CTEK – ELECTRIC VEHICLE SURVEY

ELECTRIC VEHICLE OWNERSHIP AND TAKE UP IN EUROPE | 2022

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FOREWORD

CTEK is world renowned for its innovative charging solutions for electric, plug-in hybrid and traditional fuel vehicles.

For the past few years, we've been working with a whole range of organisations across different industries to develop exciting new domestic and commercial charging systems for electric and hybrid vehicles of all types as part of our commitment to a fossil fuel-free future. We've also been commissioned by businesses and other agencies to implement and install electric vehicle charging stations, and provide expert advice and technical knowledge when required.

This new survey aims to show how attitudes to electric vehicles are changing for the better and points the way to understanding the incentives – and barriers – to ownership that can help secure a cleaner environment for generations to come.

Cecilia Routledge, Global Director (Energy & Facilities)

INTRODUCTION

As recent global events have proved, climate change and the need to cut our reliance on fossil fuels is becoming an increasingly important issue.

Through its 'Fit for 55' package, the European Council is aiming to reduce the EU's net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels, with a proposed phase out of internal combustion engine (ICE) vehicles by 2035. To achieve this, they must encourage the European automotive industry to focus their manufacturing on producing more electric (EV) or plug-in hybrid (PHEV) vehicles.

Last year, CTEK produced a comprehensive survey of 15,000 people of different ages across five European countries, asking them for their views on EV ownership and charging. In June this year, we expanded the survey to six countries – France, Germany, the Netherlands, Norway, Sweden and the UK – and asked 13,500 people a wider range of questions about EV and PHEV ownership and use.

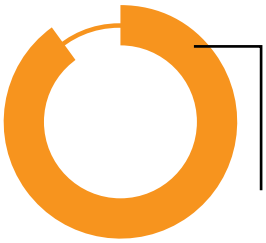
Again, we included a mix of EV and PHEV owners and non-owners to get an idea of what the incentives and barriers were to owning an EV or PHEV, and this report outlines what they told us.

EV OWNERSHIP

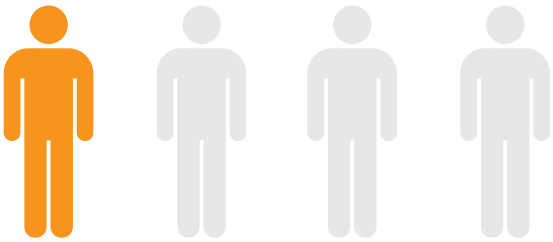
In the six countries surveyed, Norway has the highest ownership for EVs (21%) and PHEVs (9%). The other countries were in the mid-single figures, with the UK lowest at 2% for both types of vehicle. Ownership of EVs and PHEVs was higher among males (13%) than females (8%). On average, 90% of all the people surveyed have never owned either type of vehicle.

Male ownership was very slightly higher than female ownership for both EVs (9% against 5%) and PHEVs (6% against 4%).

The main reasons for buying an EV or PHEV were that they were cheaper to run than traditional ICE vehicles (34%) and that they were better for the environment (25%), although the environment was more of a concern for females (30%) than males (22%). These views were fairly even across all nationalities (26% - 44%) and across all age groups (24% - 42%). Subsidised purchase as a reason to buy was highest in Germany (27%) and lowest in Norway (12%).

