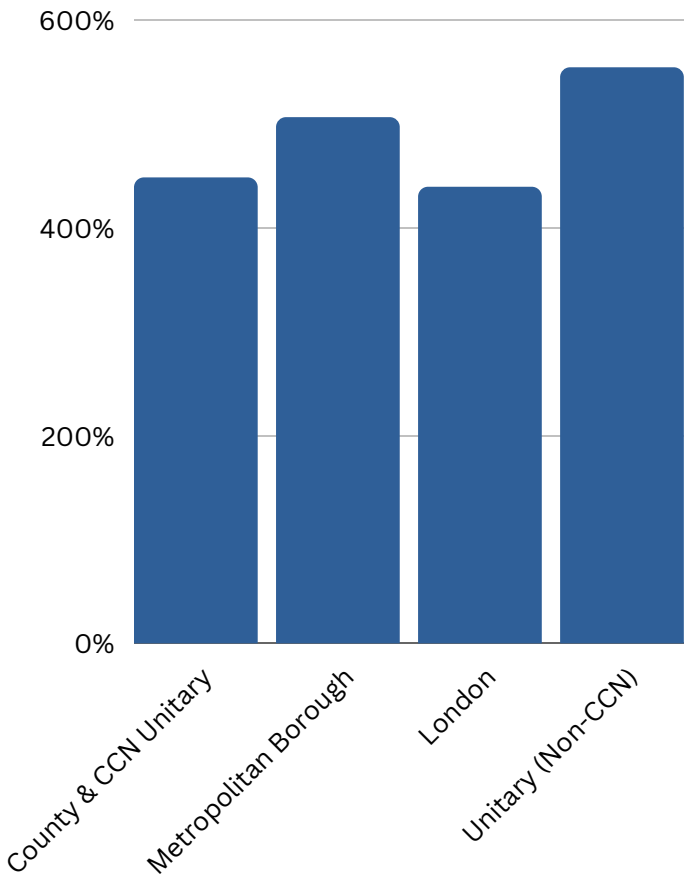


Table 2 shows the change in the number of electric vehicle registrations for all individual county and CCN unitary authorities. In total, 20 county and CCN unitary councils have had increases below the national average (72%).

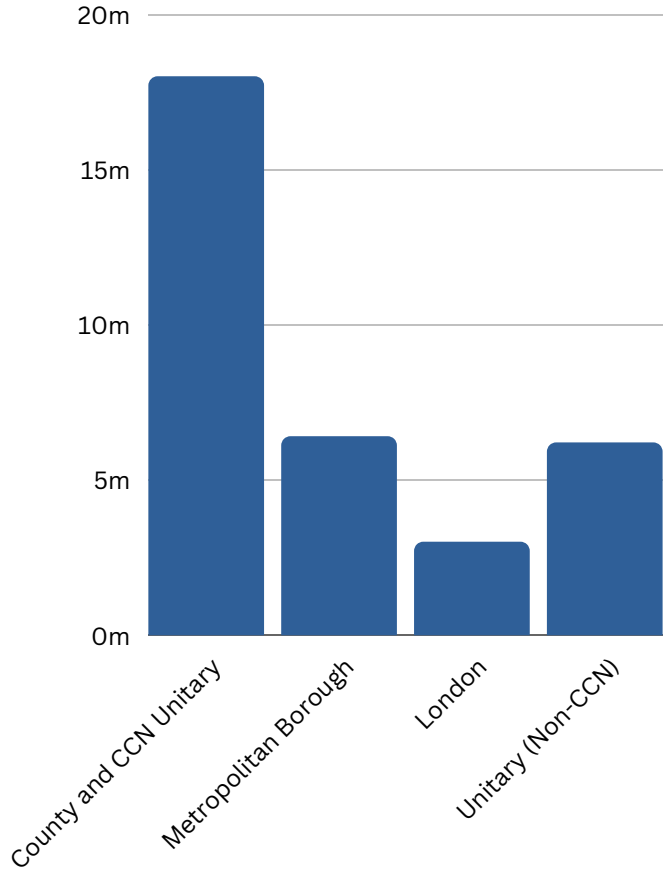
Of the 50 upper-tier authorities in England with the largest increases in percentage terms, only 14 are county and CCN unitary authorities.

While the sheer numbers in people driving electric vehicles now compared to 2019 is impressive, when set against the number of all vehicles registered, they still make up a very small proportion.

At the end of March 2023, there were 33.7m licensed vehicles in England of which 1.1m were plug-in vehicles, as Figure 2 shows. CCN member councils account for over half of the country's total, illustrating residents' reliance on cars to travel across often large and rural county areas.

In March there were just over 18m vehicles registered in county areas, with plug-in vehicles accounting for 385,000 of these.

Figure 2 - Number of vehicle registrations, all types, Q1 2023



When comparing the number of plug-in electric vehicles as a proportion of total vehicles, the number is small across the country, but county and CCN unitary councils' areas have the smallest proportion: just 2.1% of registered vehicles are plug-ins, as Table 3 shows.

