Consumer Scotland: Electric Vehicles Experience Survey 2024

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June 2024

Key findings

This research set out to improve understanding of the consumer experience of electric vehicles in Scotland. It did this through an examination of three key themes – purchasing, driving and charging EVs. The research has a number of findings, the following of which are considered particularly significant for policy makers.

We find that most EVs purchased are new models, particularly those made since 2021. However, interest in second-hand EVs is higher among those considering EVs in the future. Most EV owners are conducting online research before purchasing and are generally satisfied with the information available, however anecdotal evidence suggests dealer-provided information needs improvement. Key concerns for EV drivers around purchasing include delivery delays and local sourcing issues. Costs of purchasing including cost of the vehicle and costs to install charge points are more prominent for those who are considering purchasing an EV, with many cost related concerns decreasing with real-world experience.

Drivers generally use their EVs as a primary vehicle, with most drivers making regular shorter journeys. EV drivers generally have positive experiences, appreciating EV's ease of use and low running costs, though battery performance and insurance costs are less favourable. Common battery issues include quick drain in cold weather and overstated mileage. Range anxiety, particularly for those in rural areas, hinders commitment to an all EVs future.

Charging infrastructure is a major challenge, with a strong preference for at-home charging cited, especially in rural areas. Indeed, public charging infrastructure is seen as the worst aspect of EV ownership with urban drivers particularly concerned with charger quality, while rural drivers worry about the availability of chargers.

A full list of key findings is provided below.

Electric Vehicle Specifications

- The majority of electric vehicles in Scotland have been purchased in the last three years, with 71% of EV drivers reporting that their vehicle was manufactured in 2021 or later.

Electric Vehicle Usage Patterns

- EV drivers overwhelmingly report using their EV as their primary vehicle (93%).

- Around three in ten (28%) EV drivers report using their electric vehicle daily; a further 69% do so weekly and 3% less often than this. Over a third (36%) take longer trips in their EV on a weekly basis.

Electric Vehicle Purchasing

- The most common way of buying an EV is to purchase one new, with 40% of EV drivers reporting this. One in four (26%) report having bought their EV used/pre-owned, while the same proportion say they leased their vehicle (24%).
- Those considering purchasing an EV are more likely to say they intend to buy a used/pre-owned vehicle (31%) than they are to buy new (20%) or lease (18%).
- Help to buy schemes were used by 40% of drivers to purchase their EV, with 33% of those considering an EV in the future expecting to use such schemes.
- Nine in ten (91%) EV drivers report having sought out some information before purchasing their electric vehicle. The most mentioned source is online reviews (62%), followed by EV manufacturers (38%) and their local dealership (36%).
- While overall levels of satisfaction with the information available on EVs is high, particularly among drivers (90% satisfied), respondents in the qualitative groups mentioned a lack of knowledge among some car dealerships about the finer details of EV ownership, making the process of buying an electric vehicle more challenging.
- The most common issue experienced among EV drivers when purchasing their vehicle is a long delivery wait time, mentioned by 31%, followed by inability to source a vehicle locally (15%). Relatively few report experiencing issues related to cost, with the majority of EV drivers saying that the cost to purchase their EV was just as expected (65%). This is likely a result of drivers having put in significant research in advance of purchase.
- The most common cost-related concerns EV drivers had prior to purchasing was the cost of the vehicle itself, mentioned by 41%. This is followed by the cost of installing a charging point at home such as Pod Point (27%) and the cost of insurance (21%). The data indicates that most cost-related concerns have not declined significantly since purchase.

Electric Vehicle Expectations and Experiences

- Around half of EV drivers say that the range of their EV's battery (56%), its insurance (49%) and running costs (52%) are just as they expected. A similar proportion (51%) say that their EV is easier to use than they expected.
- The majority (69%) have had their EV serviced or repaired since they bought it, and people are more satisfied than unsatisfied with the length of time, cost, choice of technicians and

ease of finding technicians to conduct the service/ repair. Those who have had their EV serviced report slightly higher levels of satisfaction with their experience compared to those who have had their EV repaired.

- Two in five (42%) report having issues with their battery going down too quickly in cold weather, the most common battery-related issue experienced. 65% reported having experienced a battery-related issue for their EV.

Electric Vehicle Concerns

- EV drivers are split as to whether they agree or disagree that they worry their EV won't have enough capacity for the journeys they make (44% agree, 43% disagree), but over half (51%) worry that they will not be able to charge their EV when out and about, compared to 36% who do not. Those considering buying an EV, as well as female EV drivers, drivers with disabilities, and those driving non-Telsa brands are significantly more likely than average to hold these concerns.
- The qualitative findings show that available range/range anxiety contributes significantly to how EV drivers use their vehicles/the type of journeys they make, and the extent to which they plan ahead. This is particularly the case when it comes to longer journeys: some avoid making longer journeys altogether, whereas others opt to use Internal Combustion Engine (ICE) vehicles or hire vehicles.
- Every listed concern surrounding EV batteries diminishes upon real-world experience; for example, current EV drivers are 48 percentage points less concerned about their EV's battery life compared with those considering purchasing an EV. Relatively low levels of concern about battery life (25%) among current EV drivers contrast with findings that 65% have experienced a battery-related issue.
- Overall, whilst EV drivers are broadly happy with their current vehicles, advances in the infrastructure are crucial if they are to retire use of other ICE vehicles and feel content with an EV-only future.

Electric Vehicle Charging

- The most popular method of charging EV's is through a home charging point (73% among all drivers, rising to 82% among those living in rural areas or the Scottish islands). Considerers show more variation in where they anticipate charging their EV, although the home remains the most common response (55%).

- Over four in ten (42%) EV drivers are already using a ‘Time of Use’ tariff – higher among rural/ island drivers (52%) than drivers in urban/ town and fringe areas (34%). A further 35% of drivers are interested in using the tariff in the next twelve months.
- The qualitative research demonstrates that many rural respondents avoid public charging entirely due to the cost (and variation of cost) in public charging, particularly in comparison to their at-home costs.
- One in five (21%) drivers use a public charging point at least once a week, with weekly use significantly higher among urban/ town and fringe drivers (23% vs 12% of rural/ island drivers).
- Nearly half (47%) of EV drivers are satisfied with the number of public charging points, with significantly more drivers in urban/ town and fringe areas satisfied (51%), when compared with rural or island drivers (38%).
- More drivers agree than disagree that it is easy to locate public charging points, with opinions split as to whether it is easy to charge their vehicle when and where they need to, and that there are typically enough charging points to use. There is more uncertainty around whether assistance instructions at public charging points are clear and easy, and that they are typically in good working order. Drivers in urban/ town and fringe areas are more in agreement that there are enough available charging points to use (52%) compared with drivers in rural/ island areas (36%)
- The most popular form of payment at public charging points is through a membership card. This is for all drivers in both rural and urban areas, and those considering an EV.
- For respondents in the qualitative study, one of the factors adding to discontent with public charging is the payment process (particularly for rural respondents that are less acquainted with public charging). There is frustration with the need to download a variety of different apps/use a variety of cards, as opposed to there being one centralised system.
- When looking for a public charging point it is ‘speed of charge’ that is the most common factor considered (79%). Over half of drivers also check that the charging point is in good ‘working order’ (63%), the ‘price’ (59%) and its ‘location’ (55%).
- Nearly three in four (74%) drivers who use public charging points have had to choose a different charging point than the one they had originally intended to use in the last twelve months. The most common reason for having to abandon a public charging point is that it was out of order (73%). Furthermore, around half (49%) of drivers who use public charging points have had to call a helpline for assistance in the past twelve months.

- The most preferred locations for charging points are at a ‘destination’, such as a leisure facility, hospitality venue, library or hospital (31%) and at ‘charging hubs’ (29%) or ‘public car parks’ (25%). These three categories were significantly ahead of the next most preferred option ‘forecourt service stations’ (7%).

Introduction

Background and understanding

The UK governments zero emission vehicle mandate[1] details the switch to electric vehicles (EVs) and the contribution this will make to reaching zero emissions in the UK. The mandate, of which Scotland is a contributor, sets out the path to achieving 100% of new cars and vans sold to be zero emission by 2035.

At the end of 2023 electric or hybrid vehicles made up around 6% of all Scottish vehicles, with 1.5% of these fully electric [2]. While Scotland has more public charging points than any other region in the UK outside of London and the South East[3], the domestic transport sector is the greatest contributor to Scotland's net greenhouse gas emissions, and road transport contributes the most[4].

Consumer Scotland commissioned this research to better understand the consumer experience of electric vehicles. It is imperative that the development and implementation of policy aiming to encourage the switch to EVs is informed by the perspectives and priorities of early adopters who have relevant experience of the opportunities, barriers, and challenges associated with acquiring and using EVs. The aim of this research is to understand incentives and barriers, and feed into emerging policies that will improve the satisfaction of EV drivers in Scotland.

The research does this by exploring three key themes, namely purchasing, driving, and charging EVs. The findings provide a detailed assessment of the motivations and experiences among Scottish resident EV drivers when purchasing and running their vehicles, and of the expectations and potential barriers among those considering purchasing an EV.

Sampling

The findings were collected using online research methods and are based on a sample of n=463 EV owners residing in Scotland and n=204 Scottish residents considering purchasing an EV. Fieldwork was carried out between 20th March - 14th April 2024. The research used a quota sampling approach, a non-probability sampling method which involves dividing the population up into mutually exclusive subgroups based on known population characteristics and recruiting respondents until each 'quota' is met. All respondents were recruited from the YouGov UK panel of over 30,000 Scottish residents who have signed up to complete surveys.

With little official data on the demographic makeup of Scottish EV owners, the sample is structured from evidence of YouGov panel data. Via our panel, around 20,000 residents in Scotland answered standard questions about current and future vehicle type ownership, and from this evidenced the demographic make-up of EV owners in Scotland based on gender and age.
'EV drivers' are defined as drivers in Scotland who own a vehicle with an electric engine, either solely or jointly with someone else. 'EV considerers' are defined as drivers in Scotland who would consider purchasing an electric vehicle in the future.

In the table below the unweighted base indicates the number of completed surveys and the weighted base shows the adjustments that have been made to correct for any sample bias. All figures quoted are based on weighted data. Weighting adjusts the contribution of individual respondents to aggregated figures and is used to make surveyed populations more representative of a project-relevant population by forcing it to mimic the distribution of that larger population's significant characteristics, or its size. The weighting tasks happen at the end of the data processing phase on cleaned data.

Figure 1. Sample breakdown by variables with quotas

Variable	*Unweighted N*	*Weighted N*	*Weighted %*
EV Drivers			
Gender			
Male	257	306	66%
Female	206	157	34%
Age			
17-50	188	315	68%
51+	275	148	32%
EV Considerers			
Gender			
Male	120	122	60%
Female	84	82	40%
Age			
17-50	128	137	67%
51+	76	67	33%

The sample did not quota on income, which was allowed to fall out naturally. Figure 2 illustrates the skew toward higher income households in both the drivers and considerers sample, although those considering an EV in the future show more variability of household income. Housing type was another area allowed to fall out naturally. The majority of the sample live in houses, or bungalows, with fewer in flats or maisonettes. Notably more respondents who are considering an EV in the future currently live in a flat or maisonette (27%) when compared with drivers (9%).

Figure 2. Sample breakdown by variables without quotas

Variable	*Unweighted N*	*Weighted N*	*Weighted %*
EV Drivers			
Household income			
Up to £34,999	85	64	14%
£35,000 to £59,999	95	94	20%
£60,000+	212	252	54%
Prefer not to say	71	53	11%
House type			
House	371	376	81%
Bungalow	49	40	9%
Maisonette/ flat	41	45	10%
EV Considerers			
Household income			
Up to £34,999	49	48	23%
£35,000 to £59,999	49	49	24%
£60,000+	73	74	36%
Prefer not to say	33	34	16%
House type			
House	136	132	65%
Bungalow	13	12	6%
Maisonette/ flat	55	60	29%

Interpretation of the research findings

Quantitative survey

Analysis throughout is provided at topline level, as well as on a number of key demographic groups. Where two or more groups are discussed, only statistically significant differences to the 95% confidence interval are mentioned.