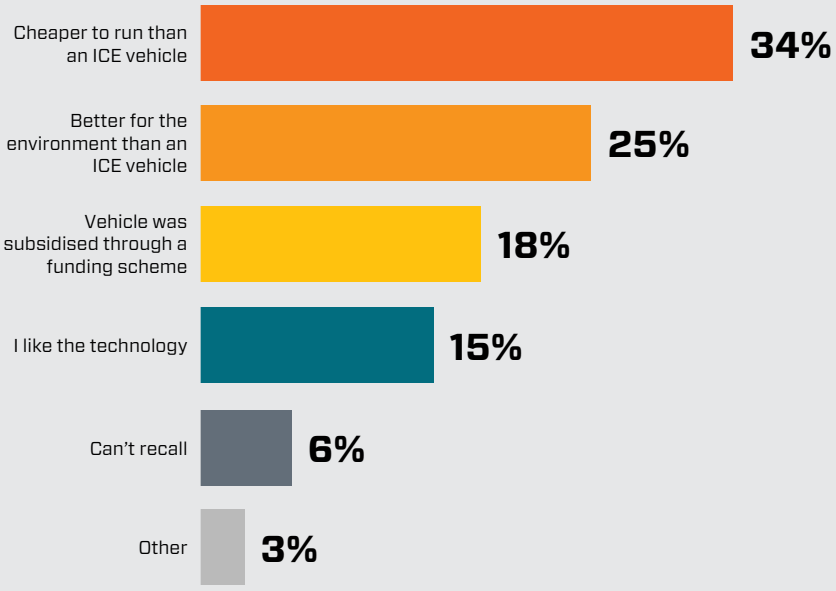


90%
An average of 90% have never owned an EV or PHEV



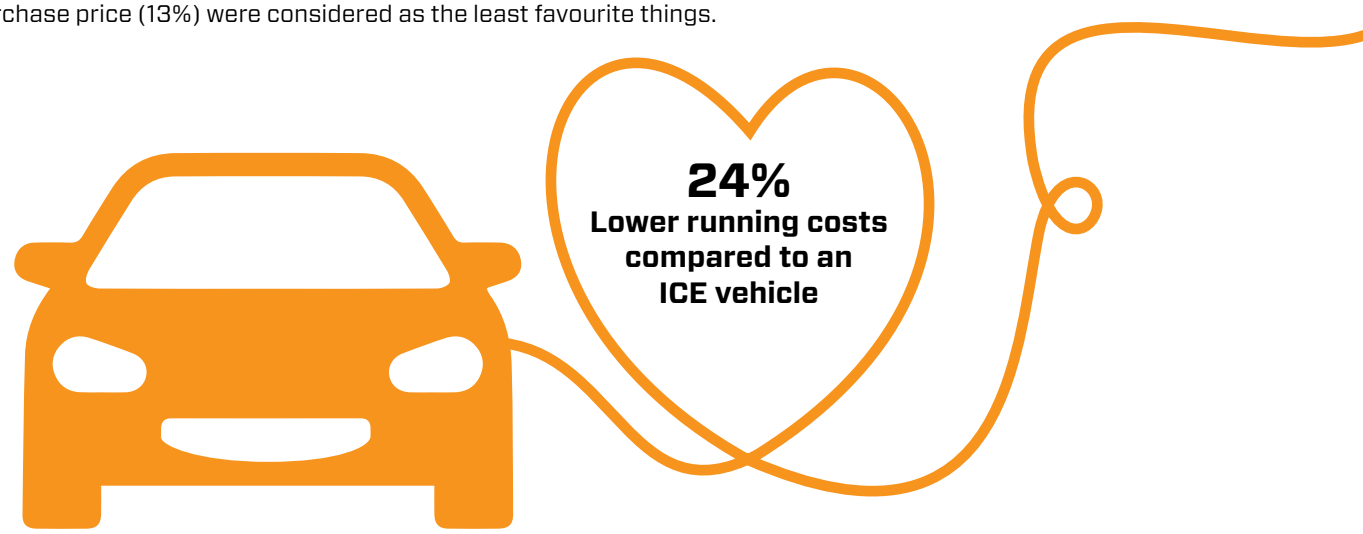
1 in 4 people believe that an EV/PHEV is better for the environment than an ICE vehicle

