

East Sussex Electric Vehicle Charge Point Infrastructure Results Report

Results report of a survey undertaken jointly by the five district and borough local authorities of East Sussex

February 2019

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Key Findings

This section presents some of the key findings from the survey. Detailed findings are presented in the relevant sections of the report.

The self-selecting online survey was conducted jointly between the five district and borough authorities of East Sussex, generating 1488 completed responses: 56% from Wealden, 20% from Rother, 10% from Eastbourne, 6% from Lewes and 2% from Hastings local authority areas.

The survey was undertaken to assess the current, and likely future, demand for electric vehicle charge points in the area and to obtain views on the installation of charge point infrastructure on local authority property.

Electric vehicle take-up and barriers to adoption

Of the 1365 drivers who completed the survey, 306 (22%) are electric vehicle drivers; 66% drive a pure electric vehicle and 37% a plug-in hybrid electric vehicle (3% drive both). More than half (55%) of these drivers have access to another vehicle, suggesting this may be an influencing factor in the take-up of electric vehicles.

The survey found that the vast majority of all drivers (86%) drive 50 miles or less in a typical day. With most pure electric cars achieving at least 100 miles on a single charge this highlights the potential for more than four fifths of respondents to convert to an electric vehicle, requiring around 3 full charges per week to complete their normal mileage.

This was supported by the results which found that 76% of all (non-electric) drivers would consider buying an electric vehicle in the future; 30% in the next 2 years, 29% in the next 5 years and 18% in 5+ years. This gives a strong indication of the growth in interest in electric vehicles and that adoption is likely to accelerate within the next few years.

However, of those respondents who would not consider purchasing an electric vehicle, mileage range is of concern for around half (53%), closely followed by the cost of vehicles (45%), uncertainty about battery life/replacement costs (42%), and the lack of public charging infrastructure (40%).

Home and workplace charging

Whilst the large majority (82%) of all drivers who responded to the survey have access to a garage and/or driveway, a further 12% park on the street making it unlikely that they will be able to charge from home. For the remaining 3% who park in designated bays, the installation of infrastructure may be complex.

The majority (77%) of existing electric vehicle drivers and those who might purchase one in the future, have (or are able/willing to have) a home charger installed at their property. In detail, 22% already have a charger installed (or installation is pending) and 55% would install one if they purchased an electric vehicle. In total, 81% (249) of all existing electric vehicle drivers have a dedicated home charger installed or installation is pending. In contrast, the results indicate that workplace charge points are far less common with 86% of (working) respondents having no access at all to charging facilities at work.

Almost half (49%) of the 272 respondents who indicated that they do not (or would not) have a home charger installed, said that they would use public charge points as an alternative. Furthermore, 86% of all electric vehicle drivers, and those who may purchase one, would consider using a charge point near to where they live, if they could not charge at home; 40% would be willing to walk up to 5 minutes, and 37% up to 10 minutes, in order to access a charge point.

Public charge point infrastructure

The survey found that the 68% of electric vehicle drivers use public charge points, with 32% using them at least once a week. Of the 29% who stated that they never or almost never use them, the majority (79%) cite the lack of charge point availability as the most common reason why.

The survey also found that the majority (88%) of electric vehicle drivers choose to park where there is access to charge points (52% sometimes, 36% always), suggesting that charge point availability can influence where drivers decide to park. This implies that destinations that have charging points installed could attract more customers/visitors.

Public car parks were the most commonly used type of charging location by electric drivers (79%), followed by retail car parks (75%), motorway service stations (65%) and hotels (58%). Four main networks were identified as the most frequently used by respondents, however not all were clearly aligned with user preference. Indeed, the

amount a network is used is likely to reflect the distribution of different network operators and consequently impact on driver choice.

Regarding the method of charge point access and payment, 45% of electric vehicle drivers find the access and payment methods of the different networks difficult to understand (31% fairly and 14% very). Similarly, 48% find it difficult to compare the cost of charging (26% fairly and 22% very difficult). Key aspects cited were the need to register/subscribe to different networks, multiple access cards and apps, and differing pricing structures. A large number called for the system to be simplified, to allow access to all, with a standardised pricing structure.

Local authority infrastructure

The vast majority (84%) of all respondents are supportive of local authorities installing infrastructure on their own property (68% strongly support, 16% tend to). Furthermore, some 1384 sites (or broad areas) across East Sussex were suggested by respondents as potential locations for charge point infrastructure, although not all are sites within local authority control. Of those who opposed (4% strongly, 2% tend to), the majority cited finance as a key factor with several expressing concern should the costs be borne by the council tax payer.

1. Introduction

Background

There are now around 200,000 plug-in electric cars on the UK's roads, and with the Government's ban on new diesel and petrol vehicles from 2040 (along with other incentives), this is expected to rise sharply over the next few years, as is the corresponding demand for charging infrastructure.

Whilst it is acknowledged that a large proportion of vehicle charging is likely to be done at home, it is also understood that the provision of publically available charge points is necessary, not only to provide top-up charges for existing drivers, but also to reduce "range anxiety" and help build confidence in electric vehicle technology.

This survey was therefore undertaken jointly by the East Sussex district and borough councils of Eastbourne, Hastings, Lewes, Rother and Wealden in order to assess the current, and likely future, demand for publically available charge points in the area. It also sought to canvass opinion on the potential to install infrastructure on local authority property and, in particular, within public car parks.

Methodology

The survey was conducted online between 24 September and 18 November 2018 and was publicised in the local press and via the participating Councils' social media channels. The survey was wholly self-selecting and as such is not statistically representative of the population (e.g. by age, gender, or location etc.).

Some questions were only applicable to a sub-set of respondents, so sample sizes vary and are indicated in the relevant sections. The base numbers shown with each chart indicate the number of respondents who gave a valid response to each question and on which percentage calculations are based. Where questions do not add up to 100%, this may be due to computer rounding or multiple response answers.

2. Demographics

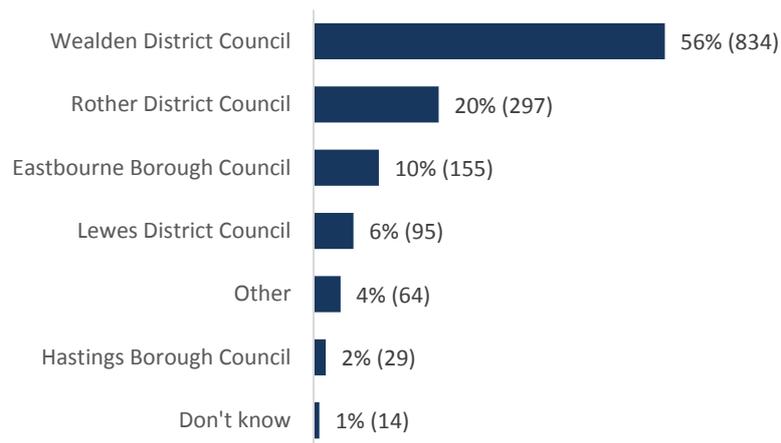
This section shows the profile of those who participated in the survey.

Respondents by local authority area

Of the 1488 individuals who responded to the survey, roughly half (56%) live in the Wealden District Council area and a further 20% live in the Rother District Council area. Eastbourne Borough Council area accounted for 10% of respondents, Lewes 6% and Hastings 2% (figure 1.1).

A number of respondents (4%) were from outside the East Sussex local authority area and, whilst the largest proportion were from the Brighton and Hove area followed by West Sussex, others came from areas further afield such as Greater Manchester and Yorkshire.

Figure 1.1 In which local authority council area do you live?



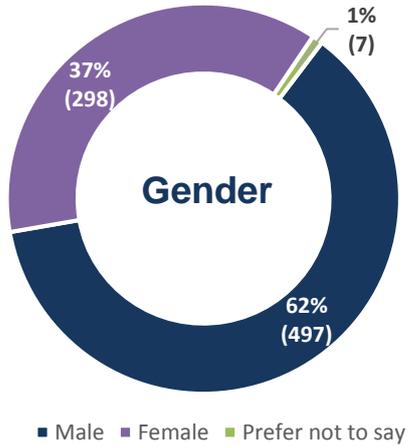
Base: All respondents (n=1488), single selection

Over half (54%) of all 1488 respondents completed some or all of the gender, age and disability questions.