Significance testing is not applied for figures based on fewer than 50 respondents. Where included, figures based on fewer than 50 respondents are noted and should be treated with caution. Figures based on fewer than 30 respondents are not included or reported upon.
See Appendix for the survey questions.

Qual AI Explorer

The YouGov quantitative team included a variety of open-ended questions within the main survey on electric vehicle ownership. In order to provide qualitative insights from both EV drivers and considerers, the YouGov qualitative team analysed the open-end responses from the question 'Could you tell us what you like most about electric vehicle ownership?', which was asked to both audiences. Applying qualitative reasoning and using Yabble (an AI-powered insights tool) to support this process enabled a variety of themes to emerge: from expectations of EV ownership, to what key considerations are involved in the process of purchasing an EV. After excluding any irrelevant or nonsensical responses (e.g. 'don't know' responses, or keyboard smashing) a total of 412 responses remained for analysis.

Text-based focus groups

YouGov's qualitative research team invited 19 EV drivers from the quantitative survey to take part in one of two 90-minute text-based focus groups on the 24 April 2024, to further understand their experiences of EV ownership. 10 respondents participated in the first group, with another 9 respondents in the second group.

The focus groups allowed a deeper exploration of the decision-making processes respondents undertook before finally purchasing their EV(s) and helped uncover the factors influencing respondents' usage of their EVs, including range anxiety and issues related to charging. Importantly, the groups also covered the gap between what respondents expected from their EVs versus the reality of EV ownership, highlighting areas for praise as well as improvement.

Focus groups were split by ONS Rural Urban Classification, meaning that the first group was with urban EV drivers, and the second group with rural EV drivers. Across the text-based focus groups, there was a mix of:

- Region (Urban or rural, within Scotland)
- Age
- Gender
- Ethnicity
- Social grade
- EV use – in how regularly respondents use their EVs, and the length of journeys they typically take
- Other vehicle ownership (including respondents who are EV-only, and own both EV and ICE vehicles in their households)
- Main charging location, where possible - at home vs. public charging
- Issues experienced in the purchase process, and with car batteries
- Future intent in purchasing an EV

The below table provides a more detailed breakdown of respondents' demographic information.

Figure 3. Participant breakdown of text based groups

Group	Age	Gender	Ethnicity	Urban/rural status	Social grade	Frequency of use	Frequency of long trip	Future EV purchasing intent
G1	46	Male	White British	Urban	B	Every day	Less than once a week	Yes
G1	25	Female	White British	Urban	C1	One to two days a week	Less than once a week	Yes
G1	28	Male	White British	Urban	C1	Three to four days a week	Less than once a week	Yes
G1	39	Female	Skipped	Urban	C1	Every day	Less than once a week	No

G1	56	Female	White British	Urban	D	Every day	Less than once a week	Yes
G1	46	Male	Skipped	Urban	B	Five to six days a week	Less than once a week	Yes
G1	46	Female	White British	Urban	B	Three to four days a week	Less than once a week	Yes
G1	70	Male	White British	Urban	A	Three to four days a week	Less than once a week	Yes
G1	61	Male	Any other white background	Urban	B	One to two days a week	Less than once a week	Yes
G1	75	Male	White British	Urban	B	One to two days a week	One to two days a week	Yes
G2	62	Female	White British	Rural	A	Every day	One to two days a week	No
G2	62	Female	Skipped	Rural	E	Five to six days a week	Less than once a week	Yes
G2	57	Male	Skipped	Rural	E	Five to six days a week	One to two days a week	Yes
G2	48	Male	Skipped	Rural	B	Every day	Three to four days a week	Yes
G2	59	Male	White British	Rural	D	Five to six days a week	Less than once a week	Yes

G2	52	Male	Skipped	Rural	C1	Three to four days a week	One to two days a week	No
G2	40	Female	White British	Rural	B	Every day	Less than once a week	No
G2	68	Female	Skipped	Rural	B	Five to six days a week	One to two days a week	No
G2	36	Female	White British	Rural	A	Every day	Three to four days a week	No

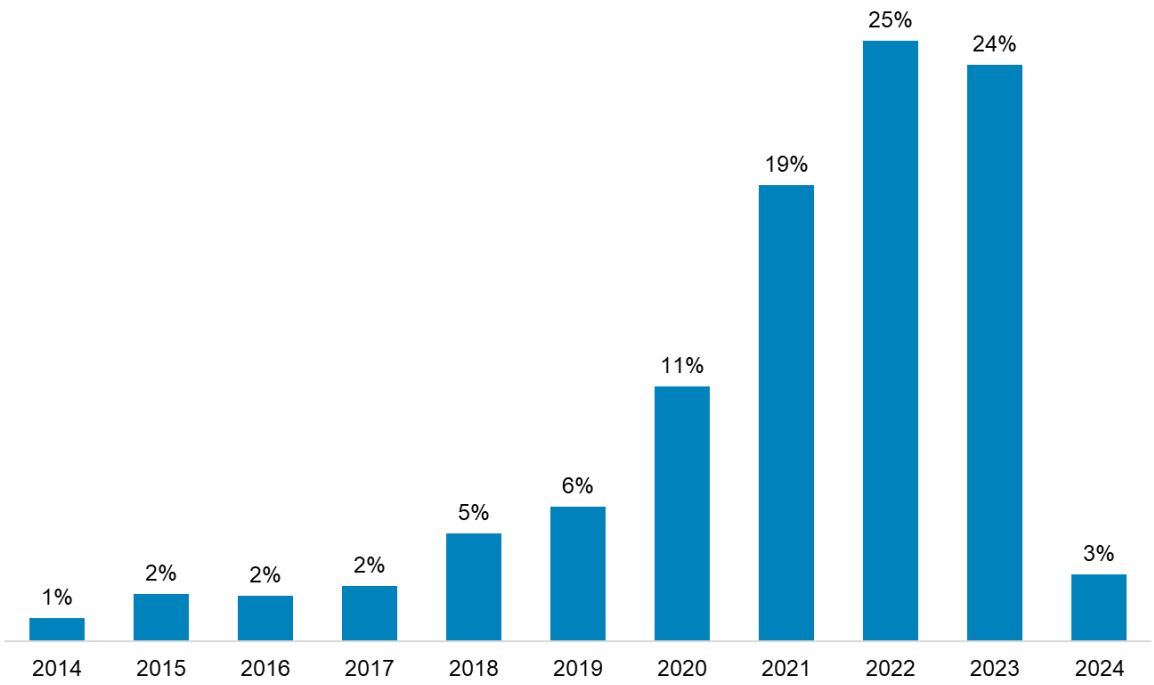
The qualitative data from the groups was analysed using thematic analysis. This is an inductive technique that involves establishing categories and then identifying systematic links between them. All text was cross-referenced, allowing comparisons to be made e.g. between different respondents and groups. The thematic analysis was conducted by two researchers – who conducted the fieldwork – to increase the validity and objectivity of the analysis. Another senior member of the team reviewed the key themes and structure to provide a critical and objective eye.

Electric Vehicle Specifications

The vast majority of EV drivers in Scotland say that their electric vehicle is their primary vehicle (93%), while only 7% say it is their secondary vehicle[1]. This finding is consistent across key demographic groups, with 90% or more saying it is their primary vehicle across almost all groups. Almost all EV drivers surveyed have an electric car (98%); 2% report owning an electric van and 1% another type of electric vehicle. When it comes to specific vehicle brands, 14% of EV drivers report owning a Tesla, compared to 86% owning another brand.

The data indicates that the majority of electric vehicles in Scotland have been manufactured and purchased in the last three years, with 71% reporting that their vehicle was manufactured in 2021 or later. Similarly to ownership trends, there are few statistically significant differences in vehicle age across demographic groups here, though 45% of vehicles manufactured since 2021 were bought new, compared to 29% manufactured prior to then; the majority of older vehicles (57%) were instead bought used.

Figure 4. Year of manufacture for EVs owned



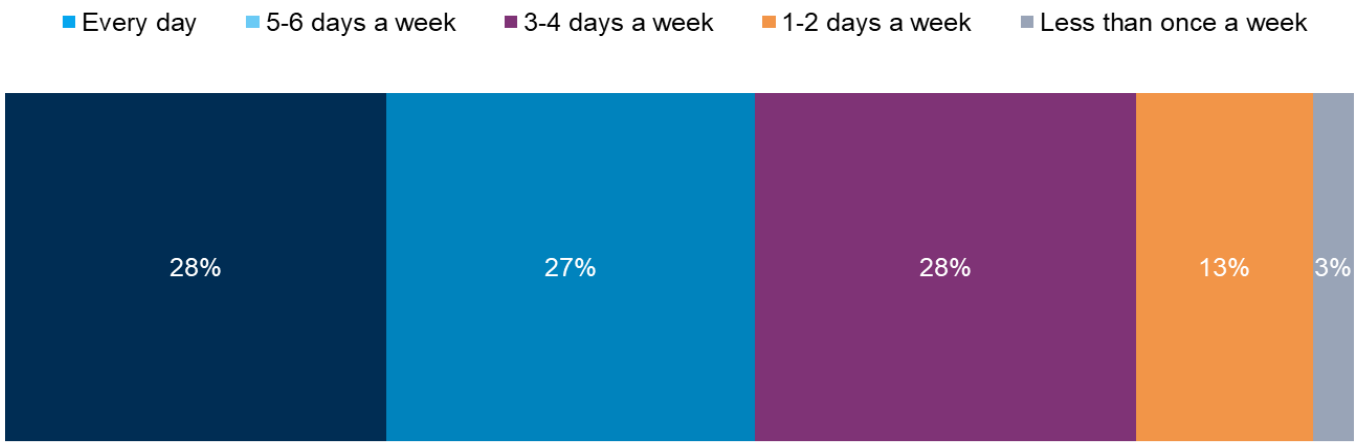
Base: All EV drivers (n=463)

[1] Primary vehicle was defined in the survey as 'the vehicle I use most frequently', while secondary vehicle was defined as 'the vehicle I use as a backup'.

Electric Vehicle Usage Patterns

Around three in ten (28%) EV drivers in Scotland report using their electric vehicle daily; a further 69% do so weekly and 3% less often than this. Among those who would consider purchasing an EV in future, just 11% say they would expect to drive it daily (weekly: 82%, less often: 7%). Lower levels of expected usage among EV considerers compared with EV drivers may be a result of differing driving patterns between these two groups.

Figure 5. Frequency of driving EVs



Base: All EV drivers (n=463)

In the qualitative text-based groups, respondents largely describe their EVs in terms that highlight an association with an enhanced driving experience. Whereas ICE vehicles are associated with functionality and durability, respondents across the text-based groups describe their EVs as being fun and easy to drive. This said, most use them for shorter, easier journeys (staying local, driving into town, going shopping), on a day-to-day basis. As will be explored in greater depth shortly, this finding can be attributed to a range of factors, including the range that respondents' EVs can cover, differences in lifestyle and driving patterns, and respondents' anxiety surrounding their vehicle's range and performance levels.

Just over one in three EV drivers in Scotland (36%) take longer trips[2] in their electric vehicle at least once a week. This includes 1% doing so every day, 4% 5-6 days a week, 10% 3-4 days and 21% 1-2 days. This is slightly higher than the 27% of EV considerers who say they would plan to

[2] Defined as any trip 'outside of your local area'.

drive their EV outside their local area at least weekly. Younger EV drivers (aged under 50) are more likely to report taking long trips weekly than those aged 51+ (41% vs. 27%).

The focus groups indicated that while respondents do occasionally take longer trips, they generally associate them with increased stress levels, describing a wide range of factors that can impact a trip (e.g. lack of charging infrastructure, impact of adverse weather, sudden drop in battery level when driving too fast), and the efforts required to overcome them (more stopovers, thoroughly planning where to charge enroute). Some respondents also avoid travelling long distances in their electric vehicles altogether and use alternative means of transport where longer distances are necessary, including other vehicles in the household, borrowed/hired vehicles, and public transport.