MAIN REASON FOR BUYING AN EV OR PHEV



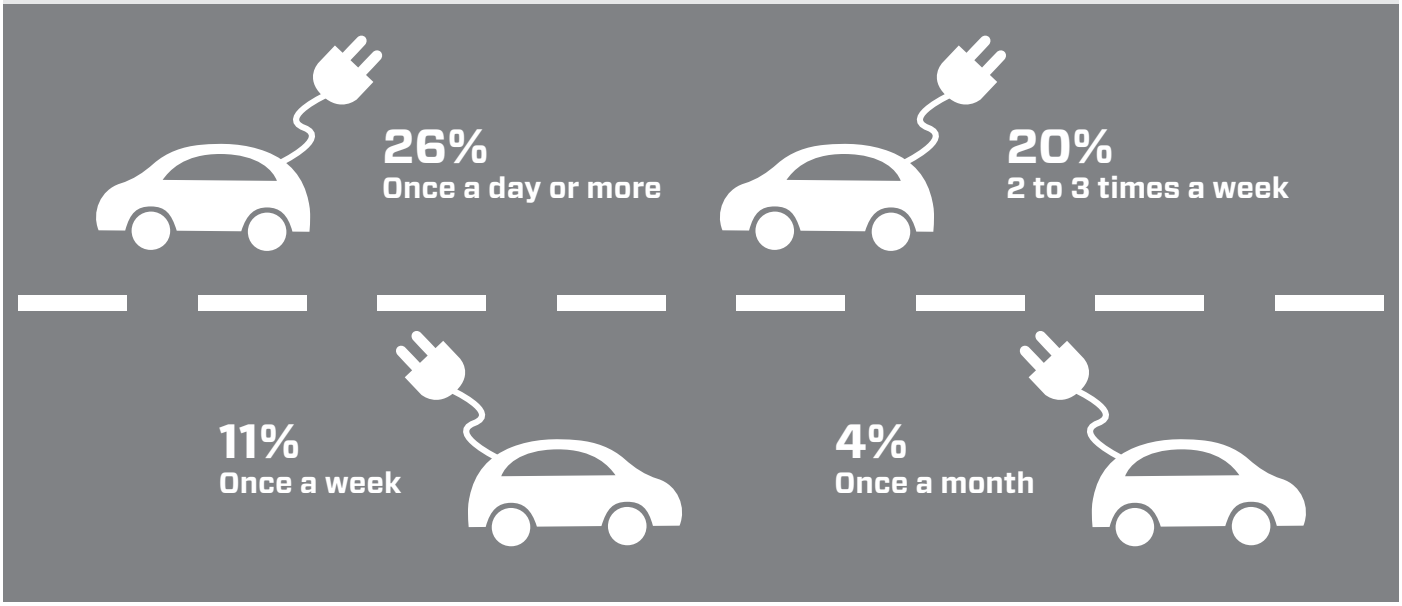
FAVOURITE THING ABOUT OWNING AN EV/PHEV

Cheaper running costs and the environment also scored highest in drivers' favourite things about owning or driving an EV or PHEV (24% and 18% respectively). However, driving range (16%) and the original purchase price (13%) were considered as the least favourite things.



HOW OFTEN DO YOU DRIVE AN EV OR PHEV?

We also asked EV and PHEV owners and drivers how often they drive their vehicle. Most (average 26%) said they drove their vehicles once a day or more, while only 2% said they drive them less often than once a month.



BUYING AN EV

Just over 10,000 of all respondents have never owned or driven an EV or PHEV. The main reason for this was cost (25%), with the highest percentage in the Netherlands (33%) saying it was a concern, but a lower concern for respondents in Norway (just 12%) and Germany (15%).

Cost as a concern was highest in the 25-34 age group (30%) and lowest in the 55+ group (22%). It was also highest for people working part time (32%) and for full time students (32%).

As far as actual vehicle cost goes, there was more interest in buying if the retail price was below £10K/10K€/150K NOK/150K SEK, but no interest above £50K/50K€/650K NOK/650K SEK.

Another reason for not buying an EV or PHEV was that some respondents simply had no intention of buying a new car in the future (25%). A further 14% said they just didn't want to replace their existing car, but this figure was significantly lower than last year (36%).