Table 2 - County & CCN Unitary: increase in plug-in vehicle registrations 2019 compared to 2023

Council	Q1 2019	Q1 2023	No. -/+	%. -/+
Buckinghamshire	2,802	11,114	**8,312**	**+297%**
Cambridgeshire	2,305	10,996	**8,691**	**+377%**
Central Bedfordshire	786	4,968	**4, 182**	**+532%**
Cheshire East	1,408	6,844	**5,436**	**+386%**
Cornwall	1,030	5,258	**4,228**	**+410%**
Cumberland	302	1,754	**1,452**	**+481%**
Derbyshire	2,199	15,641	**13,442**	**+611%**
Devon	2,469	10,809	**8,340**	**+338%**
Dorset	985	4,590	**3,605**	**+366%**
Durham	688	3,806	**3,118**	**+453%**
East Riding of Yorkshire	545	3,434	**2,889**	**+530%**
East Sussex	1,305	6,152	**4,847**	**+371%**
Essex	2,998	20,420	**17,422**	**+581%**
Gloucestershire	5,046	8,710	**3,664**	**+73%**
Hampshire	4,345	27,271	**22,926**	**+528%**
Herefordshire	484	2,314	**1,830**	**+378%**
Hertfordshire	4,922	19,841	**14,919**	**+303%**
Kent	3,573	19,103	**15,530**	**+435%**
Lancashire	2,013	11,482	**9,469**	**+470%**
Leicestershire	1,638	11,322	**9,684**	**+591%**
Lincolnshire	1,237	7,190	**5,953**	**+481%**
Norfolk	1,519	8,525	**7,006**	**+461%**
North Northamptonshire	1,122	5,762	**4,640**	**+414%**
North Yorkshire	1,267	8,447	**7,180**	**+567%**
Northumberland	690	3,404	**2,714**	**+393%**
Nottinghamshire	1,552	8,617	**7,065**	**+455%**
Oxfordshire	2,654	14,848	**12,194**	**+459%**
Shropshire	852	3,501	**2,649**	**+311%**
Somerset	1,100	6,040	**4,940**	**+449%**
Staffordshire	1,762	9,337	**7,575**	**+430%**
Suffolk	1,494	8,559	**7,065**	**+473%**
Surrey	5,025	24,564	**19,539**	**+389%**
Warwickshire	1,709	8,481	**6,772**	**+396%**
Westmorland and Furness	349	2,067	**1,718**	**+492%**
West Northamptonshire	1,010	5,209	**4,199**	**+416%**
West Sussex	2,210	11,270	**9,060**	**+410%**
Wiltshire	1,433	29,228	**27,795**	**+1940%**
Worcestershire	1,549	14,883	**13,334**	**+861%**

Metropolitan borough councils have the second smallest percentage at 3.7% (with Core Cities and Key Cities on 3%) but as the next section will illustrate, those areas have been able to dramatically increase their charging infrastructure.

In total, 4.6% of vehicles registered in London are electric vehicles, but when you split out inner and outer London, a gap opens up between the two.

Outer London has a percentage of 2.7% electric vehicles, whereas inner London has a percentage of 7% - showcasing how targeted policy and funding can have a dramatic impact on usership. At the same time, inner London areas contain some of the highest wages in England so these vehicles will be more affordable to residents.

Despite many non-CCN unitary authorities sharing the same geographical characteristics with county and CCN unitary councils, this tier of council has the highest number of plug-in vehicle registrations as a proportion of all vehicles outside of central London at 5.3%. This could be attributed to the large number of cities in this cohort of councils, which have seen larger roll-outs of electric vehicle infrastructure over the last few years.

Figure 3 - Percentage of all vehicle registrations and percentage of EV vehicle registrations by council tier, Q1 2023

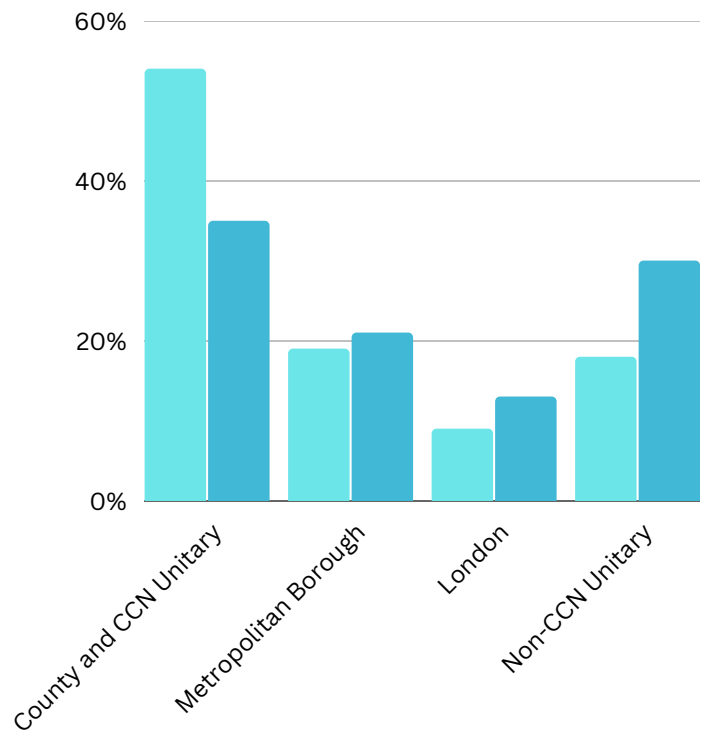


Table 3 shows the change in the number of electric vehicle registrations as a percentage of all vehicles, as of March 2023.

Table 4 on the next page has county and CCN unitaries' individual data - and only three have a higher percentage than the national average of 3.2% electric vehicles.