> *"For long journeys I either take the train or make lists of all possible chargers en route." (Group 1 – Urban)*

> *"For short local journeys, we only really use the EVs…my van only has SLOW charging, so it's local use only." (Group 2 – Rural)*

> *"The EV is used as our primary vehicle due to it being cheaper to run, then the Mazda petrol car is used secondary and also on longer journeys as it is more spacious and comfortable." (Group 2 – Rural)*

Across the focus groups, several respondents report owning at least one ICE vehicle in addition to their electric vehicle(s), mirroring the quantitative survey, which saw 39% report they own another type of vehicle in addition to their EV. These respondents typically use ICE vehicles for longer journeys because they can cover more ground, for longer periods of time. Other reasons for owning multiple vehicles include personal preference and convenience (e.g. vehicles used by different people in the household, competing schedules and completing tasks). For the rural respondents, having multiple vehicle options is more a matter of necessity than preference, when even running errands can require a 20-mile round-trip; by contrast with the urban respondents, the rural group require ICE vehicles for performing more heavy-duty work (e.g. taking rubbish to the dump, towing), as well as for longer distances.

"We have a Dacia logan which we use for longer journeys – over 200 miles and we also treat that as a bit of a van – take rubbish to the dump." (Group 2 – Rural)

"The EVs are the main vehicles we use unless towing or going a long distance. We are rural… towing we use the land rover. Long distance we use the land rover." (Group 2 – Rural)

"We live in a rural location so we need two cars to get to work / drop kids off etc" (Group 2 - Rural)

Around half (45%) of EV drivers report that they drive on the motorway at least once a week, including 8% who do so 5 days or more, 21% between 2 and 4 days and 16% once a week. A similar proportion (47%) do so less often, and 7% never do so. Again, a slightly different pattern is seen for considerers, with a third (33%) saying they would drive their EV on the motorway on a weekly basis.

The findings from the qualitative groups indicate that fewer rural EV drivers regularly conduct motorway journeys – they live further from motorways, or motorways are not typically a part of typical journeys that they make.

"I'm quite rural so the nearest motorway is a distance away. It's not because I don't like or want to avoid motorways." (Group 2 – Rural)

"There's no need for me to use motorways on my short journeys and I have no choice but to use them on long trips." (Group 2 – Rural)

Alongside this, respondents do not necessarily associate EVs with optimum motorway driving – some respondents cite EVs being great 'town' cars, and the impact that motorway driving can have on range, which could be a possible explanation for why some are doing motorway journeys less frequently.

"Motorways suck up the power a lot – it's more economical to use A roads." (Group 2 – Rural)

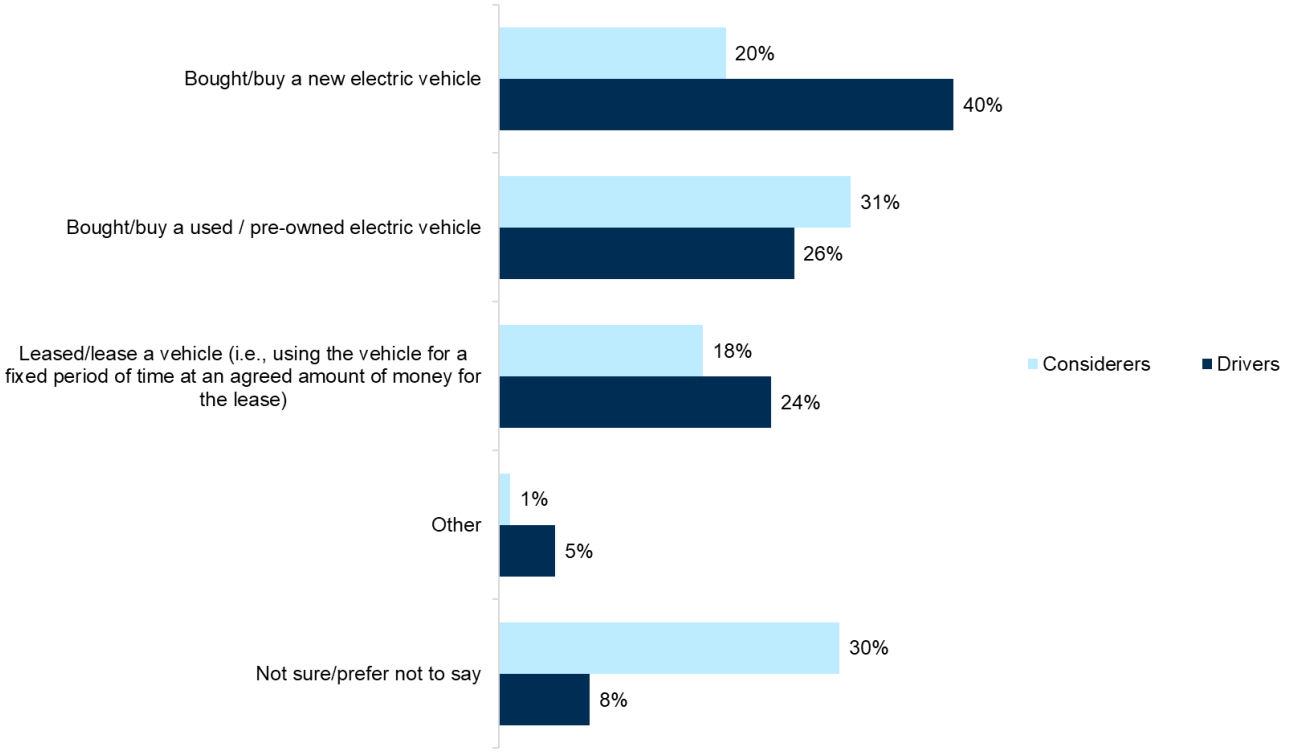
"I get less distance with my battery on motorways." (Group 2 – Rural)

Electric Vehicle Purchasing

Methods of purchasing EVs

The most common way of buying an EV is to purchase one new, with 40% of EV drivers in Scotland reporting this. One in four (26%) report having bought their EV used/pre-owned, while the same proportion say they leased their vehicle (24%). Among those considering buying an EV, people are more likely to say they will purchase a used/pre-owned vehicle (31%) than a new one (20%).

Figure 6. Type of EV intend to purchase



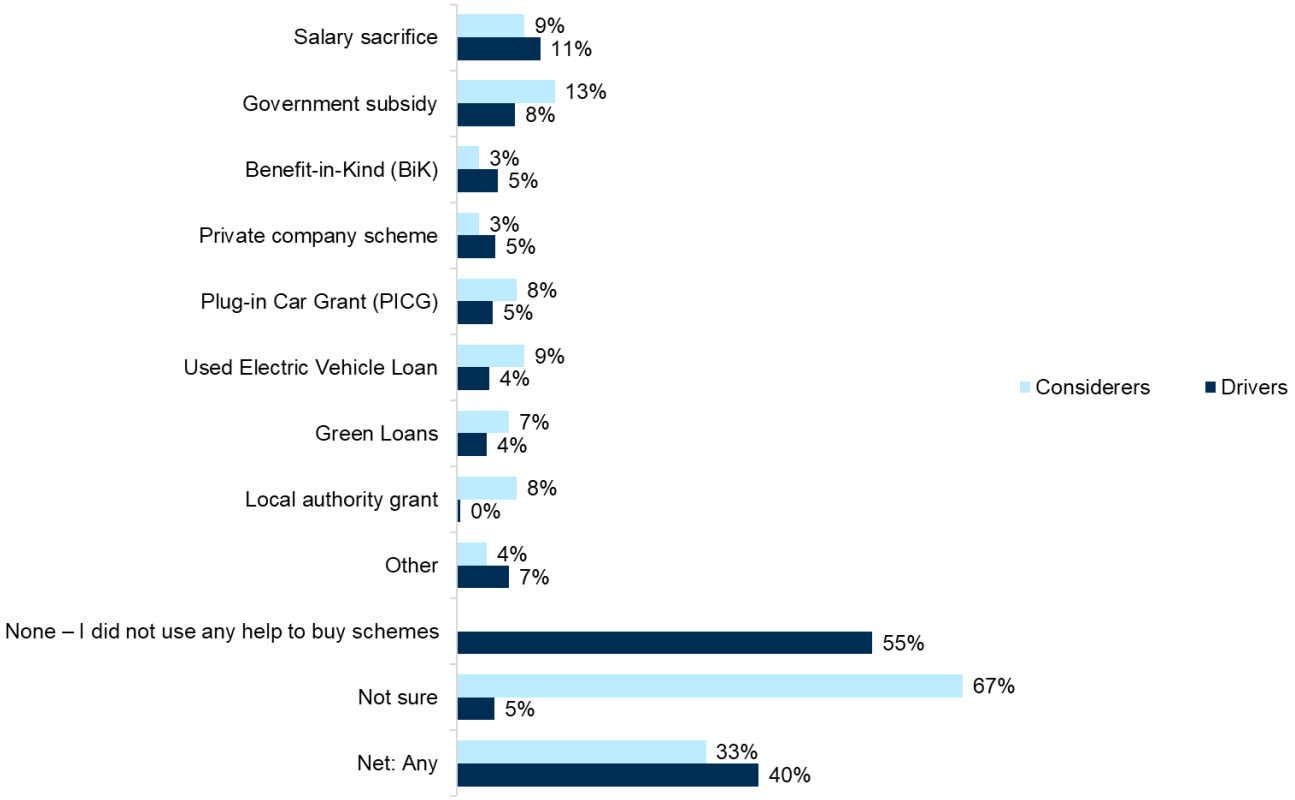
Base: All (EV drivers, n=463; EV considerers, n=204)

Use of help-to-buy schemes

Two in five (40%) EV drivers report having used at least one help-to-buy scheme when purchasing their EV. No one scheme was dominant, though salary sacrifice (11%) and government subsidies

(8%) topped the list. There were few statistically significant trends in specific types of assistance drivers were likely to have used across demographic categories, though those with gross household incomes of £60,000+ were more likely to report having used at least one (46%, vs. 33% with incomes lower than this). This is driven by those with higher incomes being more likely to mention using schemes such as salary sacrifice, a private company scheme and benefit in kind, suggesting that employer-led schemes are the reason for this income divide.

Figure 7. Help to buy schemes used/would use when purchasing EV



Base: All (EV drivers, n=463; EV considerers, n=204)

For the minority in the qualitative groups that report having obtained government loans or subsidies, it is apparent that such schemes provided an attractive incentive for buying an electric vehicle and the related equipment. Respondents who benefited from the schemes imply that doing so made the overall process of going electric more inviting.

> *"We bought ours using the Scottish government interest free loan, which saved us a lot of money…we got the grants for installation of a home charger, so felt worth it for all the savings we made." (Group 1 – Urban)*

"I got the interest free loan from the government to finance the car. Also claimed 2 different grants to put our charger in at home. We probably would not have gone electric without these." (Group 1 – Urban)

Whilst benefitting from various loans and subsidies, the experiences of obtaining said loans/subsidies are more mixed. Some respondents described the process as being marred by long wait times and complicated, unclear information from private companies and car dealerships. Several respondents report some car dealerships' reluctance to take part in money-saving schemes (e.g. loans and subsidies from government, employers, private companies), creating a barrier to them accessing some of the benefits that other respondents were able to get; these include subsidies on insurance/servicing costs, grants/free home chargers, and savings on tax. It is also suggested that car dealers' refusal to participate can be localised, meaning outcomes are not always predictable.