Gender and age

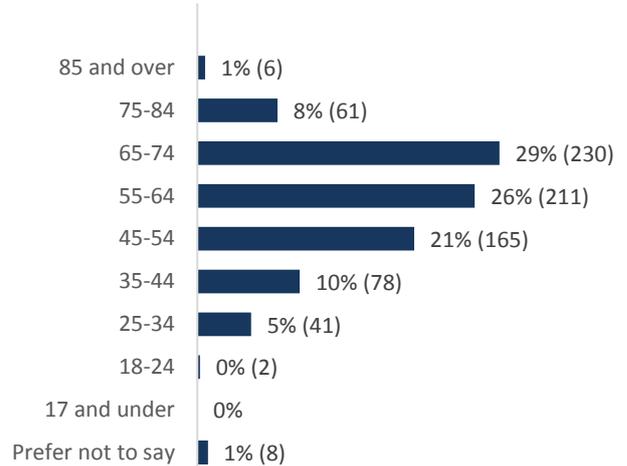
62% (497) of respondents who answered the gender and age questions are male; 37% (298) are female (figure 1.2). 76% (606) are aged between 45 and 75 years (figure 1.3).

Figure 1.2 Gender



Base: n=802, single selection

Figure 1.3 Age

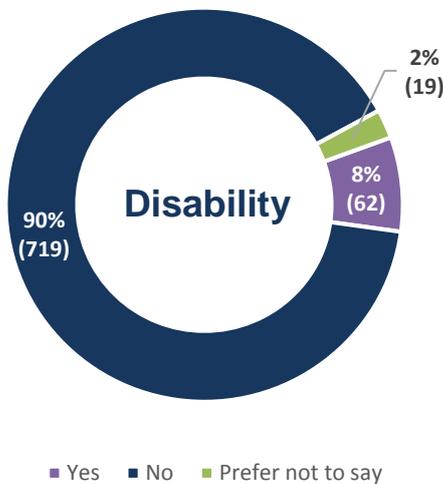


Base: n=802, single selection

Disability

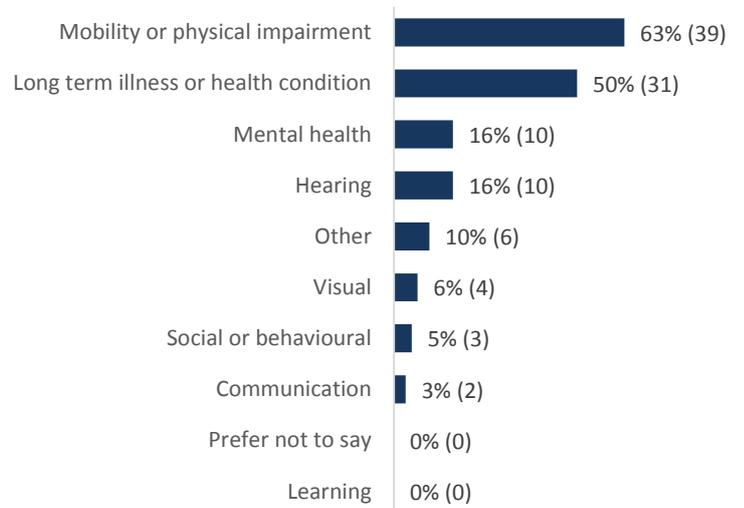
8% of those who answered the disability questions consider themselves to have a disability. Mobility or physical impairment was the most frequently occurring response amongst those who provided further definition of their disability, followed by long term illness or health condition.

Figure 1.4 Disability



Base: n=800, single selection

Figure 1.5 Disability type



Base: n=62, multiple selection

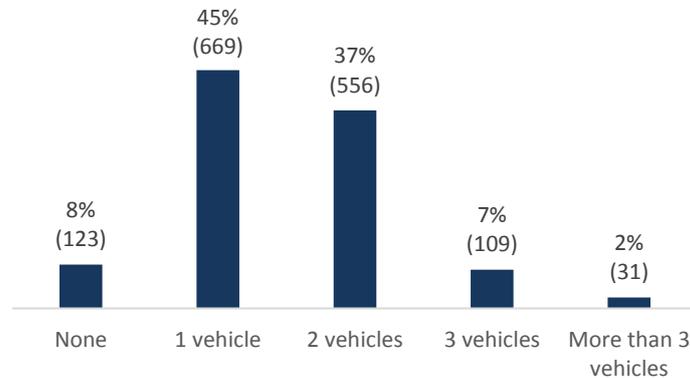
3. General Vehicle Access and Use

This section presents the findings on general vehicle use (whether petrol, diesel, hybrid or pure electric) for all respondents (1488).

Number of vehicles per respondent

All respondents (1488) were asked how many cars or vans they regularly drive. As figure 2.1 shows, most regularly drive either one (45%) or two (37%) vehicles. Together, those driving two or more vehicles account for 46% of all respondents. A further 8% of respondents stated that they do not regularly drive any vehicle.

Figure 2.1 How many cars or vans do you regularly drive? Include all vehicles, whether petrol, diesel, pure electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV)?

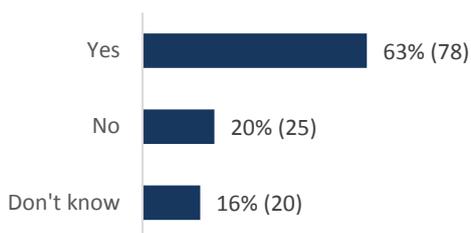


Base: n=1488, single selection

Potential vehicle purchase (all vehicle types)

Respondents who stated that they do not regularly drive any vehicles were asked whether they are considering purchasing one in the next five years (figure 2.2). This question enabled those who are likely to purchase a vehicle in the near future to be included in questions relating to driving. More than three fifths (63%) stated that they are considering purchasing a vehicle, while 16% were not sure. Only 25 respondents (20%) stated that they will not be considering purchasing a vehicle. These respondents were directed away from subsequent questions relating to vehicle use.

Figure 2.2 If none, are you considering purchasing a car or van in the next 5 years (new or used)?



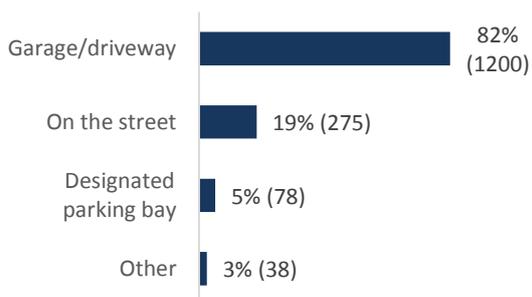
Base: n=123, single selection

Overnight parking location

Respondents who regularly drive at least one vehicle or are considering purchasing a vehicle (along with those who are unsure) (1463) were asked where they do (or would) park their vehicle(s) overnight. As figure 2.3 shows, the majority (82%) of respondents have access to off-street parking (garage and/or driveway). The next most frequently occurring response was 'on the street' (19%), followed by 'designated parking bay' (5%). Of the 'other' responses given, the most frequently cited was communal (residential) parking, followed by private roads, and locked compounds. A number also said that they park in free public car parks, while a few park their vehicles at their place of work.

Analysis of single responses to this question shows that the majority (92%) of respondents selected only one parking location option (table 1.1). Of the 275 respondents who indicated that they park on the street, 177 (12% of all those who answered the parking question) selected this as their only answer option. Similarly, 50 of the 78 respondents who selected 'designated parking bay', did so as their only option (3% of all those who answered). This suggests that 12% of respondents (who park on the street), are unlikely to be able to charge from home, while for the 3% who park in designated bays, the installation of infrastructure may be complex.

Figure 2.3 Where do/would you park your vehicle(s) overnight? Select all that apply.