Table 3 - Number of plug-in vehicle registrations as a percentage of all vehicle types, Q1 2023

Council Type	Total vehicles - Q1 2023	Total plug-in vehicles Q1 2023	Plug ins as a % of all vehicles
County & CCN Unitary	18,024,600	385,761	**2.1%**
Met Boroughs	6,417,200	236,957	**3.7%**
London (Total)	2,996,000	139,006	**4.6%**
Inner London	806,700	55,576	**7%**
Outer London	2,187,000	58,133	**2.7%**
Unitary (Non-CCN)	6,216,100	326,458	**5.3%**
Core and Key Cities	5,198,800	134,783	**3%**
England	34,420,400	1,105,169	**3.2%**

Table 4 - County & CCN Unitary: proportion of plug-in vehicles registered as a percentage of all vehicles as of Q1 2023

Council	Total vehicles - Q1 2023	Total plug-in vehicles Q1 2023	Plug-ins as a % of all vehicles
Buckinghamshire	379,000	11,114	**3%**
Cambridgeshire	438,400	10,996	**2.5%**
Central Bedfordshire	208,400	4,968	**2.4%**
Cheshire East	272,600	6,844	**2.5%**
Cornwall	420,200	5,258	**1.3%**
Cumberland	184,900	1,754	**1%**
Derbyshire	614,300	15,641	**2.5%**
Devon	610,400	10,809	**1.8%**
Dorset	293,000	4,590	**1.6%**
Durham	300,700	3,806	**1.3%**
East Riding of Yorkshire	239,900	3,434	**1%**
East Sussex	358,400	6,152	**1.7%**
Essex	995,300	20,420	**2.1%**
Gloucestershire	451,000	8,710	**2%**
Hampshire	1,134,700	27,271	**2.4%**
Herefordshire	147,600	2,314	**1.6%**
Hertfordshire	725,700	19,841	**2.7%**
Kent	996,900	19,103	**1.9%**
Lancashire	748,800	11,482	**1.5%**
Leicestershire	505,200	11,322	**2.2%**
Lincolnshire	528,700	7,190	**1.4%**
Norfolk	626,800	8,525	**1.4%**
North Northamptonshire	237,800	5,762	**2.4%**
North Yorkshire	452,000	8,447	**1.9%**
Northumberland	206,100	3,404	**1.7%**
Nottinghamshire	514,700	8,617	**1.7%**
Oxfordshire	469,500	14,848	**3.2%**
Shropshire	240,000	3,501	**1.5%**
Somerset	428,400	6,040	**1.4%**
Staffordshire	597,100	9,337	**1.6%**
Suffolk	548,200	8,559	**1.6%**
Surrey	803,500	24,564	**3.1%**
Warwickshire	419,300	8,481	**2%**
Westmorland and Furness	163,500	2,067	**1.3%**
West Northamptonshire	282,200	5,209	**1.9%**
West Sussex	577,700	11,270	**2%**
Wiltshire	458,400	29,228	**6.3%**
Worcestershire	463,200	14,883	**3.2%**

Back in 2019, the then-Prime Minister Theresa May committed to the United Kingdom being carbon neutral by 2050, a target which has been maintained by two successive administrations.

In 2020 the then-government announced a ban on sales of new petrol and diesel cars, but this was scaled back by Prime Minister Rishi Sunak to 2035 in September.[2]

However, a key facet of reaching net zero will based on reducing transport emissions. Since 2019, electric vehicles, which are either battery powered, plug-in hybrids, or non plug-in hybrids, have gone from a niche consumer choice to mainstream option. As more vehicle manufacturers ramp up the production of electric vehicles, their costs have decreased, making them a more attractive option for more households.

Equally, local authorities have had a strong role to play in encouraging behavioural change by showing leadership on their own-net zero targets, switching their own fleets to electric, and by outlining the societal benefits of reducing carbon emissions.

It is clear, however, that despite rapid progress over the last five years, the number of electric vehicles as a proportion of all vehicles is small. If the ban on new petrol and diesel cars and vans is to be introduced in 2030, then electric vehicle ownership needs to increase, and drivers will need to feel that these types of vehicles are a viable option.

Of course, a part of this will be down to cost, but the other part will be how reliable they are – and that comes down to infrastructure.

The phrase 'range anxiety' has entered the drivers' lexicon, which is the fear that an electric vehicle will not have enough charge to reach its destination, or a charge point, leaving the driver and passengers stranded.

A Which? survey in September 2022 found that 74% of electric vehicle drivers are dissatisfied with charging infrastructure, whilst four in ten non-electric drivers said they were put off switching by a perceived lack of infrastructure.[3]

The next chapter analyses the availability of charging infrastructure in counties and across England.

Gloucestershire County Council:

Major drive to install chargers

Gloucestershire County Council is set to begin installation of 1,000 chargepoints across the county in a hugely ambitious scheme for the next three years.

The county council is working with Connected Kerb on the roll out of the scheme, with the first 26 locations for chargers revealed in August. The local authority listened to feedback from residents as to where they would like to see chargers, and have made changes to its initial proposals. Two chargers will be installed at each location to ensure value for money.

The council said it acted because one-third of households in Gloucestershire do not have a driveway or off-street parking to charge their car at home. With one third of emissions in the county coming from private vehicles, these charge points will be installed in public locations so residents have greater confidence they will be able to charge near their home or when they are out. The scheme was funded by the county council and the government's On Street Residential Chargepoint Scheme.

Read more here

Surrey County Council:

Securing the largest public chargepoint contract to date

This year, Surrey County Council agreed the largest on-street public chargepoint contract to date in the UK with Connected Kerb, which will see the rollout of thousands of charge points across the county in the coming years.