On average, 25% of all respondents said they didn't plan to buy an EV or PHEV and 14% said they were planning to buy a new car, but not an EV or PHEV. Among those who would consider buying, 35% said they would be likely to buy an EV and 33% likely to buy a PHEV. This compares with 50% unlikely to buy an EV and 51% unlikely to buy a PHEV.

WHY HAVE YOU NEVER BOUGHT AN EV/PHEV?

25% Cost

25% Have no intention of buying a new car in the future

35% likely to buy an EV

33% likely to buy a PHEV

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INCENTIVES TO BUY

When asked what would encourage them to buy an EV or PHEV, 39% said government subsidy to make the vehicle more affordable would be an incentive, 37% said lower electricity/running costs and 31% said better access to EV charging points.

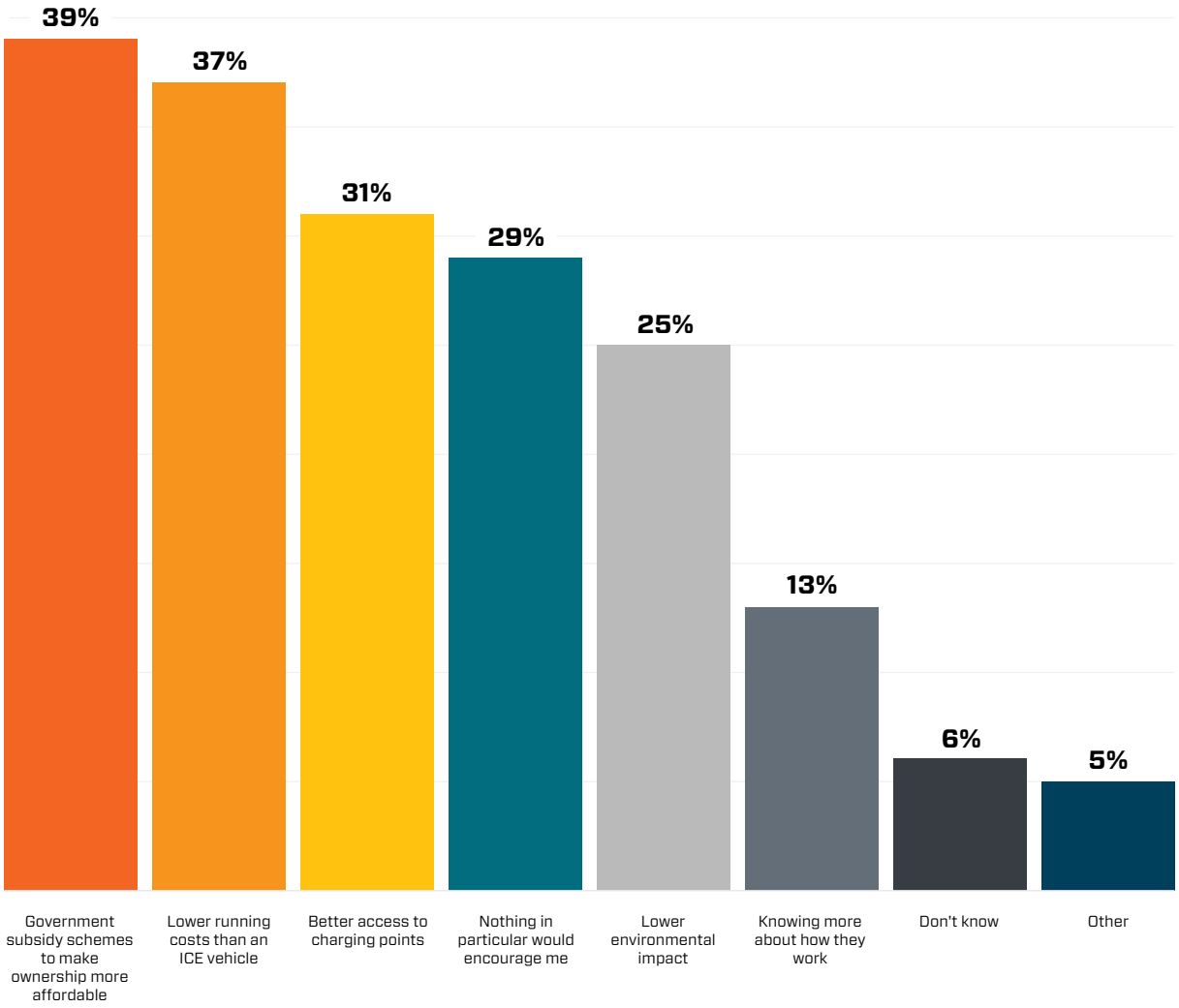
The UK had noticeably higher percentages for subsidy (49%), running costs (44%) and charging points (40%), and across all nationalities the averages were lower in the 55+ age group.