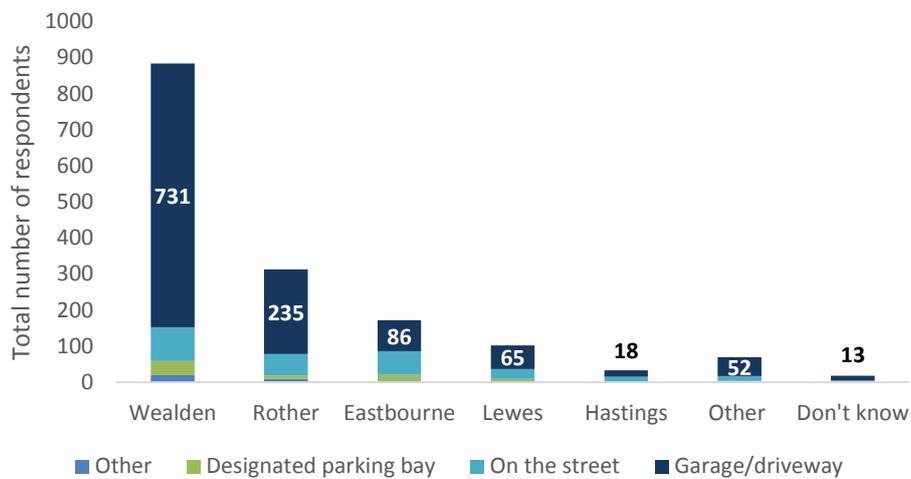
Base: n=1463, multiple selection

Table 1.1 Parking location (single answer selection)

Location	Single selection	
	Counts	%
Garage/driveway	1092	75%
On the street	177	12%
Designated parking bay	50	3%
Other	24	2%
Base (all respondents)	1463	92%

Whilst the results show that a large number of respondents do have off-road parking (garage or driveway), a breakdown of the results by local authority area reveals the largest proportions of these to be in the Wealden and Rother areas (figure 2.4). This is unsurprising given the higher overall number of responses to the survey received from Wealden and Rother, 56% (834) and 20% (297) respectively. Furthermore, this may also be influenced by the geographic nature of these areas, with those more urban local authority areas being less represented in the survey.

Figure 2.4 Parking location by local authority area

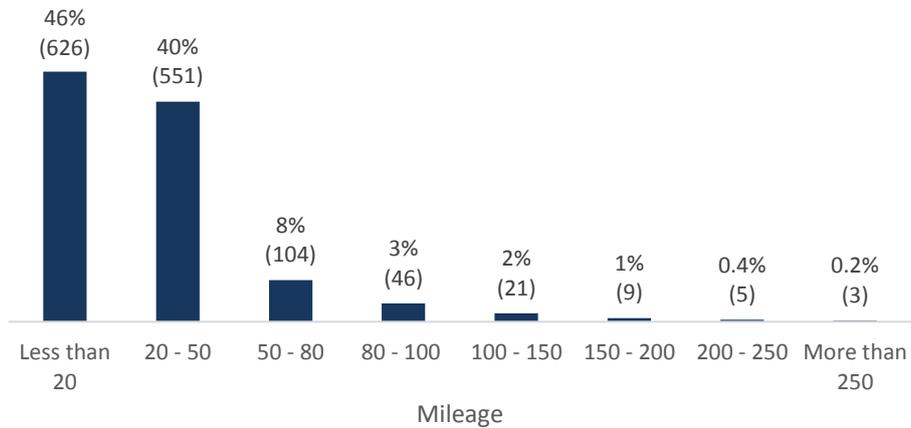


Base: n=1463. Highlighted figures show counts of respondents with access to a garage/driveway.

Typical daily mileage

Those respondents who currently drive at least one vehicle were asked how many miles they drive in a typical day. As figure 2.5 shows, the vast majority (86%) drive 50 miles or less, with 46% driving less than 20 miles in a typical day. Today, most pure electric cars achieve at least 100 miles on a single charge (some of the latest models being closer to 200 miles or more). This highlights that, given appropriate infrastructure, more than four fifths of respondents could convert to a pure electric vehicle and require as few as three full charges per week to complete their usual mileage.

Figure 2.5 How many miles do you drive in a typical day?



Base: n=1365, single selection

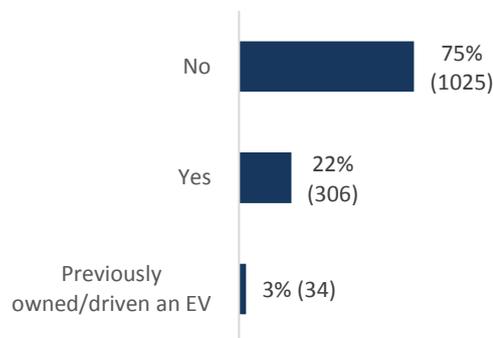
4. Electric vehicle take-up and barriers to adoption

This section presents the findings on existing (and future) take-up of electric vehicles, as well as barriers to adoption, for those respondents who regularly drive at least one vehicle or are consider purchasing a vehicle in the future (1463 respondents).

Current electric vehicle drivers

Respondents who regularly drive at least one vehicle (1365) were asked whether they currently own, or drive, an electric vehicle (figure 3.1). In total 306 respondents (22% of all regular drivers) stated that they drive an electric vehicle, while a further 34 (3%) stated that they had previously owned or driven one.

Figure 3.1: Do you currently own, or regularly drive, an electric vehicle (EV) or plug-in hybrid electric vehicle (PHEV)?



Base: n=1365, single selection

When viewed against the number of cars each respondent regularly drives (table 2.1), it can be seen that more than half (55%) of electric vehicle drivers regularly drive two or more cars. This suggests that access to another vehicle may be a factor in the take-up of electric vehicles.

Table 2.1 Number of vehicles (all types) by electric vehicle use

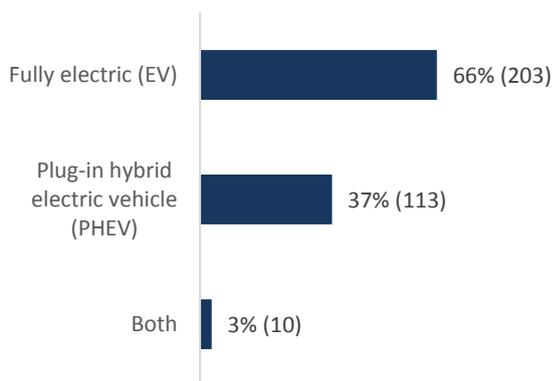
Vehicles	Do you own/drive an EV?			
	Total	Yes	No	Previous EV
1	669 (49%)	138 (45%)	513 (50%)	18 (53%)
2	556 (41%)	142 (46%)	403 (39%)	11 (32%)
3	109 (8%)	23 (8%)	82 (8%)	4 (12%)
3+	31 (2%)	3 (1%)	27 (3%)	1 (3%)
Base	1365	306	1025	34

Electric vehicle type and use

Of the 306 respondents who currently drive an electric vehicle, 66% drive a fully electric vehicle while 37% drive a plug-in hybrid electric vehicle (figure 3.2). In total 10 (3%) respondents indicated that they drive both types.

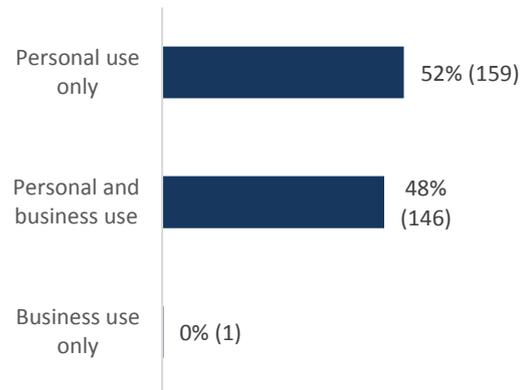
When asked what their electric vehicle is used for, 52% stated that their main electric vehicle was for 'personal use only' and 48% for 'personal and business use'. Just one individual classed it as for 'business use only' (figure 3.3).

Figure 3.2 What type of electric vehicle(s) do you currently use?