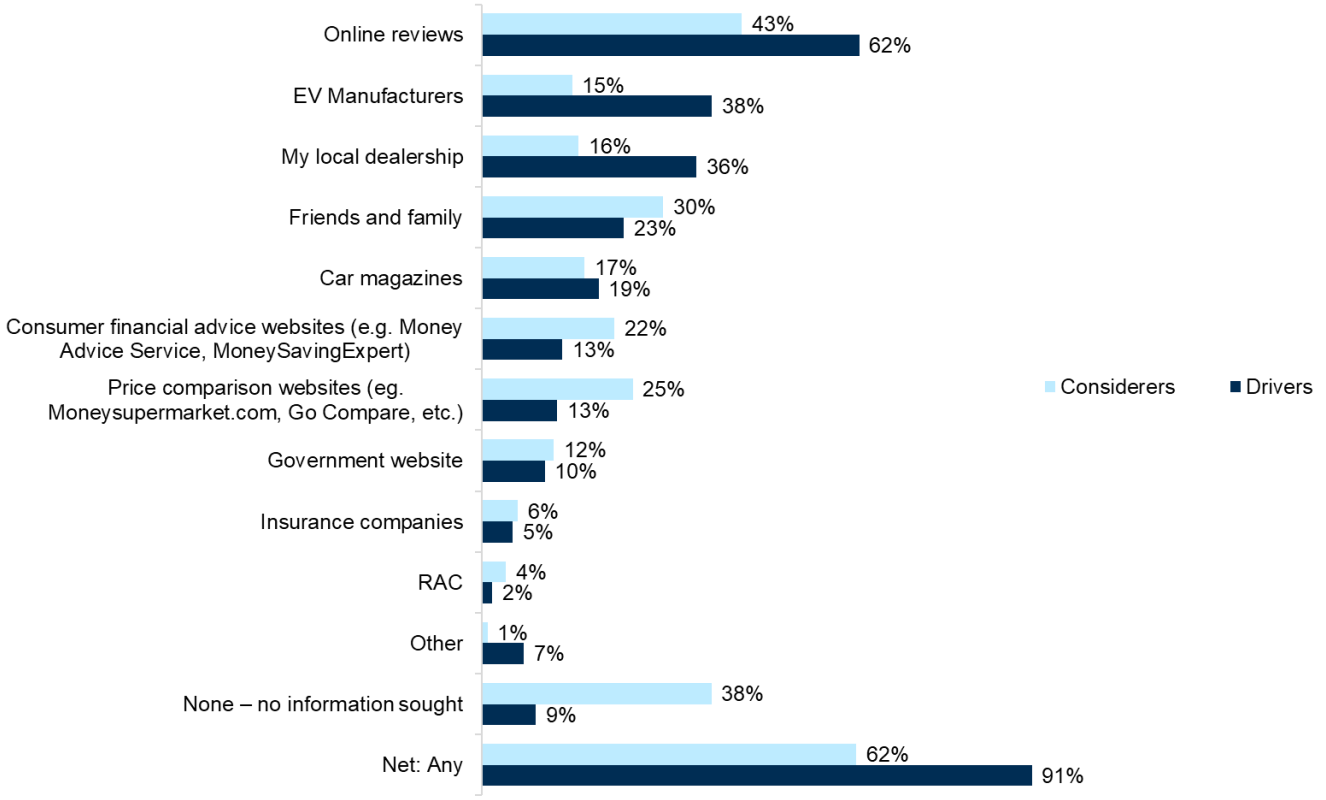
"My wife went via the EST process for her business. It was a long process and some dealers were not keen. I had to go to Essex to pick her van up for her!" (Group 2 - Rural)

"Hard to understand everything…it took me a good 5 months to sort it all out…I got a grant towards the home charger which was the most complicated experience." (Group 1 – Urban)

Information sought about EVs

Nine in ten (91%) EV drivers report having sought out some information before purchasing their electric vehicle. The most mentioned source is online reviews (62%), followed by EV manufacturers (38%) and their local dealership (36%). Again, one of the largest divides here is seen by household income; those with incomes of £60,000+ are more likely to report seeking information from EV manufacturers (43%, vs. 27% of those with incomes of less than £60,000) and friends and family (30% vs. 17%), for example. No other consistent trends in information seeking across driver demographics are seen. EV considerers are less likely to report having sought information (62%), though this is perhaps unsurprising given this group includes people who are not yet actively seeking to purchase an EV.

Figure 8. Sources of information about EVs



Base: All (EV drivers, n=463; EV considerers, n=204)

The data from the qualitative groups echoes the quantitative data – EV drivers consult a variety of sources when considering their purchase. In terms of deciding what car to buy, reviews form an essential component of pre-purchase research and respondents report consulting a variety of sources when researching their electric vehicle (e.g. online reviews/what car reviews, video reviews). Advice from family members and friends also contributes to the research/decision-making process. Overall reviews of car dealerships are more mixed, with respondents critiquing that information from dealers in hindsight lacks the finer details (e.g. on charging). More clarity and detail would be appreciated to limit the 'learn-as-you-go' experience. Some feel that car dealers' lack of knowledge makes the process of buying an electric vehicle more challenging, while others describe relying on their own prior knowledge.

> *"The dealers do not have a clue…There needs to be better training available to their sales folks. Not naming names but the bigger dealers!" (Group 2 – Rural)*

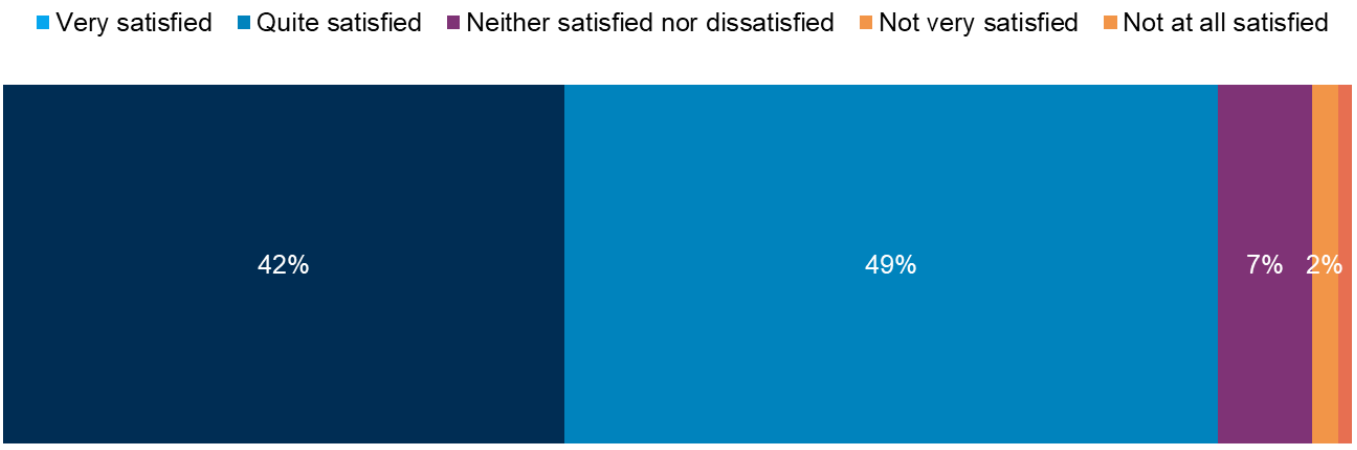
> *"As a long-ish term EV user I was telling the sales people the process." (Group 2 – Rural)*

"The dealer didn't know much about the car and definitely [not] about charging. He said I will pick it up as I go along." (Group 2 – Rural)

"Dealers were not really interested or knowledgeable on EVs...Except Tesla who were on the money." (Group 2 – Rural)

Despite negative experiences in relation to car dealers specifically, overall level of satisfaction with the information accessed prior to purchasing their electric vehicle is high among EV drivers; 90% report being very/quite satisfied, and just 3% very/quite dissatisfied. Again, satisfaction was somewhat lower among EV considerers (61% satisfied vs. 10% dissatisfied), though it may be harder for this group to judge the quality of the information they have received given they haven't yet purchased an EV.

Figure 9. Satisfaction with information received prior to purchasing EV



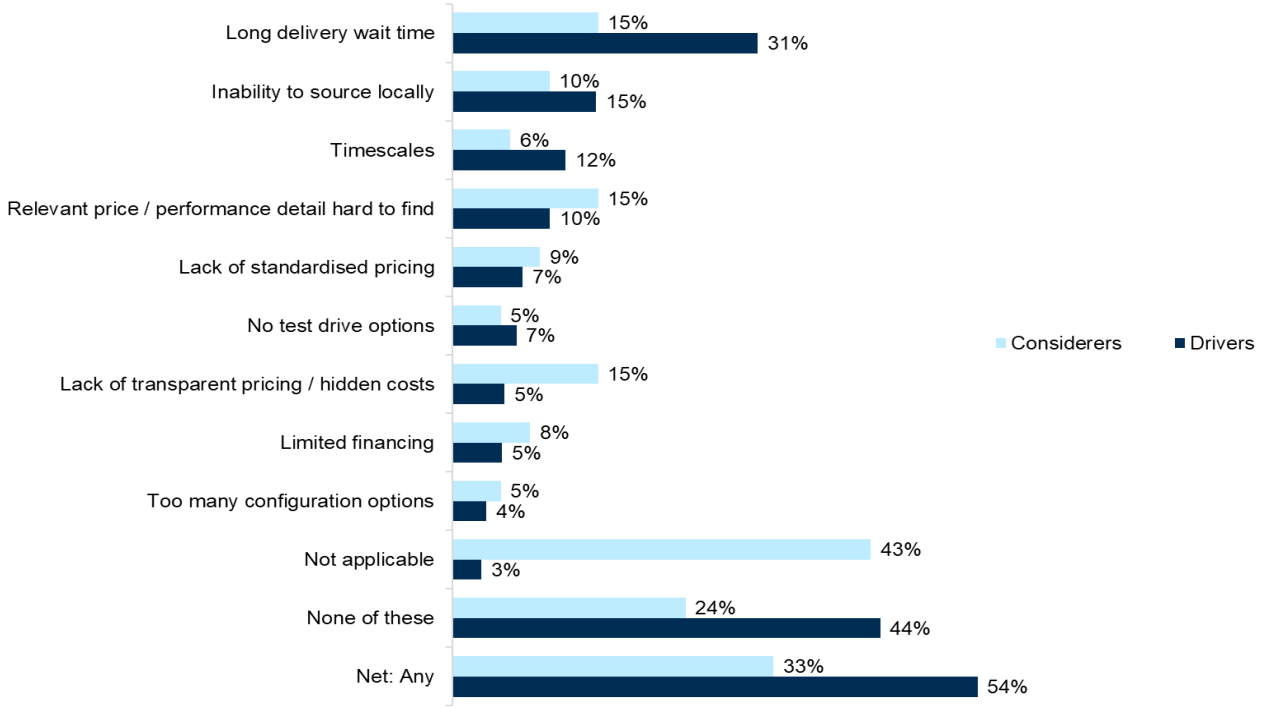
Base: All EV drivers (n=463)

In general, these results indicate that EV drivers in Scotland found information about purchasing an electric vehicle to be generally accessible and satisfactory, though this was principally driven by online reviews, meaning that a level of self-motivation was required. As EV uptake expands to wider groups who may be less motivated and/or capable of doing this research themselves, readily available information from other sources, including dealerships, is likely to be of increased importance.

Issues experienced when purchasing EVs

The most common issue experienced among EV drivers in Scotland when purchasing their vehicle is a long delivery wait time, mentioned by 31%. An inability to source a vehicle locally is reported by 15%, while issues relating to timescales and pricing also rank relatively high in terms of overall mentions. Overall, 54% report that at least one of the issues listed apply to them. Those who bought their vehicle new or leased it are more likely to report having experienced at least one issue (60% and 59%, respectively), than those who bought it used (43%). This gap is driven by long delivery wait times, mentioned by 39% of new EV owners and 42% who bought via a lease, compared to 9% of used EV owners.