We also asked respondents who don't currently own an EV or PHEV whether the installation of on-street public charging infrastructure, domestic garage wall boxes or charging options in the workplace would make them more likely or less likely to buy one.

46% said they would be more likely to buy if public or private charging was available at their workplace, 38% said they would be more likely to buy if there was public charging infrastructure in their street or neighbourhood, and 28% also said they would be more likely to buy if a wall box was installed in their garage.

These percentages were evenly reflected across all nationalities and most age groups.

WHAT WOULD ENCOURAGE YOU TO BUY AN EV OR PHEV?



EV CHARGING

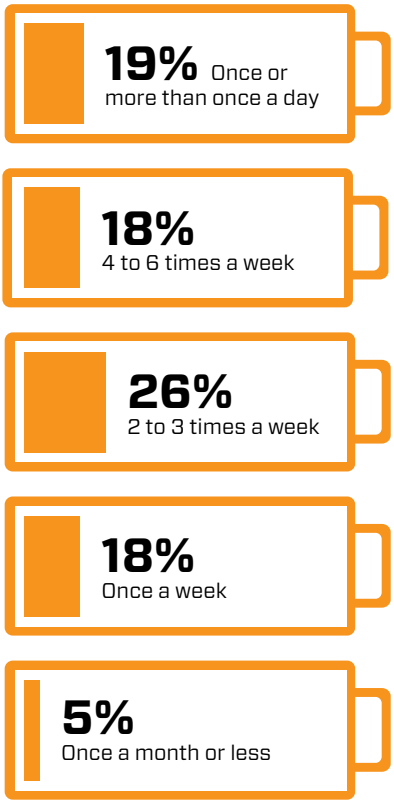
On average, 19% of current EV or PHEV owners charged their vehicles once or more than once a day, 18% charged four to six times a week, 26% charged two to three times a week, 18% charged once a week, 3% charged once a month and 2% charged less than once a month. These figures were more or less consistent across all nationalities, age groups and genders.

Vehicles were mostly charged at home (59%), followed by at work (28%), then shopping centres (19%) and petrol stations (17%). Home charging was higher in Norway (74%), and the 55+ age group were higher than other age groups for charging at home with 52%.

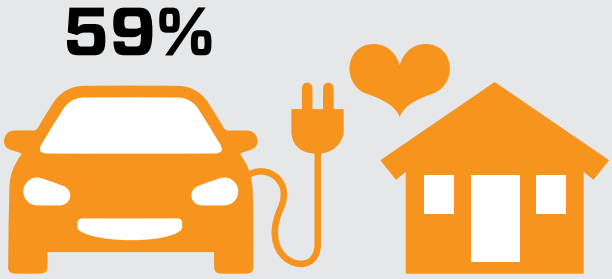
When respondents were asked where they would prefer to charge their vehicles, home was the most popular choice (46%) followed by work (14%). The Netherlands and Norway had the highest home charging percentages (58% and 55% respectively), and the 55+ group were again the highest home chargers with 63%. We also asked whether their homes had off-street parking – i.e. in a garage or on a driveway. 65% said they had, with Norway the highest (77%) and the Netherlands the lowest (48%).