Base: n=306, multiple selection

Figure 3.3 Is your main electric vehicle used for personal or business use?



Base: n=306, single selection

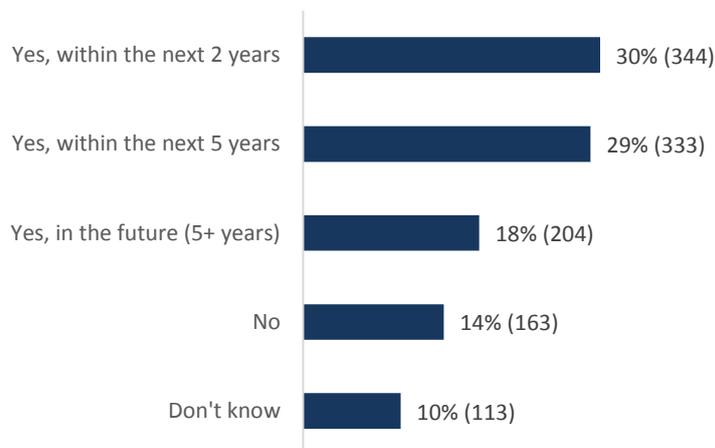
Future adoption of electric vehicle technology

Excluding the existing 306 electric vehicle drivers, those respondents who currently drive at least one vehicle, as well as those considering purchasing a vehicle (and those who are unsure), were asked whether they would consider buying an electric vehicle.

Of the 1157 respondents who answered this question, the majority (76%) said that they would consider buying an electric vehicle in the future; 30% in the next 2 years, 29% in the next 5 years and 18% in 5+ years (figure 3.4). Only 14% said that they would not while 10% were not sure. This gives a strong indication of the growth in interest in electric vehicles and that adoption of electric vehicle technology is likely to accelerate within the next few years.

In addition, of the 34 respondents who have previously owned/driven an electric vehicle, 30 (88%) said that they would consider buying one in the future. Only 2 said that they would not and 2 were unsure. This suggests that for the majority, previous experience of owning/driving an electric vehicle has not deterred future ownership.

Figure 3.4 Would you consider buying an electric vehicle or plug-in hybrid electric vehicle in the future?



Base: n=1157, single selection

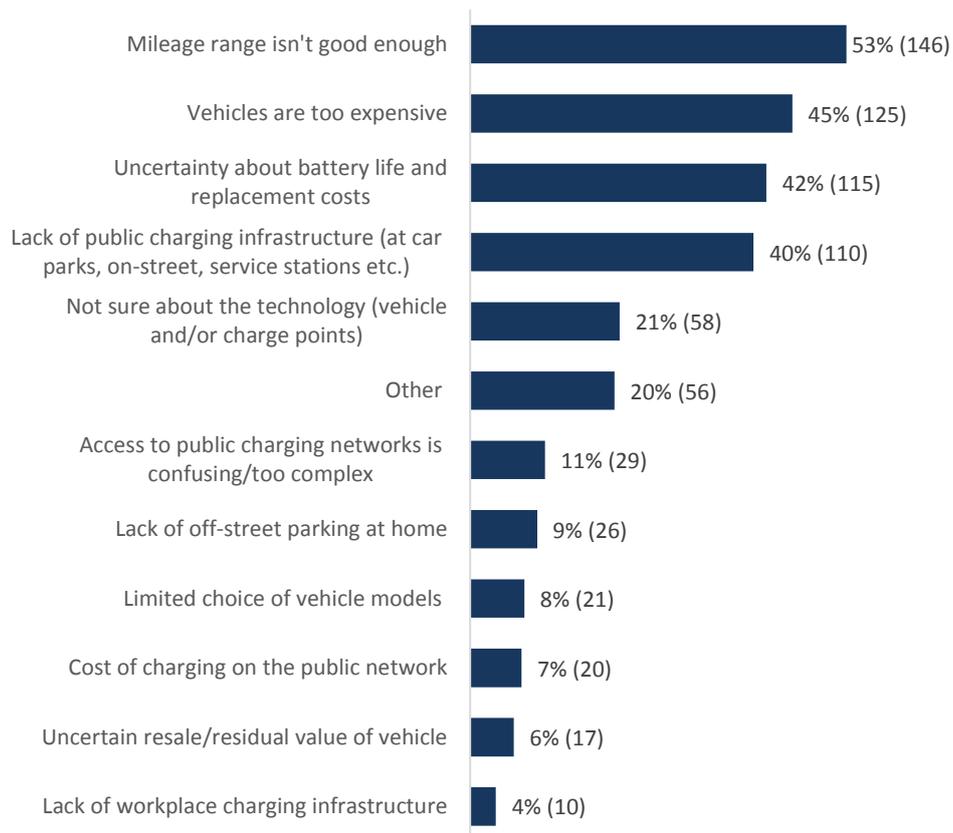
Barriers to adopting electric vehicle technology

Those respondents who stated that they would not consider purchasing an electric vehicle (and those who were not sure) (276 respondents), were asked to select, from a list of options, up to three main reasons why. As figure 3.5 shows, mileage range is of concern for around half (53%) of respondents. The cost of vehicles (45%) was the

second most selected reason, closely followed by uncertainty about battery life/replacement costs (42%), and lack of public charging infrastructure (40%).

Of the 'other' reasons given several questioned the perceived environmental benefits of electric vehicles, expressing concern over the resources required to build, run and dispose of them. A number specifically referenced the use of fossil fuels to generate the required electricity, considering it to be "passing on the pollution elsewhere", whilst a few were concerned about the ability of the grid to cope with an increase in power demand. Other reasons include: the belief that the technology may quickly become obsolete; that the focus should be on hydrogen fuelled vehicles; that it does not address the issue of traffic and congestion; and the vehicles are too quiet and will cause accidents. A few also commented that the vehicles are unable to tow a caravan.

Figure 3.5 If you would not consider buying an EV or PHEV, or are not sure, what are your main reasons? Maximum of 3 answers.



Base: n=276, multiple selection (maximum of 3)

5. Home and workplace charging

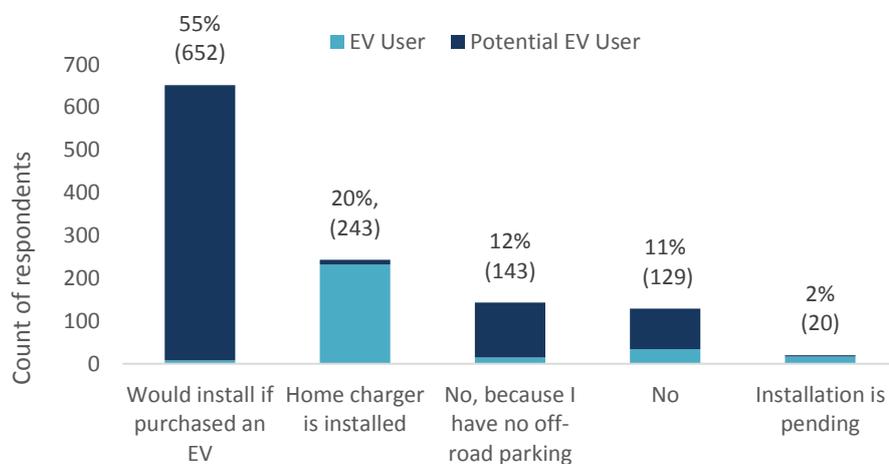
This section presents the findings on access to home and workplace charging for those respondents who already drive an electric vehicle or would consider purchasing one in the future (1187 respondents).

Home charging

The majority (77%) of respondents are able/willing to have a dedicated home charger installed at their property. In detail, 55% would install one if they purchased an electric vehicle; 20% already have a charger installed; and 2% are in the process of having one installed (figure 4.1). As expected, of the 243 respondents that already have a home charger, the majority (95%, 232) are existing electric vehicle drivers. In total, 81% (249) of all electric vehicle drivers have a dedicated charger installed or installation is pending. The remaining respondents either stated 'No' (11%) or they specifically identified the lack of off-road parking as the reason for not having a home charger installed (12%).