Figure 10. Issues experienced when purchasing/looking to purchase an EV



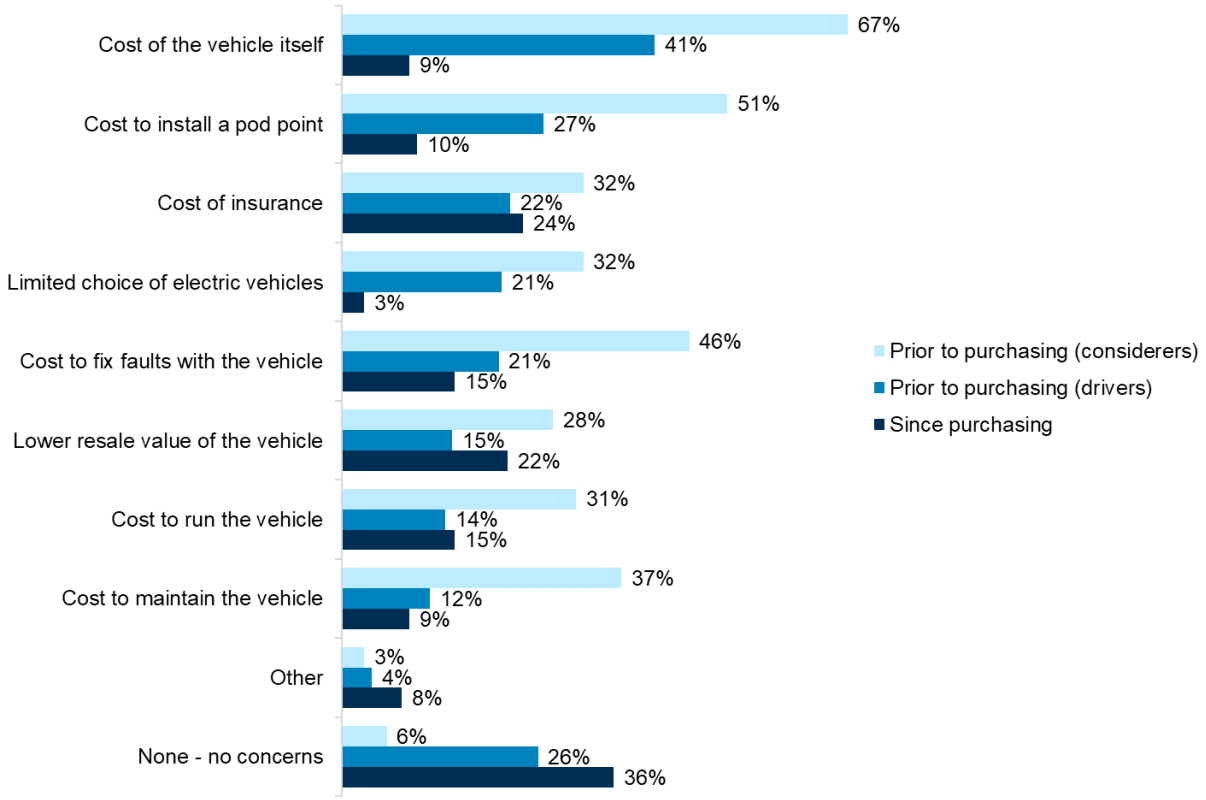
Base: All (EV drivers, n=463; EV considerers, n=204)

Relatively few EV drivers report experiencing issues relating to the cost of their EV, such as lack of transparent pricing / hidden costs. In turn, the majority of EV drivers say that the cost to purchase their EV was just as expected (65%). One in four (26%) say it was more than expected, and 7% say it was less (the remainder unsure). There are no significant differences here among EV drivers from varying demographic groups. EV considerers are more likely to say that the cost is more than they expected (48%), compared to 24% saying it is just as expected and 1% less than expected (the remainder unsure). This is likely partially driven by lower levels of income among the

considerers group; 36% of this group have a gross household income of £60,000+, compared to 54% of EV drivers.

The most common cost-related concerns EV drivers had prior to purchasing was the cost of the vehicle itself, mentioned by 41%. This is followed by the cost of installing a charging point at home such as Pod Point (27%) and the cost of insurance (22%). This emphasises the need for clear and easily accessible information regarding costs in these areas for potential buyers, as well as financial support available, if any. Overall, 74% report having had at least one concern about cost before purchasing their EV. In a similar pattern to that discussed in the previous paragraph, concerns about costs are much higher among EV considerers, 94% of whom report at least one cost-related concern, including 67% mentioning the cost of the vehicle itself, 51% the cost to install a charging point at home such as Pod Point and 46% the cost of fixing faults with the vehicle.
EV drivers were also asked about the extent to which these costs have been a concern since they purchased their EV. The proportion saying they still have at least one cost-related concern is slightly lower, at 64%, though this decline is principally driven by lower levels of concerns related to the upfront cost of the vehicle, such as the cost of the vehicle itself (9%) or the cost of installing a charging point at home such as Pod Point (10%). Other cost-related concerns remain at a roughly similar level to what they were prior to purchase.

Figure 11. Expectations and experiences of costs associated with EVs



Base: All (EV drivers, n=463; EV considerers, n=204)

Whilst the quantitative data shows that cost generally aligns with expectations for most EV drivers, analysis of the qualitative open-end responses highlights that cost is a key consideration, across both current EV drivers and EV considerers. Analysis of these open-end survey responses indicates that EV considerers' interest in electric vehicles over ICEs hinges on a variety of factors, including perceptions of an improved driving experience, reduced environmental impact, and the convenience of home charging. Data collected from the qualitative focus groups largely echoes the sentiment expressed in the open-end responses, with the promise of a more enjoyable driving experience being a clear factor in decision-making. Above all, however, considerations of cost and range are particularly well noted across both groups, with these factors regarded as interlinked. Indeed, the three main factors deterring EV considerers from buying an electric vehicle are the perceived upfront costs, concerns about high insurance costs, and range anxiety, which includes worries about the availability of charging stations and the distance that can be travelled on a single charge. This indicates that there is a possible perception amongst EV considerers that there are problems with the overall charging infrastructure, however, this would require further investigation.

“So far I have been put off switching by their price, high insurance and concern over their range before recharging and availability of working public chargers.” (EV Considerer, Survey data)

“Range was most important factor as chargers are rare up here.” (Group 2 – Rural)

Meanwhile, amongst the respondents in the qualitative groups, the consensus is that a vehicle with higher range and greater fuel efficiency is generally preferable over one that requires constant charging and recharging. It is implied that securing an electric vehicle with a decent range usually means paying higher upfront costs.

“Range was really important to us [as] by the time we got rid of our hybrid it was only doing about 40 miles on a full charge…felt like we were constantly having to think about when/where to charge it.” (Group 1 – Urban)

“Range was the big one for me as I wanted to be able to drive down to France without having to recharge every 80 miles or so. Fuel efficiency was also important, the more efficient a car is, the less battery you use, and looks as well.” (Group 1 – Urban)

“Good range is most important; I'd like 2-3 times what the Leaf has. Confidence in the lifespan of the batteries and in all the sensors and electronics too. I had a Skoda Octavia diesel before the Leaf. That could do reliably 500 miles on a tankful.” (Group 1 – Urban)

As such, for most respondents in the qualitative groups, the final decision to purchase an electric vehicle came down to finding a balance between cost and range, with some using cost estimates to determine what range they could realistically afford.

“The decision was finance driven also. We knew how much we wanted to spend per month, and the garage offered us a stupidly high price for our other Dacia logan, so that sealed it.” (Group 2 – Rural)

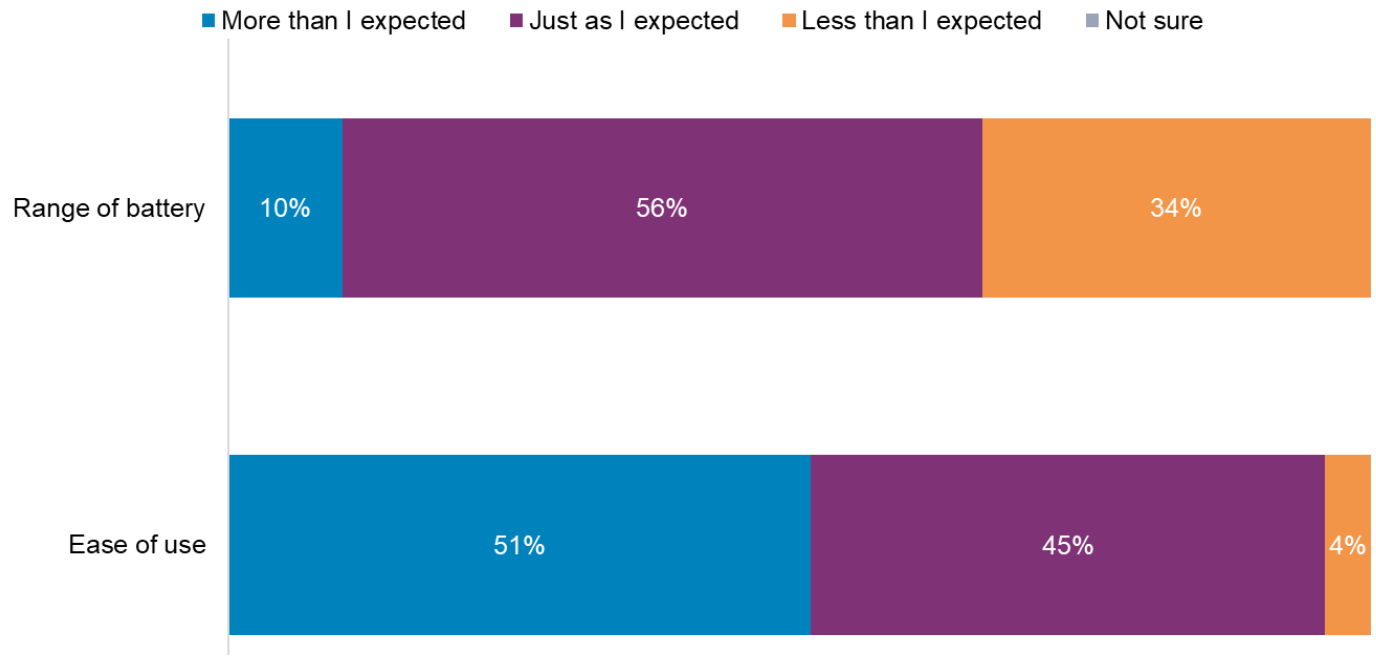
"I was interested because of the eventual cost savings through charging at home and not having to buy fuel anymore." (Group 1 – Urban)

Electric Vehicle Expectations and Experiences

Expectations and Experiences of Driving EVs

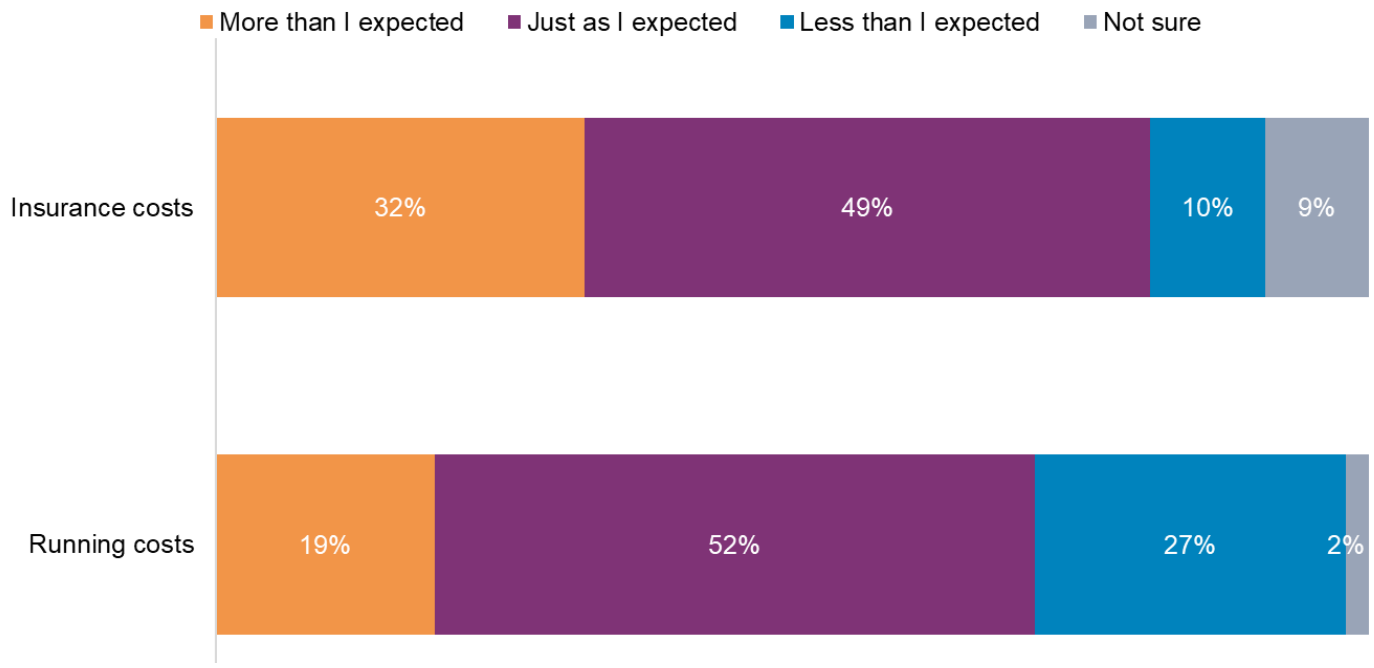
EV drivers in Scotland were asked about their expectations of driving an electric vehicle and how their experiences relate to these. The figure below shows that the majority (56%) of EV drivers report that the range of their EV's battery is just as they expected, although a third (34%) say this is less. Similarly, around half of EV drivers report that their EV's insurance costs (49%) and running costs (52%) are just as they expected, although they are more likely to underestimate insurance costs and overestimate running costs; a third (32%) say insurance costs are more expensive than expected, compared with 27% who say running costs are less expensive than expected. Over half (51%) report that their EV is easier to use than expected, with 45% reporting their experience matches their expectations.