While home was the most popular place to charge, 22% of all respondents thought they would need planning permission from the local authority or permission from a landlord to install a charger at home, while 33% said that they wouldn't need permission. These figures were reflected across all nationalities and age groups.

HOW OFTEN DO YOU CHARGE YOUR EV OR PHEV?



WHERE DO YOU CHARGE YOUR EV OR PHEV?



AT HOME

28% At work
19% At a shopping centre
17% At a petrol station
11% At a hotel
9% At a designated parking garage
9% At a restaurant
5% Other

EV PERCEPTIONS

There are several preconceptions about EV and PHEV ownership and running, so we put a few of them to our respondents to see whether they agreed or not. They covered subsidies, depreciation, roaming, rising electricity and fuel costs, range and charger anxiety, infrastructure and running costs. The responses were mainly consistent across all nationalities and all age groups, with only a small higher percentage for male respondents over female respondents.

Most people agreed that there was currently not enough infrastructure to meet charging demand (62%). This was highest in the UK (71%) and lowest in Norway (49%). It was also more of a concern for the 55+ age group (69%).

Just under half (45%) of respondents said they were concerned about a lack of EV roaming, which allows drivers to charge and pay using different providers. And although vehicle manufacturers are continually improving driving range for EVs, more than half (56%) of respondents still said they had range anxiety and that the distance they can travel on one charge is too short.

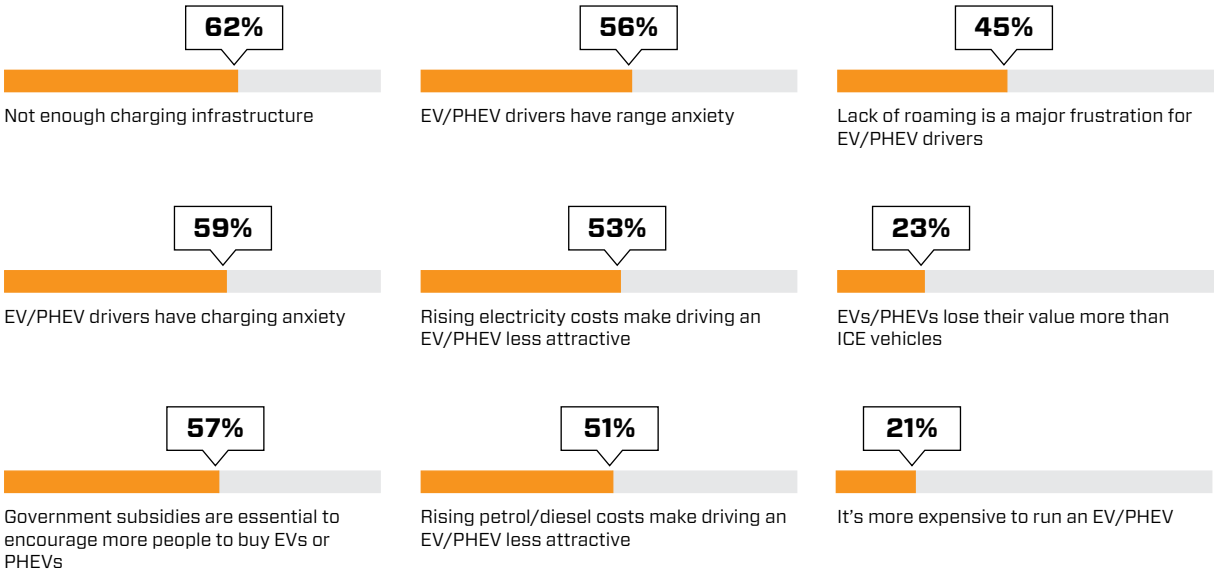
This varied quite dramatically between countries where range anxiety and lack of EV roaming seem to go hand in hand. Range anxiety was highest in France (69%), where there was also the highest level of frustration with lack of EV roaming (63%), and lowest in the Netherlands where only 37% had range anxiety and only 28% were concerned about the lack of EV roaming.