Of those who answered 'No', a large number cited difficulties with their parking location, including that their parking area/garage is too far from their property and/or power is not available at the site. Several also stated that the costs to install power are too high, and others that the costs overall are prohibitive. However, several respondents stated that they currently charge their vehicle via a domestic 3-pin plug socket and that this suits their needs. Other respondents cited difficulties gaining permission to install a charger, either because they do not own the property or they park in a communal parking area.

Figure 4.1 Do you have a dedicated home charger installed at your property or would you install one if you purchased an electric vehicle in the future?



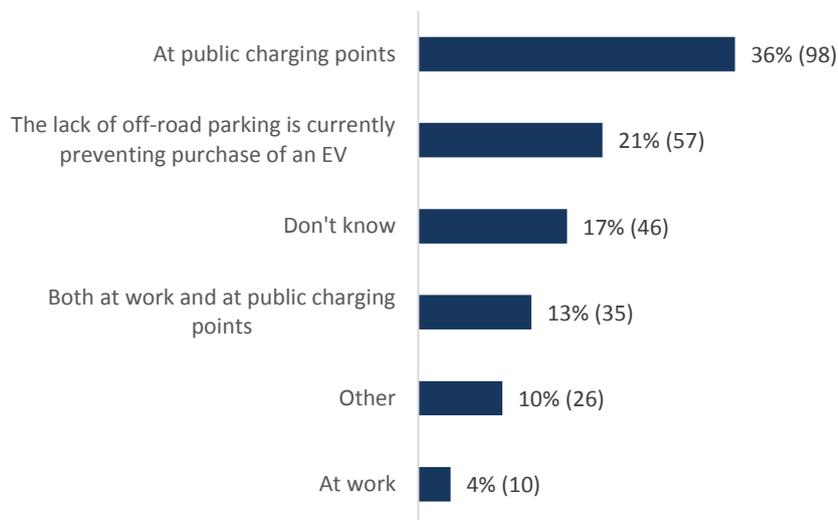
Base: n=1187 (EV user: n=306, potential EV user: n=881), single selection

Alternatives to home charging

Of the 272 respondents who indicated that they do not (or would not) have access to a dedicated home charger, almost half (49%) would use public charge points as an alternative (36% would only charge at public charge points, 13% at both work and public charging points). Only 4% stated that they would charge at work (figure 4.2). For 21% (57 respondents), the lack of off-road parking is specifically preventing the purchase of an electric vehicle, while a further 17% stated that they didn't know where they would charge.

The majority of 'other' responses were from respondents who are currently charging their vehicles at home via a 3-pin plug socket, rather than a dedicated home charging unit. One respondent stated that they would consider purchasing an electric vehicle if there were more public charge points and another if their workplace installed one.

Figure 4.2 If you do not have access to a dedicated home charger at your property, where do/would you charge your vehicle?

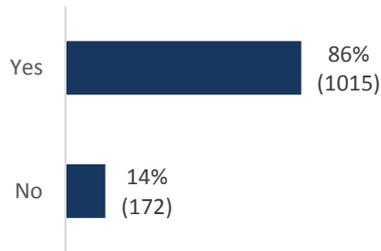


Base: n=272, single selection

When asked whether respondents would consider using a charge point near to where they lived (if they were unable to charge at home), 86% of all electric vehicle drivers and those who would consider purchasing one, said that they would (figure 4.3).

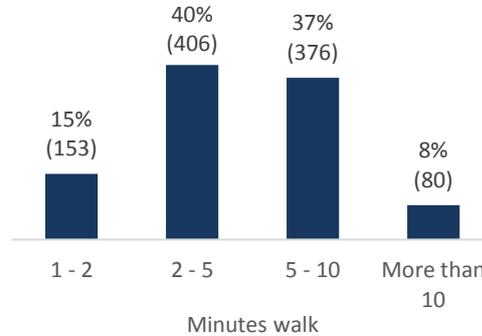
Furthermore, 40% of these respondents stated that they would be willing to walk up to 5 minutes, and 37% up to 10 minutes, in order to access a charge point (figure 4.4). Whilst walking speeds will vary between individuals, at an average walking pace of 20 minutes per mile, this suggests that 77% of respondents would be willing to walk between one quarter and half a mile to access a charge point.

Figure 4.3 If you cannot/could not charge your vehicle at home, would you consider using a charge point near to where you live?



Base: n=1187, single selection

Figure 4.4 What would you view as a reasonable distance to walk from your home in order to access a charge point?

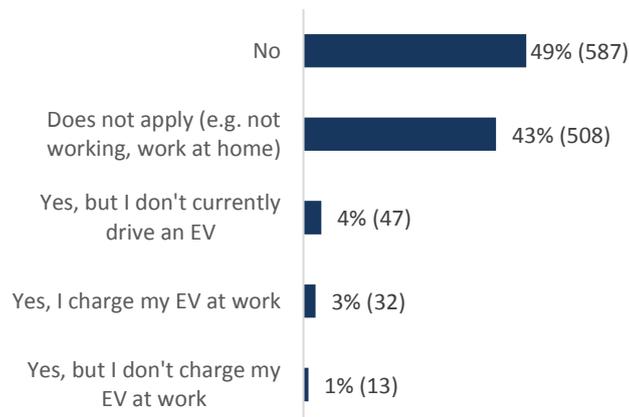


Base: n=1015, single selection

Workplace charging

Only 8% of respondents who drive an electric vehicle, or would consider purchasing one, have access to a charge point at their place of work, with no access at all for almost half (49%) of those questioned (figure 4.5). Furthermore, discounting the 508 respondents that answered 'does not apply', either because they are not working or work from home, the percentage of those with no access to workplace charging increases to 86%.

Figure 4.5 Do you have access to a dedicated electric vehicle charge point at your workplace?



Base: n=1187, single selection

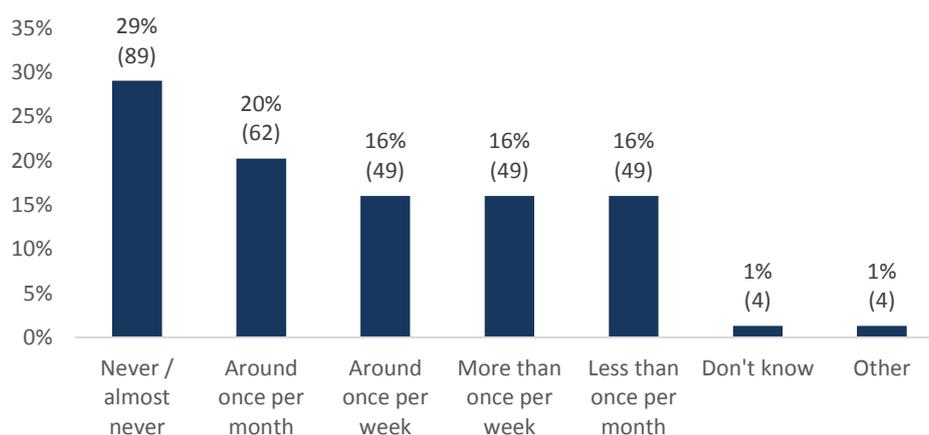
6. Public charge point infrastructure

This section presents the findings on the use of public charge point infrastructure by existing electric vehicle drivers (306 respondents).

Frequency of use

The survey shows that, in total, 68% of electric vehicle drivers questioned use public charge points (figure 5.1). Moreover, they do so with the following frequency: 32% use them at least once a week (16% more than once per week and 16% around once per week); one fifth (20%) use them around once per month; and 16% less than once per month. A small number 1% did not know, while a further 1% provided 'other' responses, including lack of availability in their area preventing use and daily use of a specific charge point network.

Figure 5.1 How often do you use public charge points (on any UK network)?