The contract enables up to £60million of investment to provide public EV charge points across Surrey. Through this contract, charge points will be installed at convenient on-street locations in residential areas and key locations in the community such as on high streets and public car parks.

The partnership will see a rapid rollout of on-street charge points, with ambitious plans to install hundreds of charge points within the first year. It aims to make one in five of the EV charging bays more accessible to drivers with disabilities.

Throughout the contract, Connected Kerb will be identifying suitable on-street locations, using residents' suggestions made through an online map, and approaching public sector and community land owners across the county to identify other suitable locations for public chargepoints.

Read more here

Electric Vehicle Infrastructure: How counties compare to the rest of England

Last year's Electric Vehicle Infrastructure Strategy set out a target of 300,000 publicly-available chargers across England by 2030 to compensate for the increase in electric vehicles on the road. [4]

Many households are unable to install chargers at their homes because they do not have driveways on or-street parking bays. Therefore, publicly-available chargers are the only way they can charge their vehicles and are typically installed on residential streets (such as in lampposts) or in places with high footfall, such as supermarket or petrol station car parks.

With these chargers capable of different speeds, rapid chargers will charge vehicles the quickest, but nationally they only make up only 19% of all publicly-available chargers.

Since October 2021, there have been a total of 15,792 publicly-available chargers installed across England as of July this year: this represents a 72% increase in 21 months, as Table 5 below shows. If the government is to hit its target of 300,000 across the UK, there will need to be a dramatic uplift in chargers being installed across the country over the next seven years.

County and CCN unitary councils have embraced the challenge and have overseen a substantial increase in electric vehicle infrastructure. They have delivered 5,574 extra publicly-available chargers over the last 21 months, an increase in 69%.

But as Table 5 below illustrates too, whilst this is better than non-CCN unitary authorities which oversaw a 57% increase and is on par with London and the national average, it is below the Core Cities and Key Cities cohort of councils.

Table 5 - Increase in publicly-available charge points (all speeds) - 2021 to 2023

Council Type	Chargers - Oct 2021	Chargers - July 2023	No. -/+	%. -/+
County & CCN Unitary	7,968	13,542	**5,574**	**+69%**
Met Boroughs	2,899	5,720	**2,821**	**+97%**
London (Total)	7,865	13,371	**5,506**	**+70%**
Inner London	4,934	8,262	**3,328**	**+67%**
Outer London	2,922	5,100	**2,178**	**+74%**
Unitary (Non-CCN)	3,220	5,084	**1,864**	**+57%**
*Core and Key Cities**	2,672	5, 157	**2,485**	**+89%**
England	21,925	37,717	**15,792**	**+72%**

*Figures within Core Cities and Key Cities exclude Carlisle, Exeter, Gloucester, Lancaster, Lincoln, Norwich and Preston as there is no data on road miles for these district council areas.

The Core Cities and Key Cities managed to increase their chargepoints by 93%, and the Metropolitan Boroughs oversaw an increase of 97% - higher than anywhere else in England.

As the data shows, urban areas have been able to ramp up the installation of publicly-available chargers over the last 21 months at a higher level than county and rural areas, leaving those places at the risk of being on the fringes of chargepoint coverage. This is particularly true for sparsely populated rural areas and large counties.

Figure 3 - Increase in publicly-available charge points (all speeds), 2021 to 2023

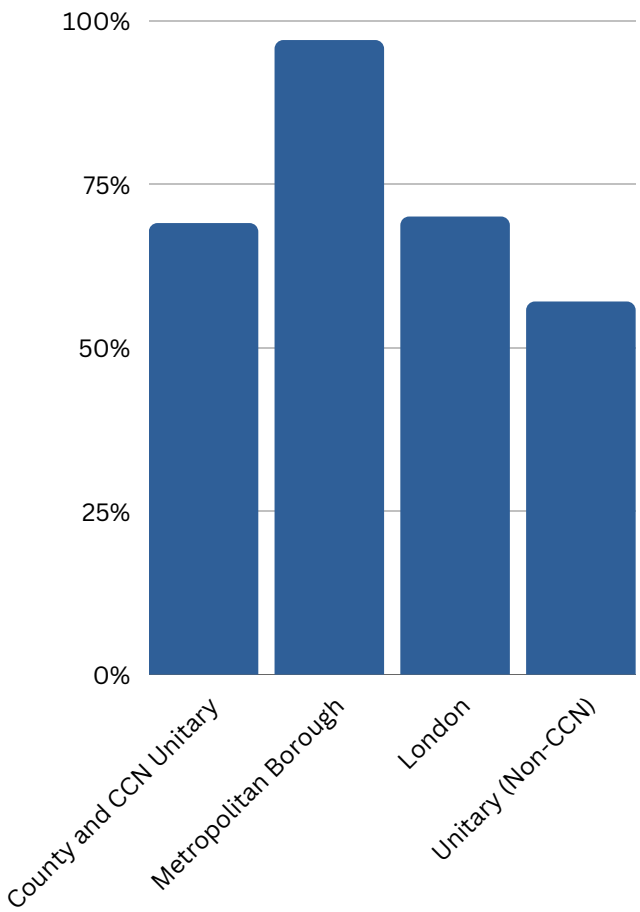


Figure 4 opposite shows the share of publicly-available charge points across England. Counties account for 35% of the country's total, but this is below their population, which makes up virtually half of England.

Despite having a far smaller population, London, on the other hand, has the same share (35%) of chargers than county areas, showing how concentrated infrastructure is in within the capital.