57% agreed that government subsidies were essential to encourage people to buy an EV or PHEV and 51% agreed that rising petrol and diesel costs make driving an EV or PHEV more attractive. However, slightly more respondents (53%) agreed that rising electricity prices make running an EV less attractive. When asked whether they thought EVs lose their value more than ICE vehicles, only 23% agreed while just 14% disagreed. Overall, only 21% thought that EVs were more expensive to run than ICE vehicles.

We also asked about access to information on EVs and PHEVs – 30% agreed that they were confused by the available information on the vehicles, but only 22% agreed that they wouldn't know where to go to find out more about them.

Finally, 47% of all EV and PHEV owners and non-owners agreed that EVs and PHEVs were the future of road travel, with only 18% disagreeing. These averages were lower in France (38% agreeing) and Germany (34% agreeing).

WHICH OF THESE STATEMENTS DO YOU AGREE WITH?



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CONCLUSIONS – A YEAR ON

Although we asked our respondents a wider range of questions this time, there were a few areas where we could still draw comparisons.

Among EV and PHEV owners, there was an increase in the number of people who saw government subsidies as an incentive for purchasing (18% in 2022; 11% in 2021) and the other incentives – fuel and running costs, environmental concerns – remained more or less consistent with last year's survey.

Although lack of charging infrastructure remained an issue, it was less of a concern than last year, with 62% of respondents feeling there was not enough infrastructure to meet growing demand for EV charging, compared with 70% when the survey was carried out in 2021. In this year's survey, concern over charging infrastructure was highest in the UK (71%) and lowest in Norway (49%). In 2021, it was lowest in the Netherlands, where concern over lack of charging infrastructure has increased slightly year on year from 51% to 53%.

This year's survey also revealed a slight shift to charging away from home, with 59% of current EV owners now charging at home compared with 66% in 2021. Of those who charged away from home, 28% charged at work (21% in 2021), 19% at shopping centres, 17% at petrol stations (14% in 2021), 11% at hotels, 9% at restaurants and 9% at a designated parking garage (13% in 2021).

Home charging may, on paper, look like it has gone down this year, but we interviewed more actual EV and PHEV owners this time round – in 2021, only 3% of our sample owned an EV or PHEV compared to just over 16% this year.

'Early adopter' EV/PHEV owners will more than likely have a domestic charging point already so they can simply park up and charge on their drives or in their garages, if they have them. Owners who don't have access to a drive or garage are now charging their vehicles elsewhere, knowing that there is a growing availability of charging points within an expanding destination charging infrastructure.

This signals the start of mass market adoption where there is less reliance on domestic charging – especially where the EV/PHEV owner simply doesn't have the ability to charge at home – and more confidence in destination charging.

With this in mind, the next generation of EV/PHEV customers – including apartment owners and rental car drivers – could become less range and charger anxious provided, of course, that they have better access to public and destination charging points.

The increase in non-domestic charging locations compared to last year also shows how workplaces, commercial businesses and public bodies can invest in future EV charging facilities, which will not only add considerably to the existing charging infrastructure but will also provide additional revenue opportunities for the organisations involved.

Like last year's survey, there is still an appetite for EVs and PHEVs – the strong 'EVs are the future' figures confirm that. Owners and non-owners still seem to have the same frustrations about EV ownership, although the lower percentages this year show that these concerns are much less of an issue now.

As our survey shows, there has been a marked increase in EV and PHEV ownership since last year and, as range, battery efficiency and charging infrastructure continue to improve at a pace, there is still very much a bright future for the electric and plug-in hybrid vehicle.

AVERAGE STATS FROM THE SURVEY

EV OWNERSHIP

Have you ever owned an EV or PHEV?