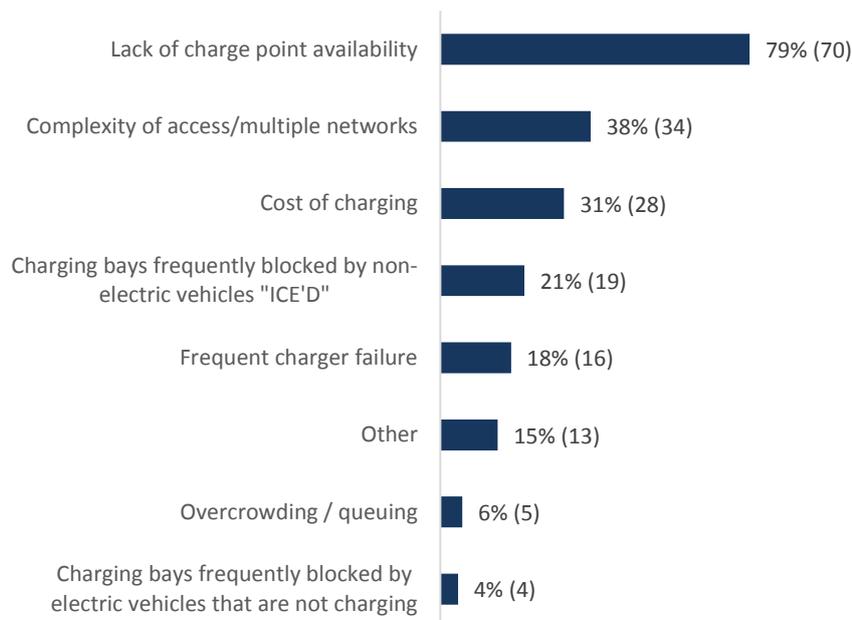
Base: n=306, single selection

Reasons for not use public charge points

Of the 29% electric vehicle drivers who stated that they never/almost never used public chargers, the vast majority (79%) cite lack of charge point availability as the most common reason (figure 5.2). The next most frequently selected reasons were complexity of access (38%); the cost of charging (31%); and that charging bays are frequently blocked by non-electric vehicles (21%). Frequent charger failure also featured, with 18% of respondents selecting this as a reason.

Of the 'other' reasons given, most were from respondents for whom charging at home provides sufficient charge for their normal daily mileage. A few respondents stated that they do not have the correct charger lead and a couple that it would take too long to charge their vehicle.

Figure 5.2 If never, or almost never, what are your main reasons for not using public charge points? Please select all that apply.

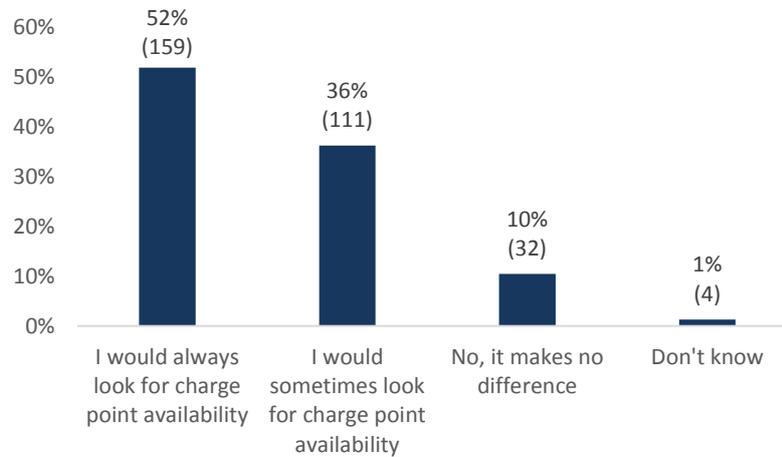


Base: n= 89, multiple selection

Influence of charge point availability on parking destination

The majority (88%) of electric vehicle drivers in this survey choose to park where there is access to charge points (52% always, 36% sometimes) (figure 5.3). Only 10% don't consider charging needs at all when looking for parking. This suggests that the availability of charge points can play a role in influencing where electric vehicle drivers decide to park and implies that sites such as retail and leisure destinations could attract more customers by installing charge point infrastructure.

Figure 5.3 Would you choose a public parking location based on whether electric vehicle charging is available at that location?



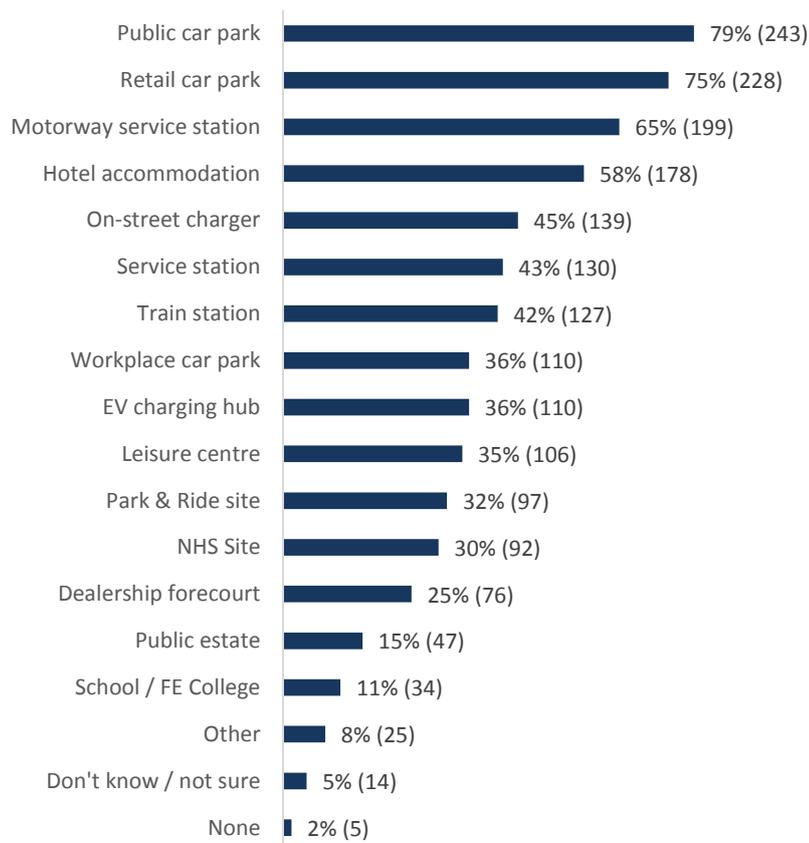
Base: n=306, single selection

Type of charging locations used

Of the charging locations used, public car parks are the most popular with 79% of drivers selecting this option (figure 5.4). Retail car parks (75%), motorway service stations (65%), and hotels (58%) were the next most frequently selected options.

'Other' locations given include doctors' surgery, community centre, lamppost charging and "anywhere with a rapid". Some respondents also stated that they don't use public charge points (or use them infrequently), highlighting the lack of local availability as the main reason for this. Indeed, to a large extent, the use of different charging locations will likely reflect the availability of charge points within the areas that drivers travel.

Figure 5.4 What type of public charging location(s) do you use? Please select all that apply.



Base: n=306, multiple selection

Networks used and networks preferred

Respondents were asked to select, out of a list of networks, all those that they regularly use. They were then asked to select, just one, preferred network.