Figure 4 - % share of available charge points (all speeds), LA Type, July 2023

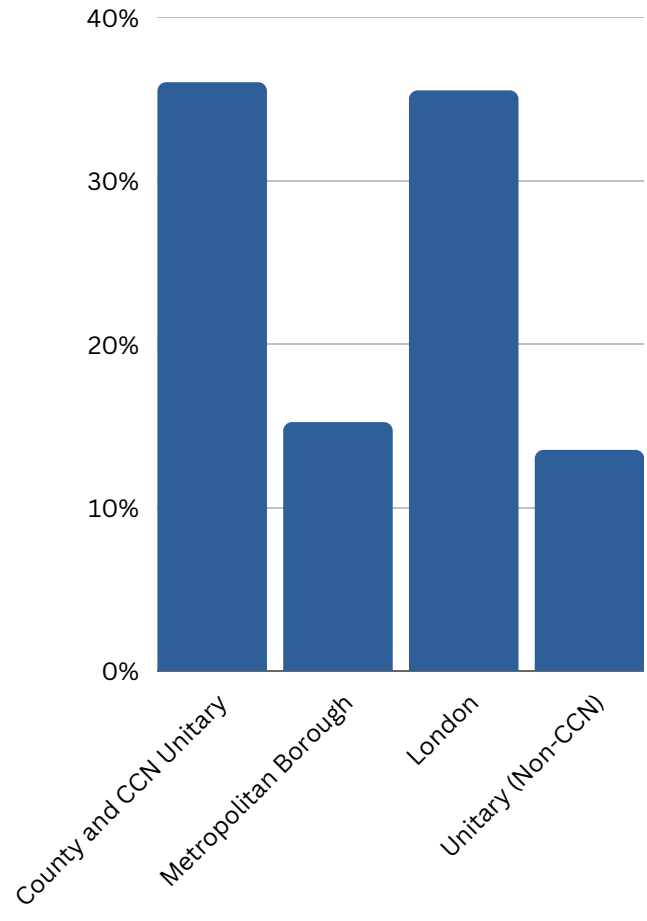


Table 6 on the following page shows the increase in publicly available chargepoints for all county and CCN unitary councils.

Around half (17) of these councils saw an increase in chargepoints that was higher than the national average increase of 72%.

Table 6 - County & CCN Unitary: increase publicly-available chargepoints Oct 2021 - July 2023

Council	Chargers - Oct 2021	Chargers - July 2023	No. -/+	%. -/+
Buckinghamshire	165	267	**102**	**62%**
Cambridgeshire	172	351	**179**	**104%**
Central Bedfordshire	46	128	**82**	**178%**
Cheshire East	112	154	**42**	**38%**
Cornwall	276	408	**132**	**48%**
Cumberland	118	183	**65**	**55%**
Derbyshire	218	325	**107**	**49%**
Devon	301	539	**238**	**79%**
Dorset	123	165	**42**	**34%**
Durham	124	259	**135**	**109%**
East Riding of Yorkshire	62	141	**79**	**127%**
East Sussex	115	170	**55**	**48%**
Essex	330	486	**156**	**47%**
Gloucestershire	210	278	**68**	**32%**
Hampshire	523	695	**172**	**33%**
Herefordshire	67	84	**17**	**25%**
Hertfordshire	323	798	**475**	**147%**
Kent	425	837	**412**	**97%**
Lancashire	409	602	**193**	**47%**
Leicestershire	224	301	**77**	**34%**
Lincolnshire	249	302	**53**	**21%**
Norfolk	298	595	**297**	**100%**
North Northamptonshire	92	149	**57**	**62%**
North Yorkshire	216	439	**223**	**103%**
Northumberland	186	280	**94**	**51%**
Nottinghamshire	234	372	**138**	**59%**
Oxfordshire	310	613	**303**	**98%**
Shropshire	70	162	**92**	**131%**
Somerset	167	305	**138**	**83%**
Staffordshire	212	366	**154**	**73%**
Suffolk	243	434	**191**	**79%**
Surrey	339	675	**336**	**99%**
Warwickshire	252	383	**131**	**52%**
Westmorland and Furness	146	292	**146**	**100%**
West Northamptonshire	82	160	**78**	**95%**
West Sussex	211	405	**194**	**92%**
Wiltshire	167	210	**43**	**26%**
Worcestershire	151	229	**78**	**52%**

When broken down by road miles, the disparity in coverage between the cities and urban areas compared to counties becomes even more acute. On average, county and CCN unitary councils have one publicly-available charger for every 9.5 miles as of July.

This is the worst ratio out of all council types in England, with Metropolitan Boroughs having one charger for every 4.5 miles, Non-CCN unitaries having the same ratio, Core Cities and Key Cities having one charge point for every 3.7 miles, and London having a ratio that is better than one charger for every mile – one for every 0.7 miles.

Breaking London down further, inner London has a charger for virtually every quarter of a mile – a ratio of one charge point for every 0.3 miles. Outer London has one charger for every 1.2 miles on average.