Figure 12. Expectations and experiences of driving EVs



Base: All EV drivers (n=463)

Figure 13. Expectations and experiences of costs associated with EVs



Base: All EV drivers (n=463)

The significant differences between demographic groups arise in relation to how respondents use their EVs. For example, those who use their EV daily are more likely to say that associated running costs are more than they expected than those who use their EV weekly. There is no difference for vehicle age.

Drivers in rural areas / the islands are more likely to say that their battery range is more than they expected, perhaps due to fewer motorway journeys which rapidly consume battery. However, there is no difference in alignment between expectations and experiences for those who drive EVs purchased prior to or after 2021 (the cut off for warranty at the time of writing), indicating that expectations of driving EVs and the experience of driving them have changed either in parallel with each other over time (e.g. expectations of battery range have increased in line with actual battery range), or not at all.

EV drivers in both the quantitative survey and qualitative groups have observed a variety of ‘surprises’ in their ongoing EV membership, that demonstrate the gap between their expectations of being an EV driver, and the reality. Respondents in the quantitative survey were asked what issues they have experienced relating to their EV’s battery. The most common issue experienced

is that EV batteries drain quickly in cold weather, with over two in five (43%) reporting this, followed by limited battery range (29%). There is also a tendency for battery mileage and range to be overstated at purchase (25%) or reduced since purchasing the vehicle (19%). Encouragingly, only 2% report that their battery has failed completely, and 35% of all respondents have never experienced an issue with their EV's battery. Mirroring these findings, the majority of observations in the qualitative groups stem from technical or logistical aspects of being an EV driver, from surprise around the 'actual' range and factors that impact the battery (including temperature/weather), technical preparation and the level of planning required for public charging.

> *"My biggest surprise and ongoing concern is that the real range, especially in winter, is a lot less than the manufacturers claim," (Group 1 - Urban)*

> *"My biggest surprise at start was you didn't actually get all of the miles, it's all dependent on the heat/air con etc." (Group 2 – Rural)*

> *"I wasn't expecting it to just stop working sometimes! It sometimes gets stuck in neutral or starts showing an error on the screen which isn't correct. A quick 'reboot' sorts it but it is odd." (Group 1 - Urban)*

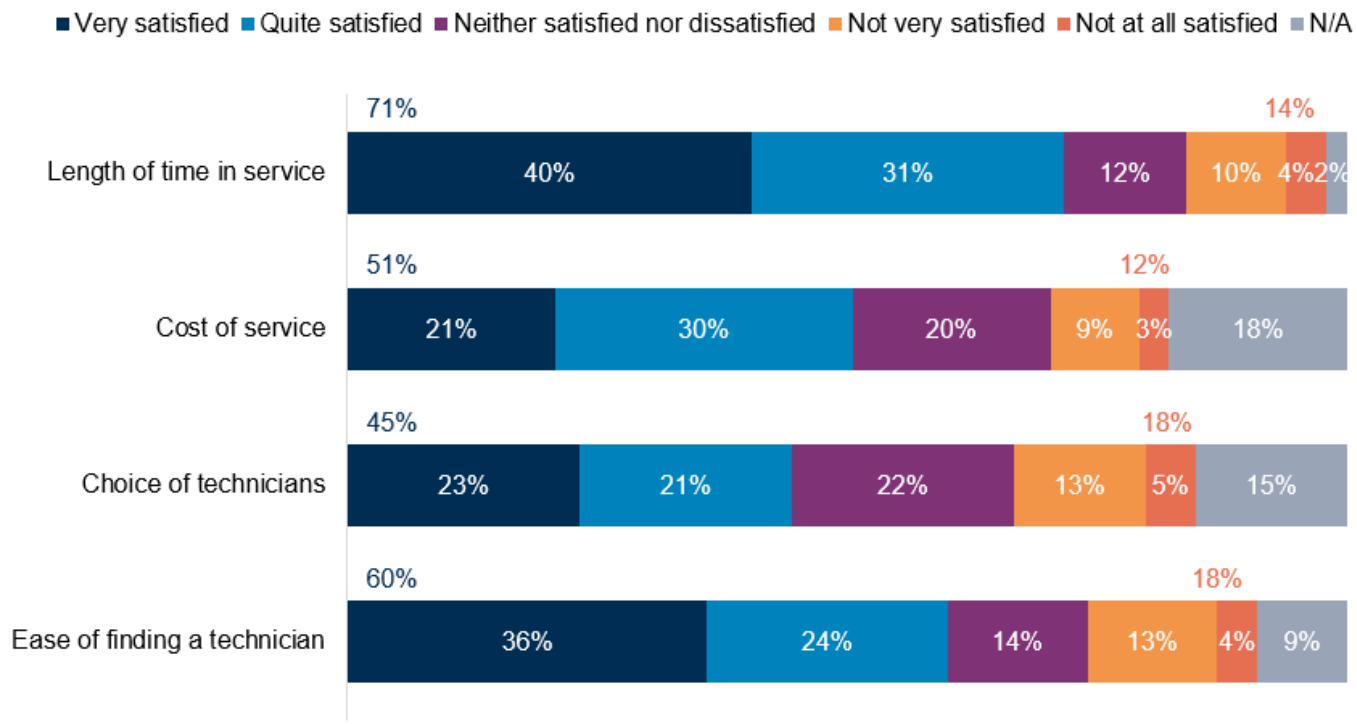
Experiences of Servicing and Repair

Seven in ten (69%) EV drivers have had their EV serviced or repaired since they bought it. Almost three in five (57%) have had their EV serviced (including installing software updates), whilst one in three (28%) have had it repaired; 14% in an emergency and 17% at a scheduled time.

Figure 14 shows that those who have had their EV serviced are largely happy with their servicing experience. Seven in ten (71%) are satisfied with the length of time their EV spent in service, including four in ten (40%) who are 'very satisfied'. In contrast, only 14% are unsatisfied with the length of time their EV spent in service. Similarly, three in five (60%) are satisfied (including 36% who are very satisfied) with how easy it was for them to find a technician, compared to only 18% who are unsatisfied with this metric. Slightly lower proportions – around half – are satisfied with the cost of service and choice of technicians (51% cost, 45% choice), but this may be attributed to a slightly greater proportion who are neither satisfied nor dissatisfied (20% on cost, 22% on choice)

rather than a greater proportion who are unsatisfied – indeed, only 12% of respondents are unsatisfied at the cost of their EV's service, the lowest of any metric asked.

Figure 14. Satisfaction when getting EV serviced



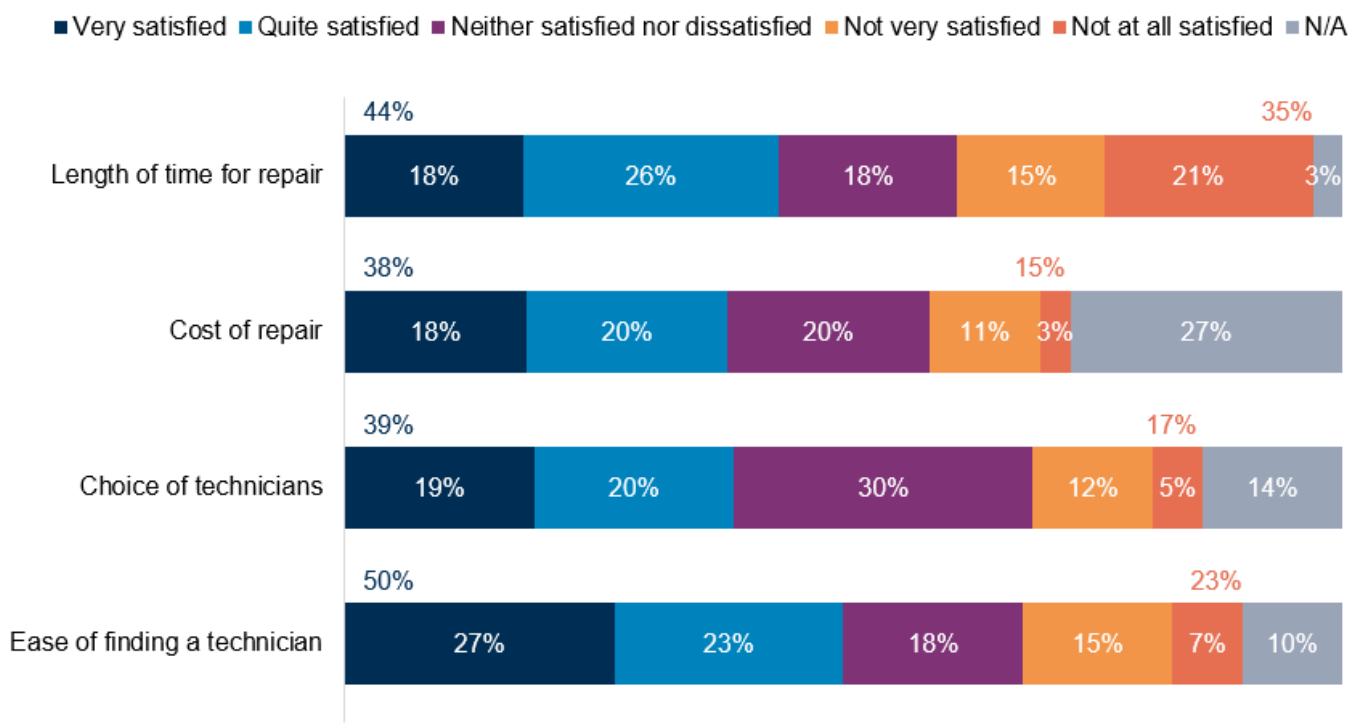
Base: All EV drivers who had their EV serviced (n=263)

It is worth noting that the higher proportion (18%) of drivers selecting 'not applicable' for cost of service may be due to the warranty on new cars – 25% of respondents with an EV manufactured in 2021 or later (i.e. those driving EVs covered by warranty) report a N/A answer, compared with only 7% of those driving EVs manufactured up to and including 2020. Those driving older EVs are also more likely to be dissatisfied with the cost of service, compared with those driving more recent models. Those living in urban areas and towns are more likely to be satisfied than those living in rural areas and the islands (65%, vs. 47% rural).

Those who have had their EV repaired are slightly less satisfied with this experience than those who had their EV serviced. Around two in five are satisfied with the length of time (44%), cost (38%), and choice of technicians (39%) for conducting the repair, with one in five being very satisfied with these metrics (18% time and cost, 19% choice of technician). However, although

only around one in six are unsatisfied with the cost (15%) and choice of technician (17%) for their EV's repair, a greater proportion are unsatisfied with the length of time taken; over a third (35%) report unsatisfaction at this metric, the majority of whom (21% of all respondents) are very unsatisfied. Of all repair metrics, respondents are the most satisfied with the ease of finding a technician to make these repairs, with half (50%) reporting their satisfaction, including one in three (27%) who are very satisfied.

Figure 15. Satisfaction when getting EV repaired



Base: All EV drivers who had their EV repaired (n=125)

Unlike for those who have had their EV serviced, there is no statistically significant difference for satisfaction with repairs between those driving EVs manufactured prior to/after 2021, reflecting that repairs are not always covered by a vehicle's warranty as services may be.

In the qualitative groups, the experience of getting an EV serviced is described as a generally smooth process, though often more costly than anticipated. Some EV drivers display frustration with the cost of servicing or a lack of awareness of the granular detail, having opted for service plans with dealerships.