EVs	
I currently own one or more	**7%**
I have owned one in the past, but not currently	**3%**
I have never owned one	**90%**
PHEVs	
I currently own one or more	**5%**
I have owned one in the past, but not currently	**5%**
I have never owned one	**90%**

Main reason for buying an EV or PHEV

Cheaper to run than an ICE vehicle	**34%**
Better for the environment than an ICE vehicle	**25%**
Vehicle was subsidised through a funding scheme	**18%**
I like the technology	**15%**
Other	**3%**
Can't recall	**6%**

Favourite thing about owning an EV/PHEV

Lower running costs compared to an ICE vehicle	**24%**
Environmental benefits	**18%**
Visiting petrol stations less frequently or not having to go there at all	**9%**
Driving the latest technology	**7%**
Benefits such as free parking/reduced congestion charging etc.	**7%**
Availability of parking and charging points when needed	**7%**
Better resale value than an ICE vehicle	**4%**
Latest models are electric	**4%**
Other	**2%**

How often do you drive an EV or PHEV?

Once a day or more	**28%**
4 to 6 times a week	**28%**
2 to 3 times a week	**23%**
Once a week	**11%**
Once a fortnight	**4%**
Once a month	**3%**
Less often than once a month	**2%**

BUYING AN EV

How likely would you be to buy an EV or PHEV?

EVs	
Likely	**35%**
Not likely	**50%**
PHEVs	
Likely	**33%**
Not likely	**51%**

Why have you never bought an EV/PHEV?

Cost	**25%**
I have no intention of buying a new car in the future	**25%**
I don't want to replace my current car	**14%**
Range anxiety	**9%**
Nowhere to install a charging point at home	**5%**
No charging infrastructure at work or in my local area	**4%**
I can't drive	**4%**
I don't understand enough about EVs/PHEVs	**2%**
Running costs	**2%**
Battery replacement cost	**2%**
Home charging cost	**1%**
Other	**4%**

INCENTIVES TO BUY

What would encourage you to buy an EV or PHEV?

Government subsidy schemes to make ownership more affordable	**39%**
Lower running costs than an ICE vehicle	**37%**
Better access to charging points	**31%**
Nothing in particular would encourage me	**29%**
Lower environmental impact	**25%**
Knowing more about how they work	**13%**
Other	**5%**

AVERAGE STATS FROM THE SURVEY

EV CHARGING

How often do you charge your EV or PHEV?

More than once a day	**4%**
Once a day	**15%**
4 to 6 times a week	**18%**
2 to 3 times a week	**26%**
Once a week	**18%**
Once a fortnight	**7%**
Once a month	**3%**
Less than once a month	**2%**

Where do you charge your EV or PHEV?

At home	**59%**
At work	**28%**
At a shopping centre	**19%**
At a petrol station	**17%**
At a hotel	**11%**
At a designated parking garage	**9%**
At a restaurant	**5%**
Other	**4%**

Where would you prefer to charge your EV or PHEV?

At home	**46%**
At work	**14%**
At a shopping centre	**7%**
At a petrol station	**6%**
At a hotel	**3%**
At a designated parking garage	**3%**
At a restaurant	**2%**
Other	**1%**

EV PERCEPTIONS

Which of these statements do you agree with?

Not enough charging infrastructure	**62%**
EV/PHEV drivers have charging anxiety	**59%**
Government subsidies are essential to encourage more people to buy EVs or PHEVs	**57%**
EV/PHEV drivers have range anxiety	**56%**
Rising electricity costs make driving an EV/PHEV less attractive	**53%**
Rising petrol/diesel costs make driving an EV/PHEV less attractive	**51%**
Lack of roaming is a major frustration for EV/PHEV drivers	**45%**
EVs/PHEVs lose their value more than ICE vehicles	**23%**
It's more expensive to run an EV/PHEV	**21%**

ABOUT THIS SURVEY

All figures, unless otherwise stated, are from YouGov Plc. Total sample size was 13699 adults. Fieldwork was undertaken between 21st - 30th June 2022. The survey was carried out online.

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