Figure 5: number of road miles per publicly-available chargepoint

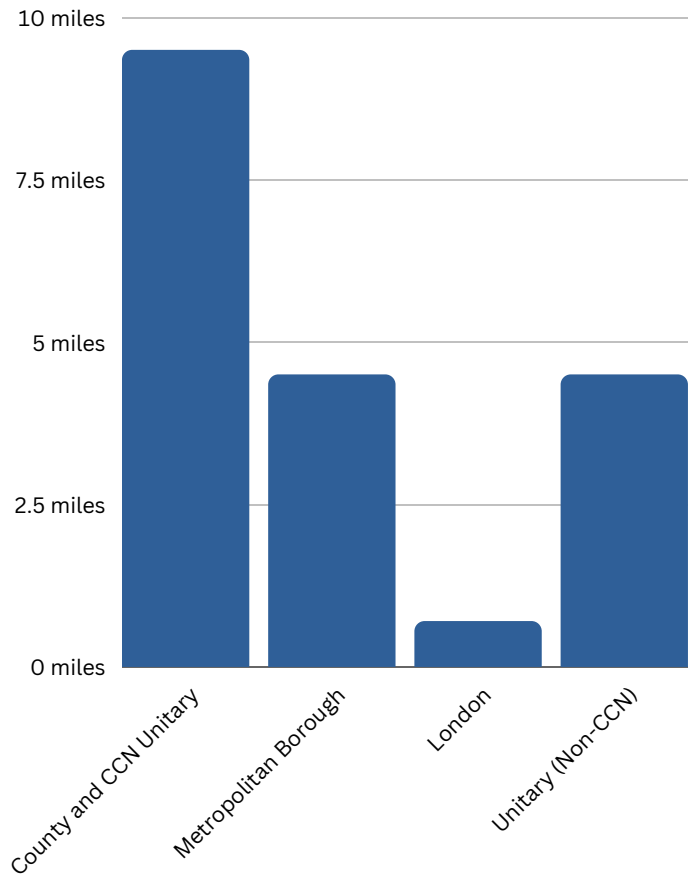


Table 7 -Number of road miles per publicly-available chargepoint

Council Type	Chargers - Oct 2023	Chargers per mile
County & CCN Unitary	13,542	**9.5**
Met Boroughs	5,720	**4.5**
London (Total)	13,371	**0.7**
Inner London	8,282	**0.3**
Outer London	5,089	**1.2**
Unitary (Non-CCN)	5,084	**4.5**
Core and Key Cities	5,157	**3.7**
England	37,717	**5**

*Figures within Core Cities and Key Cities exclude Carlisle, Exeter, Gloucester, Lancaster, Lincoln, Norwich and Preston as there is no data on road miles for these district council areas.

Table 8 - County & CCN Unitary: number of road miles per publicly-available chargepoint

Council	Chargers - July 2023	Chargers per mile
Buckinghamshire	267	**7.8**
Cambridgeshire	351	**8.2**
Central Bedfordshire	128	**7.1**
Cheshire East	154	**11.1**
Cornwall	408	**11.3**
Cumbria*	475	**10.4**
Derbyshire	325	**10.8**
Devon	539	**15**
Dorset	165	**14.5**
Durham	259	**9.2**
East Riding of Yorkshire	141	**15.3**
East Sussex	170	**12.3**
Essex	486	**10.6**
Gloucestershire	278	**12.5**
Hampshire	695	**8.1**
Herefordshire	84	**24.7**
Hertfordshire	798	**3.9**
Kent	837	**6.9**
Lancashire	602	**7.3**
Leicestershire	301	**9.7**
Lincolnshire	302	**18.3**
Norfolk	595	**10.4**
North Northamptonshire	149	**7.8**
North Yorkshire	439	**12.3**
Northumberland	280	**11.1**
Nottinghamshire	372	**7.5**
Oxfordshire	613	**4.8**
Shropshire	162	**19.8**
Somerset	305	**13.8**
Staffordshire	366	**10.7**
Suffolk	434	**9.6**
Surrey	675	**5**
Warwickshire	383	**7**
West Northamptonshire	160	**10.2**
West Sussex	405	**6.3**
Wiltshire	210	**13.8**
Worcestershire	229	**11.6**

*Road mile data only available for Cumbria as a whole, so Cumberland Council and Westmorland and Furness Councils' total chargers were added together

When CCN launched its first-ever climate change report back in October 2021, the network called for urgent government action to stop county and rural areas falling behind in the race to tackle climate change.

The imperative was clear from the reports analysis. Between 2005 and 2020, emissions in county areas declined by 30% whereas England's largest cities and London oversaw a 39% reduction, and other urban areas saw a 37% decrease. England's eight largest cities would take over seven years to create the same level of emissions in one in year in the country's counties.[5]

Encouraging the use of more electric vehicles through the provision of adequate charging infrastructure was critical to ensuring county areas sped up their reduction in carbon emissions.

When CCN last carried out this analysis in October 2021, the ratio of charge points to miles in county areas stood at 16.1, so it is clear that progress has been made. At the same time, there exists disparities between county and CCN unitary areas, from a ratio of over 20 miles per charger in some areas, compared to less than four in others, as Table 8 shows on the previous page shows.

However, other local authority tier types, particularly urban ones, have managed to accelerate their infrastructure delivery, maintaining the gap between them and rural areas.

Metropolitan borough councils have halved their ratio – going from 8.9 miles per charger in October 2021 to 4.5 in July 2023. The Core Cities and Key Cities cohort virtually halved its ratio too, going from 6.4 miles per charger to 3.4 miles per charger.

Non-CCN unitaries now have 4.9 miles per charger on average, down from 8.5 in 2021. London had a very good ratio of 1.2 miles per charger in 2021, this has improved to 0.7 miles per charger in summer 2023.

Whilst counties are lagging behind their urban counterparts, county and CCN unitary councils have made significant progress since October, and delivered over a third of the national total increase in charging points.