"Services are a breeze, couple of hours and green ticks across the board." (Group 2 – Rural)

"Ours is too new for a service, but these comments are concerning. I fully expect an EV to be less expensive to service." (Group 1 – Urban)

"Why is servicing the car as much as a petrol as it's no oil, no spark plugs etc." (Group 1 – Urban)

"I think the dealers are coining it in. It should be a lot cheaper – they tend to just charge the same as a petrol car." (Group 1 – Urban)

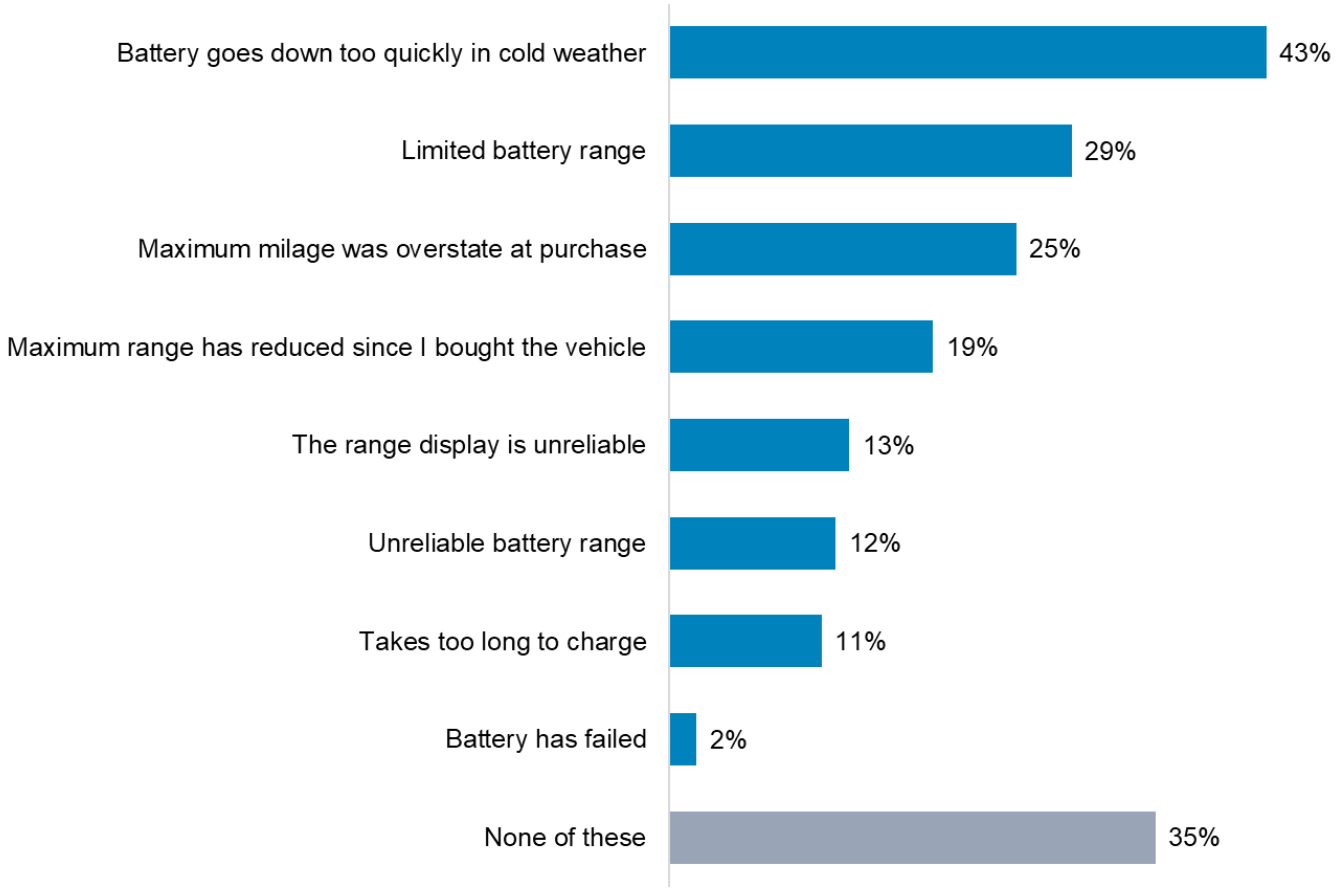
Some EV drivers expect that local garages will not have the required knowledge of EVs to run a service or are concerned about impacting their car's warranty, and so feel obligated to use specialist dealers, which are often charging high prices. Generally, there is a feeling of inability to 'shop around.'

"I got mine done at the dealership, I've no idea whether you can get it done anywhere else to be honest. I'm assuming more standard garages don't know what to do with an EV still." (Group 1 – Urban)

More complications can arise for EV drivers when it comes to repairs and resolving ongoing issues with their cars. However, only a small subset of the qualitative sample have undergone the repair process.

"I have an ongoing issue with my van. The dealer is beyond hopeless. I have resorted to fixing it myself and talking to a HEVRA garage in [another part of Scotland] that is a EV genius." (Group 2 – Rural)

Figure 16. EV battery issues experienced



Base: All EV drivers (n=463)

Those living in urban areas and towns are twice as likely to report having issues with unreliable battery range (14%) than those living in rural areas and the islands (6%), as are those with a disability or long-term health condition (22%) compared with those without (10%). Those with disabilities are also more likely to report having had issues with the maximum milage of their EV being overstated at purchase, and their EV's battery having failed completely.

> *"The guessometer on the Leaf appears to be designed for urban driving – under 30mph…as soon as you join an open road at 60pmh (or motorway at 70), the range plummets." (Group 1 – Urban)*

Despite those living in urban areas and towns being more likely to report having issues with unreliable battery range than those living in rural areas and the islands, discussion in the

qualitative groups indicates that those living in rural areas express more range anxiety and more reluctance to commit to an 'EV-only' future, where they are solely reliant on EVs. There are several possible explanations for this. The network of EV chargers (including availability and quantity of EV chargers) is considered to be poor in rural areas, and their daily journeys to carry out basic tasks such as grocery shopping generally cover more mileage. Therefore, it takes longer to get 'from A-B' for this group. Despite the rural group predominantly charging at home, there is a worry around a lack of public charging options to fall back on, if required. Alongside this, since the rural focus group respondents mostly charge at home where possible, they have less regular experience with public charging and therefore may worry more about their range and the possibility of needing to charge using public charging points they are less familiar with.

> *"I would like EV only but I would still like the option [of having a hybrid/ICE vehicle]. I'm a catastrophiser." (Group 2 – Rural)*

> *"The range on mine is so short I wouldn't really ever choose to take it on a lengthy drive where I needed to charge to get back home." (Group 2 - Rural)*

Experiences of EV battery issues also relate to how an EV is driven. For example, an EV driver who takes more longer journeys is less likely to report having experienced issues with limited battery range; around two in ten (21%) of those who take long trips weekly report having experienced issues with limited battery range compared with one in three (33%) of those who take long trips less than once a week (33%). Potential explanations could be that those with longer battery range are able to take longer trips, or because those who regularly take long trips are familiar with the process and know what they 'have to do' to avoid being caught out.

The data also highlights the well-observed occurrence of battery health declining over time. Those who drive EVs registered prior to 2021 are twice as likely to report that their battery has reduced since purchasing the vehicle (29%, vs. 15% 2021 onwards).

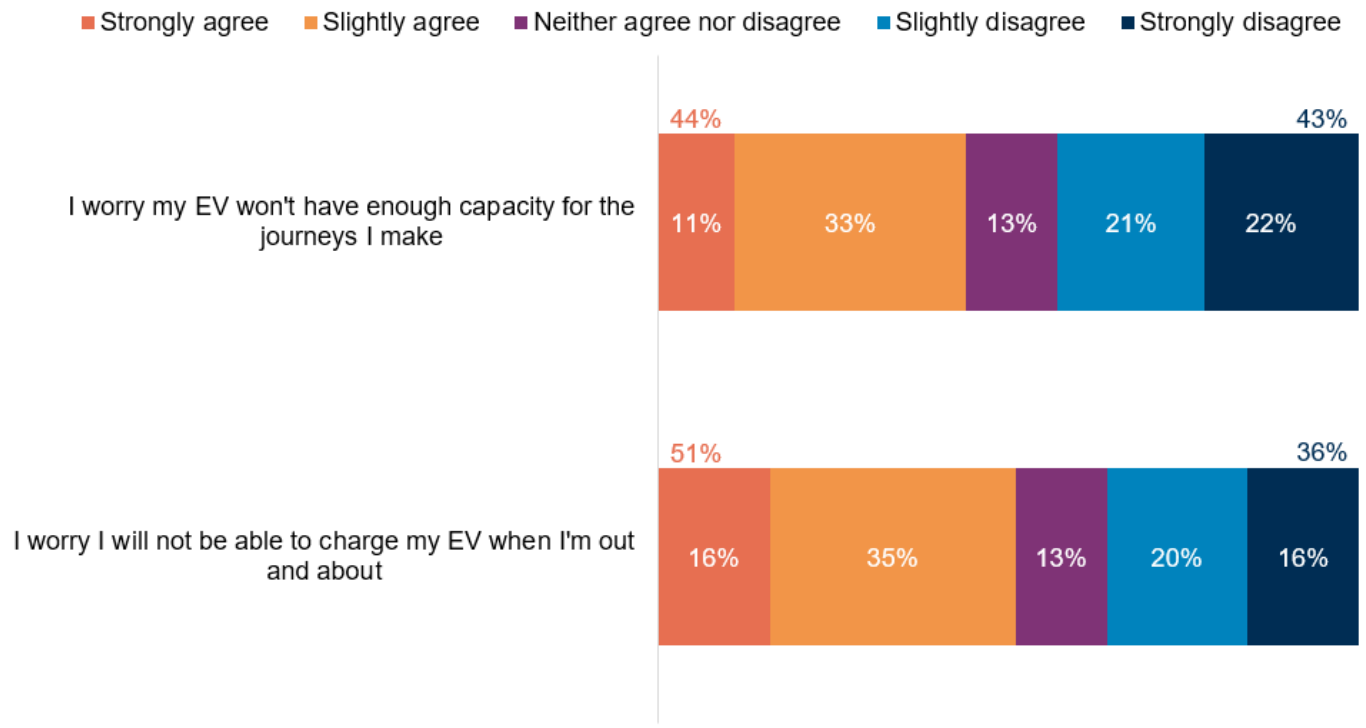
> *"My Leaf is a 40Kw 2018, WLTP range is 168 – real range is 100-120 at best." (Group 1 – Urban)*

"My car will only charge up to 185-200 average in cold weather despite being sold as 240." (Group 2 – Rural)

Electric Vehicle Concerns

Respondents were also asked about their concerns surrounding their EV battery and being able to charge it. The Figure below shows that EV drivers are divided as to whether they worry that their EV won't have enough battery capacity for the journeys they make, with 44% agreeing and 43% disagreeing. Although still relatively evenly split, respondents are more likely to agree that they are worried they will not be able to charge their EV when out and about, with 51% agreeing compared with 36% who disagree. We can therefore infer that respondents are more worried about potential opportunities to charge their EV than the maximum range of the battery.