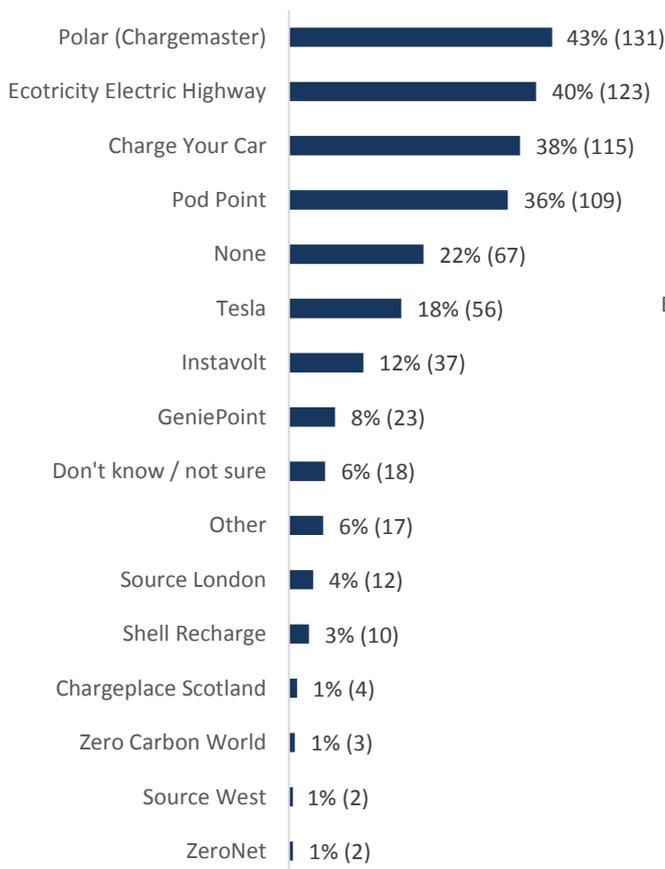
Analysed by networks regularly used (figure 5.5), 43% of electric vehicle drivers report regularly using the Polar (Chargemaster) network. This is closely followed by Ecotricity Electric Highway (40%), Charge Your Car (38%) and Pod Point (36%). Together, these four networks are the most frequently used by those questioned. However, as with charge point location, the amount a network is used is likely to reflect the geographical distribution of different charger point network operators and consequently impact on the choice available to drivers.

Indeed, when network preference is viewed (figure 5.6) the picture is less clear, with the largest number of respondents (23%) selecting 'none' and 14% selecting 'don't know/not

sure' (together making up 37% of all respondents). Polar (Chargemaster) was the most preferred network (17%), followed by Tesla (14%), Pod Point (9%) and Ecotricity (9%). It is noticeable that preference and frequency of use are not well aligned, particularly within the most frequently used networks. The only network to closely match preference with use was Tesla, with 18% of respondents using this network and 14% identifying it as their preferred network. This is unsurprising given the dedicated nature of Tesla's Supercharger and Destination networks, which are primarily specific to Tesla drivers.

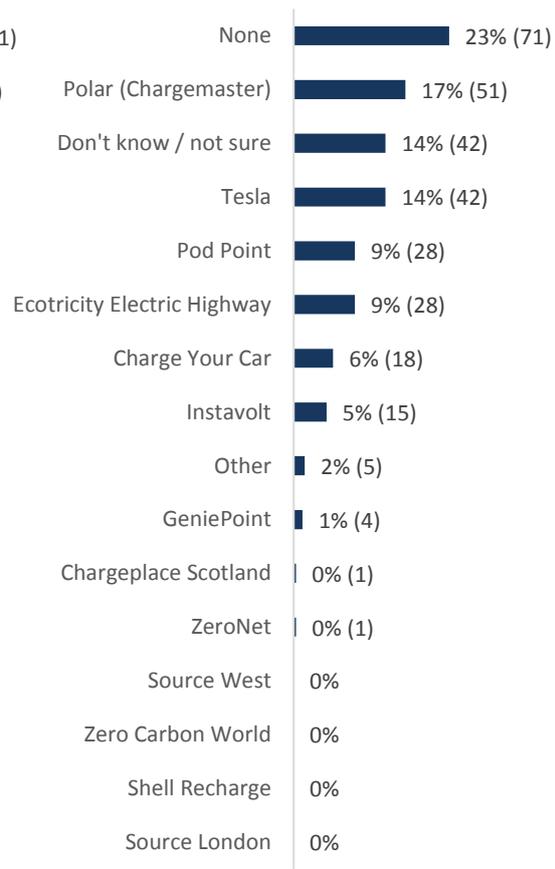
In addition to those listed below, three respondents regularly use New Motion, two use EV Driver, and one uses GMEV (operated by Charge Your Car). New Motion was also specified as a preferred network by one driver.

Figure 5.5 What public charge point network(s) do you regularly use (as a member or on PAYG)? Please select all that apply.



Base: n=306, multiple selection

Figures 5.6 Do you have a preference for any specific network? Please select one network only.



Base: n=306, single selection

Reasons for network preference

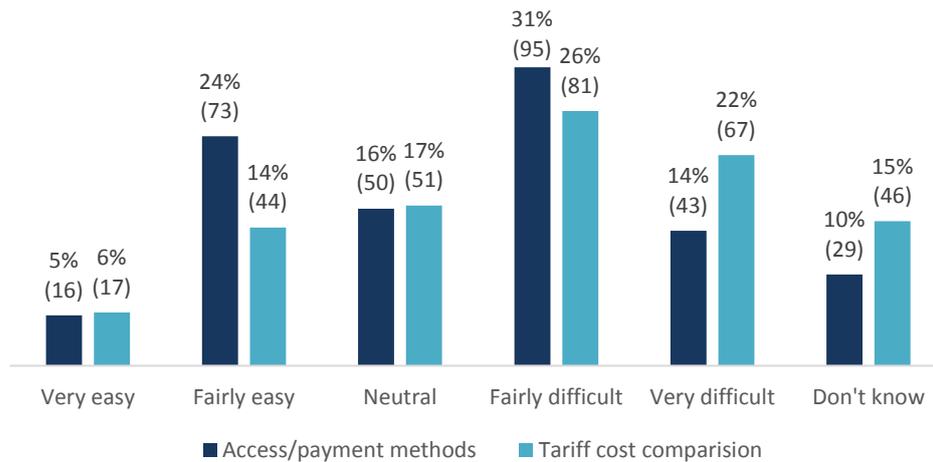
The most common reasons given by respondents (128) for preferring a particular network were the ability of the network to deliver fast charging times, the reliability of charge points and ease of use. Price (best value and free charge points) and the ability to accept contactless payment were also factors influencing preference. A number of respondents also cited the lack of requirement for membership/subscription for some networks as a reason for preference, while others stated that they use a particular network simply because they have already registered or pay a membership fee. The geographical prominence of particular networks and the convenience of site locations also featured highly. Other reasons given for preference include: good customer service, use of renewable electricity, preferential rate received with domestic energy provider, motorway availability, mix of destination and rapid chargers, and good national coverage.

Ease of charge point use

Respondents were asked to rate how easy or difficult they have found it to understand the access and payment methods of the different public charge point network options available and how easy or difficult have they have found it to compare the cost of charging at public charge points.

As figure 5.7 shows, a large number of respondents (45%) find the access and payment methods of the different network options difficult to understand (31% fairly and 14% very difficult) and, whilst 24% find them fairly easy to understand, just 5% find them very easy. A similar number of respondents (48%) also find comparing the cost of charging difficult (26% fairly and 22% very difficult). Only 14% find comparing the costs of charging fairly easy and just 6% find it very easy.

Figure 5.7 Access and payment methods / Tariff cost comparison



Base: n=306, single selection

Access and payment methods: other comments

Overall, very few of the 141 additional comments received were positive. The majority expressed dissatisfaction with charge point access and payment methods describing it as “complicated”, “inconsistent”, “onerous”, “frustrating”, a “hassle” and “messy”.

Key aspects cited were the number of different providers, requiring registration (or subscription), and the corresponding need to use multiple access cards and apps in order to use points on different networks. The majority of respondents stated that the system was too complicated and many called for it to be simplified with a single, standard, system that allows access to all. A few respondents also called for the government to legislate to ensure all charge points are compatible.

A large number of respondents specifically called for all charge points to be on a pay-as-you-go basis without the need for registration or subscription to a network, with many also specifying contactless credit/debit card as the preferred payment method. Several respondents also stated that the payments themselves should be standardised and simplified as a price per kWh and a number stated that the system should be as simple as if refilling at a traditional service station.

Other comments received related to the unreliability and poor maintenance of charge points, Apps not working properly, and the need for more charge points locally.

Tariff cost comparison: other comments

As with access and payment methods, only a few of the 81 additional comments received about the ability to compare tariffs were positive.

A large number of respondents stated that there are too many pricing structures (subscription, price per hour, price per kWh, parking charges), making it complicated or difficult to compare costs. Many called for a standardisation of pricing, with a number advocating a price per kWh. Several also called for there to be no access/connection charge or membership fees, and for payment to be based solely on use.