To do this, they have used their own funds, as well as government funding, alongside their ability attract and conclude private sector partnerships, to significantly increase the number of chargers in their areas. They know their areas best and where demand is likely to be located, as well as ensuring that remote and rural locations are not left out, in consultation with county drivers.

Over the last few years there has also been a raft of private sector businesses who have entered into partnerships with CCN authorities to install electric vehicle chargers, such as Connected Kerb, Believ, and Shell.

At the same time, apps such as ZapMap, allow drivers to find where their closest publicly-available charge point is, and users can pay via the app. Nonetheless, some drivers have said they are dissatisfied paying with different apps for different chargers, and have called for improvements to be made so contactless and bank cards can be used instead.

As the following chapter shows, for counties to go further, CCN member councils need more assistance from government to ramp up delivery.

Suffolk County Council:

Pioneering scheme to address rural demand

Suffolk County Council launched 'Plug In Suffolk' back in 2018, and was designed to improve charging infrastructure in the county's rural areas, with local partners.

The project provides open access – meaning they do not require any membership, registration, or apps – and users pay via bank card. Installation of chargers has been done by Plug In Suffolk but then the charger is handed over the community to maintain and operate.

Those hosts then receive any revenue after operating costs and this pioneering approach has been held up as an exemplar for electric vehicle charging.

This year, the scheme reached its 100th charger installation, completing the initial phase of the project. However, the county council received over £1.3m from the government's LEVI Fund. This will see the council able to improve solar panel and battery capacity at dozens of sites across the county, as well as identifying sites and then installing more chargers.

Read more here

Lancashire County Council:

Using funding to trial chargepoint solutions

Lancashire County Council is using LEVI pilot funds to trial new approaches to installing electrical vehicle charge points.

The county council's modelling reveals that around 6,600 charge points will be needed across the county by 2030, and the local authority has already installed 150 chargers. The money will be used to trial solutions that will help people who do not have access to off-street parking, including testing charging points integrated into street lighting columns and pavement cable channels which have the potential to allow charging at home, hiding the cable under the pavement.

In September, it was announced that Lancashire is set to receive an total of £10.1m from the full LEVI fund, which the council will be apply to apply for next year. This funding will help the authority deliver the vision and aims of its EV Infrastructure Strategy, approved in July, which aims to support residents with the move to electric vehicles.

Read more here

Policy Implications

The analysis contained in this report has shown that there has been real progress in the amount of electric vehicles on England's roads over the last five years, including in county areas.

Having a reliable and comphrensive network of publicly-available chargepoints across England will be critical if both local and national government are to harness this change in consumer behaviour and hit their carbon neutral targets.

If there is a dearth of chargers, then residents are less likely to switch to plug-in vehicles and those who have made the changeover could be tempted to return back to petrol and diesel.

A sufficient network of charging points can also have significant economic benefits from tourism - good access to charging points is vital in many county areas where day trips and 'staycations' are high, such as Devon, Cornwall, Cumbria, and Lincolnshire.

While the government does offer subsidies to people to install their own chargers, many households do not have driveways or on-street parking bays to install their own charge points. Therefore, having a comprehensive network of reliable and accessible publicly-available chargers is vital.

Quite simply, if an area does not have sufficient levels of this infrastructure, then drivers will be reluctant to make the switch, while leaving areas less attractive to visitors.

Local authorities have a significant role to play in this, not only in their local leadership capacity in encouraging behavioural change, but in helping with the roll-out of publicly-available charging points.

CCN member councils have a strong track record of leveraging private investment to unlock publicly-available charging points, and many have entered into substantial partnerships with third parties over the last few years.

As the case studies in this report show, County and CCN unitary councils, working with district councils in two-tier areas, have also used their own funds and innovative projects to roll out publicly-available charging infrastructure.

However, there still continues to be serious questions over whether there is enough infrastructure to meet demand, as well as the costs of electric vehicles and their reliability.

As our analysis demonstrates, the ratio of publicly-available chargers to miles in county areas is far larger than the major cities. This indicates that not only are these areas more attractive for private investment, but urban areas have arguably seen the bulk of the government's policy focus and resource on climate action so far.

Illustrative of this was the opening of the largest electrical charge point hub in England in Birmingham earlier this month.[5] Although this was financed largely privately, the city had already seen a large increase in publicly-available charge points over the last two years, totalling 472 before this announcement - a rise of 202% since October 2021.

This gap between county and rural areas means that drivers in, and visitors to, county and rural areas are at a significant disadvantage. With CCN's report, *The State of County Buses*,[6] showing a rapid decline in public transport - with 1 in 4 routes disappearing over the past decade - having a vehicle in many of CCN members' areas is a necessity rather than a luxury.

But, despite good progress over the last two years, local leaders will struggle to encourage people to switch to electric vehicles unless the infrastructure is there, impacting on their ability to reduce local transport emissions and also attract tourism.

Within the government's Electric Vehicle Charging Strategy, it sets out a vision for 2030 to remove charging infrastructure 'as both a perceived, and real, barrier to the adoption of electric vehicles.' [7]

The Prime Minister recognised that the government needs to go further to get charging infrastructure 'truly nationwide' in his September 2023 speech.

To deliver this, councils need support with both funding and capacity to develop charging infrastructure. But due to the rapid expansion of plug-in vehicles on their roads, this has arguably become a 'new burden' for them. This comes at a time when they are already under significant financial pressure due to inflation and rising demand for core services, requiring them to make at least £1bn worth of savings this financial year.[8]

The bulk of investment in charging infrastructure will ultimately come from the private sector. But public funding remains vital in unlocking this private sector investment – not only for the chargers themselves but for councils to invest in expertise and staff.

The government's On-Street Residential Chargepoint Scheme offers to cover 60% of the costs of installation for local authorities.[9]

The government then followed this up with £450m in its Local Electric Vehicle Infrastructure (LEVI) fund as part of its Electric Vehicle Infrastructure Strategy, with the first tranches being made available to councils in 2022 via competitive bidding.[10]

During the same announcement, £950m was set out to install 6,000 rapid chargers at motorway service stations across the country.

Prior to that 2022 strategy the Office for Zero Emission Vehicles made available £20m in 2021/22 to cover 75% of the cost of publicly available charge points.

At the time, CCN welcomed the announcement but called on the government to prioritise funds towards county areas, with CCN's 2021 climate change report illustrating that emissions had fallen at a slower rate in counties compared to other parts of the country. [11]

The LEVI pilot scheme launched last year saw funds awarded to seven CCN members out of nine successful bidders. The February 2023 expansion of the pilot scheme, which distributed £48.6m saw a further six CCN members out of 16 new areas being awarded funding, with two district councils also receiving support. [12]

The final allocations of the scheme were announced in September, with the remainder of the CCN membership receiving funds. They are 'indicative' allocations which councils must apply for, and will be distributed in two tranches. The first tranche will be made available for 2023/24 and the second for 2024/25.

Allocations were done on a needs-based formula, where the estimated number of vehicles in an area without a parking space were multiplied by three characteristics - the number of publicly-available chargers per 100,000 people, deprivation, and rurality. [13]

This announcement responds to CCN advocacy that these funds should be distributed based on need, and shows that CCN members and local partners have therefore been relatively successful in bidding for resources from government.

Whilst this is welcome funding, it is unlikely to be a panacea to solving the requirement for a comprehensive charging network in county and CCN unitary councils' areas. A sizeable amount of funding was distributed to the areas where their charger to miles ratio is higher than county areas, such as London and the major cities.

Therefore, the gap in charging infrastructure availability will still likely still be as large due to urban areas using their allocation to improve their rate of electrical vehicle infrastructure delivery from a high starting point.

Unless this is addressed, there is a risk rural and county areas fall behind further as had previously happened under the superfast broadband rollout.

Moving forward, a future government should make the following considerations to ensure county areas are not left behind urban ones:

- There should be further rounds of LEVI funding in the final five years of the decade. This should follow the needs-based formula of the current LEVI fund distribution, and proportionate focus must be given to county areas.

- This will be crucial in the context of the target to reach 300,000 publicly-available chargers by 2030, and considering the inflationary pressures councils are currently facing, hindering their ability to make direct investment into charging infrastructure.

- As per the final round of LEVI funding distribution, any future funding should not be subject to competitive bidding.

- Both major parties likely to form the next government should set out an ambitious target for electrical vehicle infrastructure across every county area by 2030, such as one charge point for every mile, and set out practical steps for how to achieve this.

Footnotes

1. The Guardian, Theresa May commits to net zero UK carbon emissions by 2050 (June 2019)
2. Prime Minister's Office, PM speech on net-zero (Sept 2023)
3. Which? Which? calls for improvements to Electric Vehicle charging networks as research reveals significant flaws affecting drivers (Sept 2022)
4. Department for Transport: Taking charge - the electric vehicle infrastructure strategy (March 2022)
5. CCN - Rising to the Climate Challenge: The Role of Counties in Delivering Net-Zero (October 2021) https://www.countycouncilsnetwork.org.uk/download/3795/?tmstv=1694695381
6. SYSTRA & CCN – The state of county buses: recovering services post pandemic (July 2023) https://www.countycouncilsnetwork.org.uk/download/4970/?tmstv=1694679045
7. Department for Transport: Taking charge - the electric vehicle infrastructure strategy (pg 5) (March 2022)
8. County Councils Network: England's largest councils need to make £1bn in savings (March 2023)
9. Office for Zero Emission Vehicles: On-Street Residential Chargepoint Scheme
10. Department for Transport: Ten-fold expansion in chargepoints by 2030 as government drivers EV revolution (March 2022)
11. County Councils Network: EV Infrastructure Strategy - CCN Response (March 2022)
12. Department for Transport: £56 million of public and industry funding electrifies chargepoint plans across the country (Feb 2023)
13. Office for Zero Emission Vehicles: LEVI funding amounts and tranche allocations - capital

Methodology

- This report's data on vehicle registrations was taken from this Department for Transport dataset, using Table VEH0105 for all vehicle registrations(all fuel types) in Q1 2023, compared to all plug-in vehicle registrations in Q1 2023 (all types) by using Table VEH0142.
- The data on electric chargers was taken from this Department for Transport dataset, comparing July 2023's total of publicly-available chargers per local authority (all speeds) to October 2021's total.
- This July 2023 data was then compared to 2022 road miles in each area using this Department for Transport dataset to arrive at a charger to miles ratio.

CCN

THE VOICE OF COUNTIES

CCN is the voice of England's counties. Representing the local authorities in county areas, the network is a cross-party organisation which develops policy, commissions research, and presents evidence-based solutions to issues on behalf of the largest grouping of councils in England.

In total, the 20 county councils and 17 unitary councils that make up the CCN represent 26 million residents, account for 39% of England's GVA, and deliver high-quality services that matter the most to local communities.

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