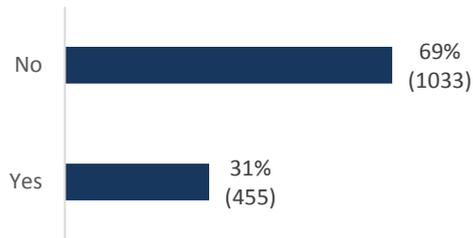
A number of respondents expressed concern over the cost to use certain units, some stating that overpricing will deter the take-up of electric vehicles. Others specifically referenced the cost per unit of domestic energy and that public charge points should not charge excessively over this amount. Only a couple advocated that they should be free to use. Another opinion frequently cited was that the fees to use charge points are not clearly displayed and that drivers must rely on Apps to assess the cost to charge.

Whilst a large number expressed concern over the existing tariff structure, several pointed out that the limited number of charge points available in their area often means that they are restricted to certain providers and have no option but to use them if they wish to charge on a public network. A few expressly stated that the availability of charge points was their main concern.

7. Environmental Considerations

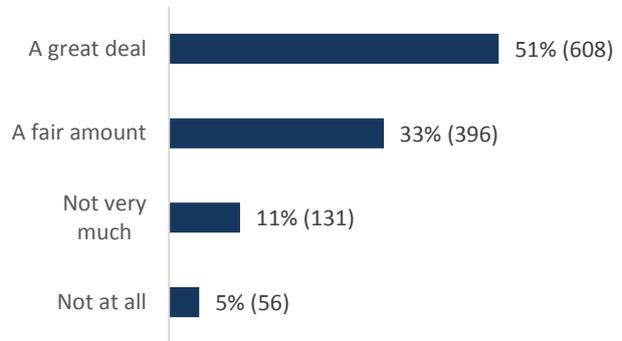
The majority (69%) of all 1488 respondents to the survey are not aware of any air quality issues in their area (figure 6.1). However, a large proportion (84%) of those who currently own (or have previously owned) an electric vehicle and those who would consider buying one, stated that environmental concerns have influenced their decision to purchase an electric vehicle (51% 'a great deal', 33% a fair amount) (figure 6.2).

Figure 6.1 Are you aware of any air quality issues in your area?



Base: n=1488, single selection

Figure 6.2 To what extent have environmental concerns influenced your decision to purchase an electric vehicle?



Base: n=1191, single selection

8. Local Authority Charge Point Infrastructure

Charge point installations on local authority property

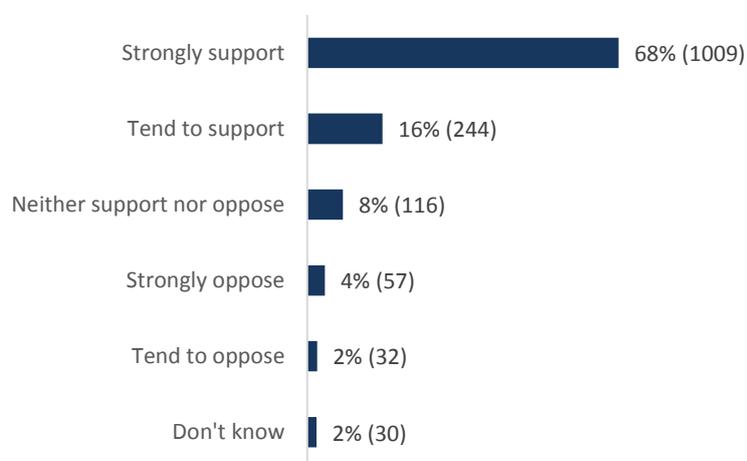
All 1488 respondents to the survey were asked to what extent they would support the installation of infrastructure on local authority property. Overall, the vast majority (84%) are supportive, with 68% stating that they 'strongly support' and 16% that they 'tend to support' local authorities installing infrastructure. A total of 6% stated that they tend to (2%) or strongly (4%) oppose, while a further 8% neither support nor oppose (figure 7.1).

Of those who opposed (either strongly or tend to), the majority cited finance as a key factor with several expressing concern should the costs be borne by the council tax payer. A key aspect for some was that infrastructure paid for by local authorities would only serve a minority whilst others questioned the financial prioritising of electric vehicle infrastructure over other essential services. Several respondents also raised concerns about increasing pressure on existing parking spaces.

However, some respondents stated that they would support proposals to install on local authority land if it was paid for by a commercial provider and if the ongoing energy costs were paid for by electric vehicle drivers themselves. Conversely, a small number consider that electric vehicle infrastructure should be delivered by (and at) existing fuel stations only.

A number of respondents opposed on technology grounds citing that electric vehicles are too early in development; that there is not enough adoption to justify installations; or that electric vehicles are “not the way forward” and that other technology such as hydrogen will overtake. A few respondents also opposed on environmental grounds citing the displacement of emissions to power stations and the production and disposal of batteries. A couple of respondents also raised concerns over the potential grid implications of increased energy demand.

Figure 7.1 To what extent would you support the installation of charging infrastructure on local authority estate?



Base: n=1488, single selection

Suggested charge point locations

All respondents (except those who strongly opposed), were asked to provide location details for any specific car parks or areas that they believe would be good location(s) for charge point infrastructure.

Of the 1431 respondents that were presented with this question, some 833 went on to provide suggested locations. Responses varied considerably with some respondents providing specific car park names while others provided broad town or local authority area locations. Furthermore, some respondents suggested types of location rather than geographic location and a large number offered locations that are not within local authority control.

Table 3.1 below shows the number of suggestions that fall within each local authority area. As can be seen, the highest number were for locations within Wealden, followed by Rother and Eastbourne. This is unsurprising given the higher number of respondents

from these areas. County-wide suggestions are those in which the respondent only specified East Sussex. Locations within a number of other local authority areas were also suggested and are shown below.

The number of suggestions for each type of location are shown in table 3.2. The largest number suggested were for specific public car parks (474), followed by unspecified public car parks (296). Supermarket and railway station car parks also featured prominently amongst suggested locations.

Table 3.1 Local authority area

Local authority area	Number
East Sussex	
Wealden	568
Rother	272
Eastbourne	142
Lewes	86
Hastings	43
County wide	273
East Sussex Total	1384
Other Areas	
Tunbridge Wells	9
Brighton & Hove	6
Mid Sussex	4
Other Total	19

Table 3.2 Location type

Location Type	Number	%
Public Car Park Specified	474	33.78%
Public Car Park Unspecified	296	21.10%
Supermarket	180	12.83%
Railway Station	88	6.27%
Town Centre	65	4.63%
Seafront	63	4.49%
Community Centre	39	2.78%
Petrol Station	30	2.14%
Leisure Centre	28	2.00%
Pub (Public House)	24	1.71%
Other	16	1.14%
Hospital	15	1.07%
Lamp Posts	14	1.00%
Recreation Ground	13	0.93%
School	11	0.78%
ESCC Staff Car Park	8	0.57%
Private Car Park	7	0.50%
Church	6	0.43%
Doctors Surgery	5	0.36%
Library	5	0.36%
New Build Estates	4	0.29%
Private Business	3	0.21%
WDC Staff Car Park	3	0.21%
Industrial Estate	2	0.14%
Bus Station	1	0.07%
Hotel	1	0.07%
Police Station	1	0.07%
RDC Staff Car Park	1	0.07%
Total suggestions	1403	100.00%

9. Conclusion

The results of the survey provide an insight into the current, and likely future, demand for electric vehicle technology in the area, as well as the charging patterns and preferences of existing electric vehicle drivers.

There is a strong indication that interest in electric vehicles is gaining in momentum and that adoption is likely to accelerate within the next few years. As the number of electric vehicles grows, so will the demand for reliable, easy to use, charge points at car parking sites. The survey also highlighted the important role that infrastructure could play in attracting business and the need for workplace charging.

The results demonstrate that there is overall support for the concept of local authorities installing infrastructure on their property but that careful consideration of finance, location, type and access methods must be given should any projects be developed.