Figure 17. Concerns about EV batteries and charging

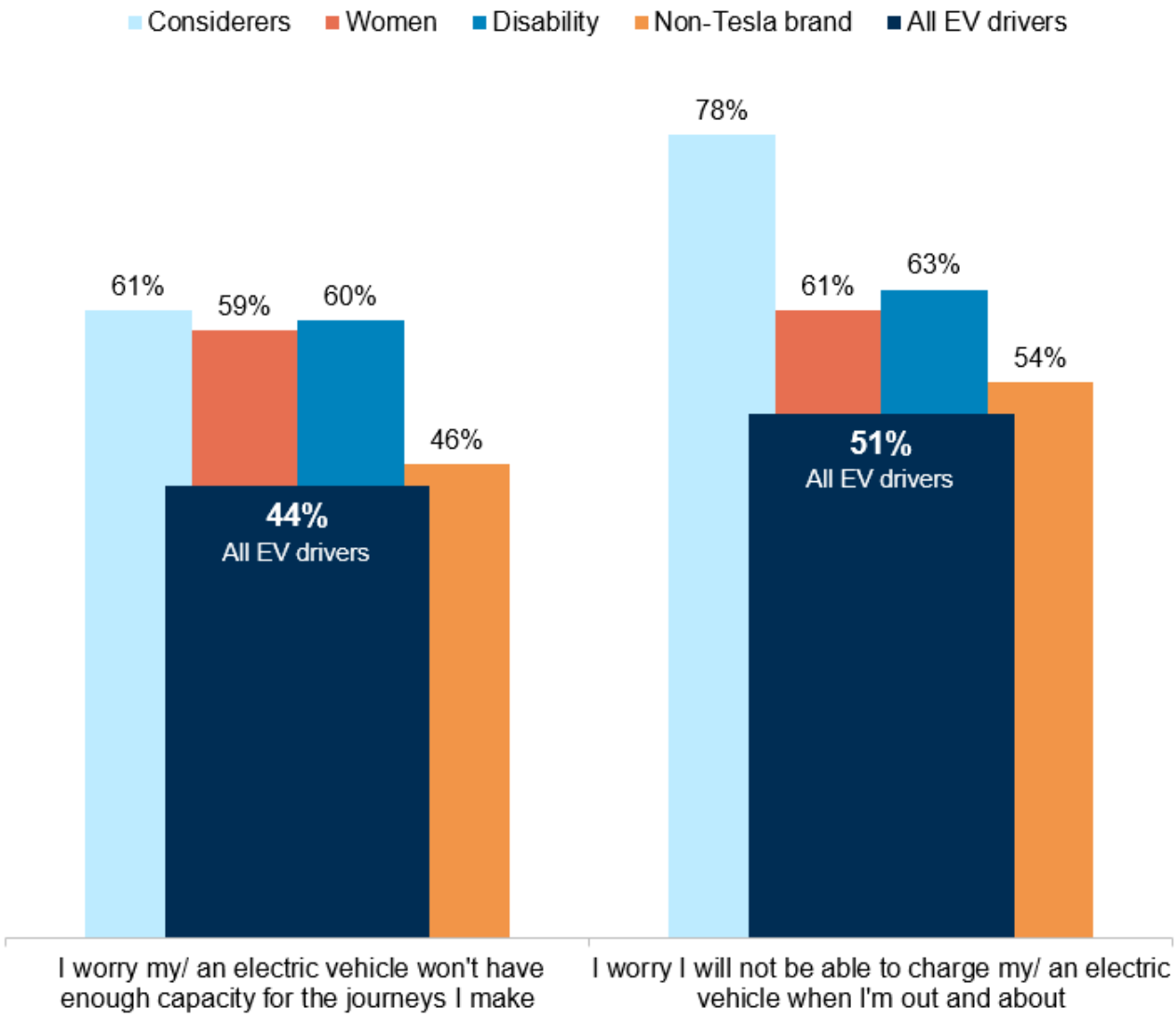


Base: All EV drivers (n=463)

Figure 18 illustrates that certain demographic groups are more likely to agree that they worry about their EV's capacity and the availability of charging points when out and about. For example, six in ten (61%) of those who are currently considering purchasing an EV are worried that their EV won't have enough capacity for the journeys they make, compared with 44% of all current EV

drivers, whilst almost four in five (78%) EV considerers are worried about the availability of EV charging points when out and about compared with only half of current EV drivers. These findings speak to expectations of battery capacity and charging availability being worse than reality, perhaps due to a lack of information on public charging points. Similarly, women, those with disabilities, and those driving non-Tesla branded EVs are also all more likely than average to worry about these situations.

Figure 18. Concerns about EV batteries and charging (by demographic)



Base: All (EV drivers, n=463; EV considerers, n=204)

Findings from the focus groups align with some of the audience nuances listed above – focus group respondents feel that the charging infrastructure for Tesla EVs is much more sophisticated,

reliable and ‘connected’ than the broader public charging infrastructure for non-Tesla branded EVs. Therefore, the worry captured by non-Tesla branded EVs could be indicative of perceived deficiencies within the wider public network.

> *“I believe that it [availability of chargers] is good if you've got a Tesla because they put loads of chargers in but as I understand it they can't keep up with demand now either.” (Group 1 – Urban)*

> *“The fragmented charging network is a nightmare. Tesla have it nailed (and Rivian in the USA).” (Group 2 – Rural)*

> *“For anything but Tesla and a few others, it’s the inconvenience. The plug and play of Tesla is second to none and I'm very happy with it.” (Group 2 – Rural)*

Concerns about driving EVs Prior to/Since Purchasing

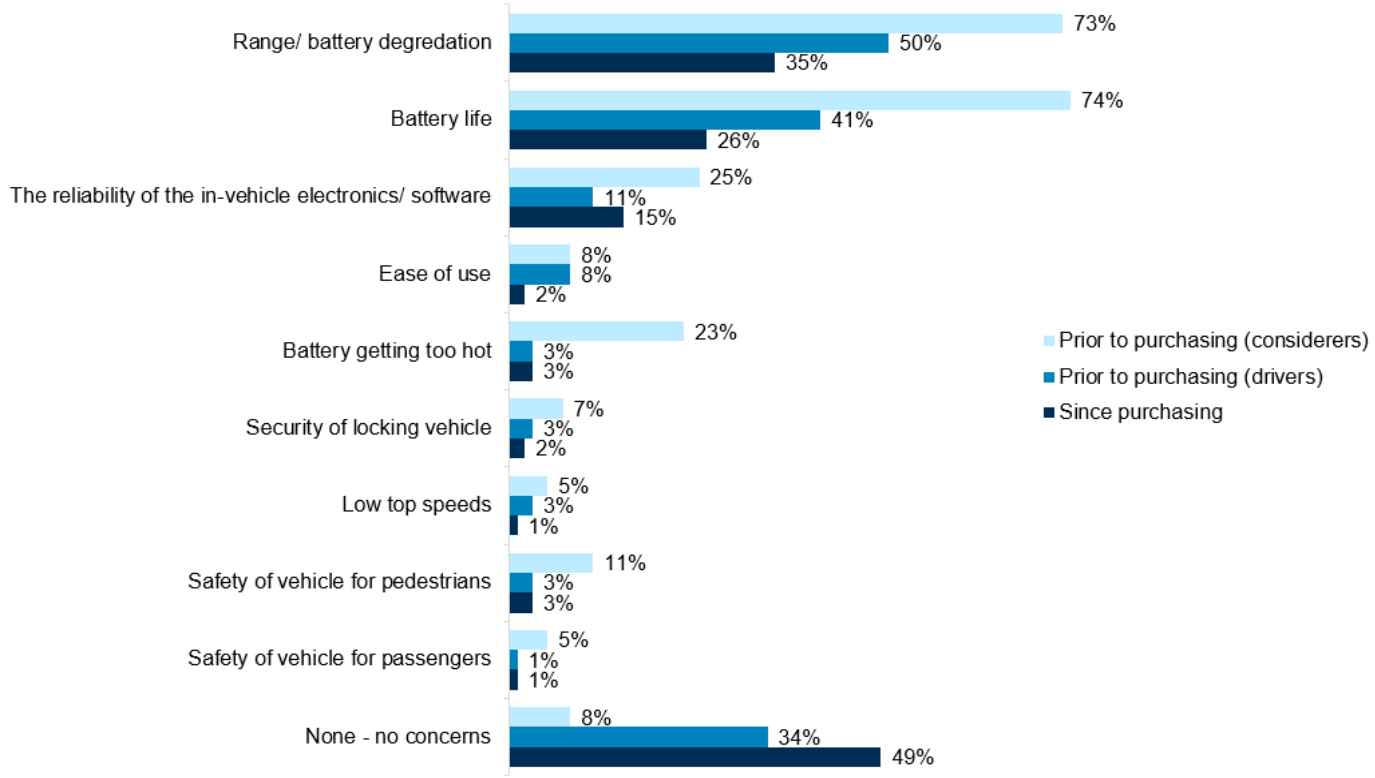
Almost all of the concerns EV drivers had prior to purchasing their EV diminished after purchasing their EV. The most common concern (both prior to and since purchasing) is their EV’s battery’s range and degradation, with 50% reporting having had this concern prior to purchasing and 35% reporting this concern since purchasing. The second most common concern is closely related; 41% of EV drivers report having concern about battery life prior to purchasing, and 26% report having it since. It is important to note that despite this decline in concern following purchase, substantial minorities continue to report these concerns. Encouragingly, the proportion of EV drivers reporting they have no concerns increases from 34% prior to purchasing their vehicle to almost half (49%) after purchasing. The remaining half (51%) with concerns tend to hold concerns across multiple categories.

It is worth noting that the concerns reported by current EV drivers as having had prior to purchasing should be taken with caution, because comparison with the concerns reported by those who are currently considering purchasing an EV illustrates a difference of up to 33 percentage points, indicating that current EV drivers may inadvertently diminish their concerns prior to purchasing a vehicle in hindsight. Alternatively, those with lower levels of concern prior to purchasing could in turn be more likely to purchase an EV. However, this finding is positive in that it indicates the extent to which concerns surrounding EVs diminish upon real-world experience,

perhaps due to a gap in accurate information available to those considering purchasing an EV – for example, current drivers are 48 percentage points less concerned about their EV's battery life compared with those considering purchasing an EV, whilst almost a quarter (23%) of those considering purchasing an EV are concerned about the battery overheating compared with only 3% of current EV drivers.

The relatively low proportions of EV drivers reporting specific concerns around battery-related issues appears to contradict previous findings that 65% of EV drivers have experienced a battery-related issue, indicating that despite experiencing battery issues, drivers are not concerned about these. However, this apparent gap between experiences and concerns may be due to the variety of specific concerns listed in the question; those who have experienced a specific issue (e.g. battery overheating) may report that they are concerned with that specific issue, rather than all potential issues surrounding battery degradation, range, life, etc.

Figure 19. Concerns about driving an EV prior to/since purchasing



Base: All (EV drivers, n=463; EV considerers, n=204)

The findings from the qualitative groups reflect the prevalence of range anxiety across EV drivers. There are certain factors that exacerbate / trigger range anxiety: reaching a charging point and it being unavailable/out of order, unfamiliarity with or infrequent public charging, charging at night, in rural areas, in unfamiliar areas, and when taking their EV out on longer journeys that their range might struggle with. Some have tackled their range anxiety by adjusting the journeys they take (e.g. avoiding taking long journeys, and securing breakdown cover).

> *"I get free breakdown cover with Nissan services, because of my range anxiety I need breakdown cover." (Group 1 – Urban)*

> *"It's horrible if I get to a charger and it's not working, or someone is not in the car and I have no idea when they will come back. I make for the next charger and reach it on a wing and a prayer." (Group 2 – Rural)*

> *"I didn't like driving the MG on long distances. It took far too long and range anxiety was terrible." (Group 2 – Rural)*

However, the qualitative findings also mirror this point of 'diminishing concern', particularly around battery range. Range anxiety overall appears to have lessened among those that are now better acquainted with their vehicles– they have got into a rhythm with their cars and the journeys that the cars are capable of making.

> *"For the first month in my EV it was constant anxiety. After that it has been no different to using an ICE car, it just takes a few minutes of planning ahead. With over 300 miles of range I know I'm lucky." (Group 2 – Rural)*

> *"I don't get anxious about charging now - there are so many around. I very rarely use any other charger than the one at home. I know what journeys I can do and how much charge I need. The worry is if I'm on a longer journey and don't have the cable…I think it's just experience." (Group 2 – Rural)*

Despite the difficulties that the quantitative and qualitative research highlights (from concerns around battery degradation to range anxiety), overall, EV drivers are enjoying the experience of using their cars. The driving experience feels elevated in comparison to ICE cars; EVs are praised

for their smoothness and quietness. Alongside this, an EV is a ‘feel-good’ car – though not necessarily the most significant factor in their enjoyment of driving an EV, many respondents across the qualitative open-ended survey data and groups express the satisfaction provided in lowering their carbon footprint and ‘doing their bit.’

> *“I like helping to be a ground breaker – by being an early adopter I feel I am helping to invest in the infrastructure that will help others make the Net Zero journey to electric cars.” (EV driver, survey data)*

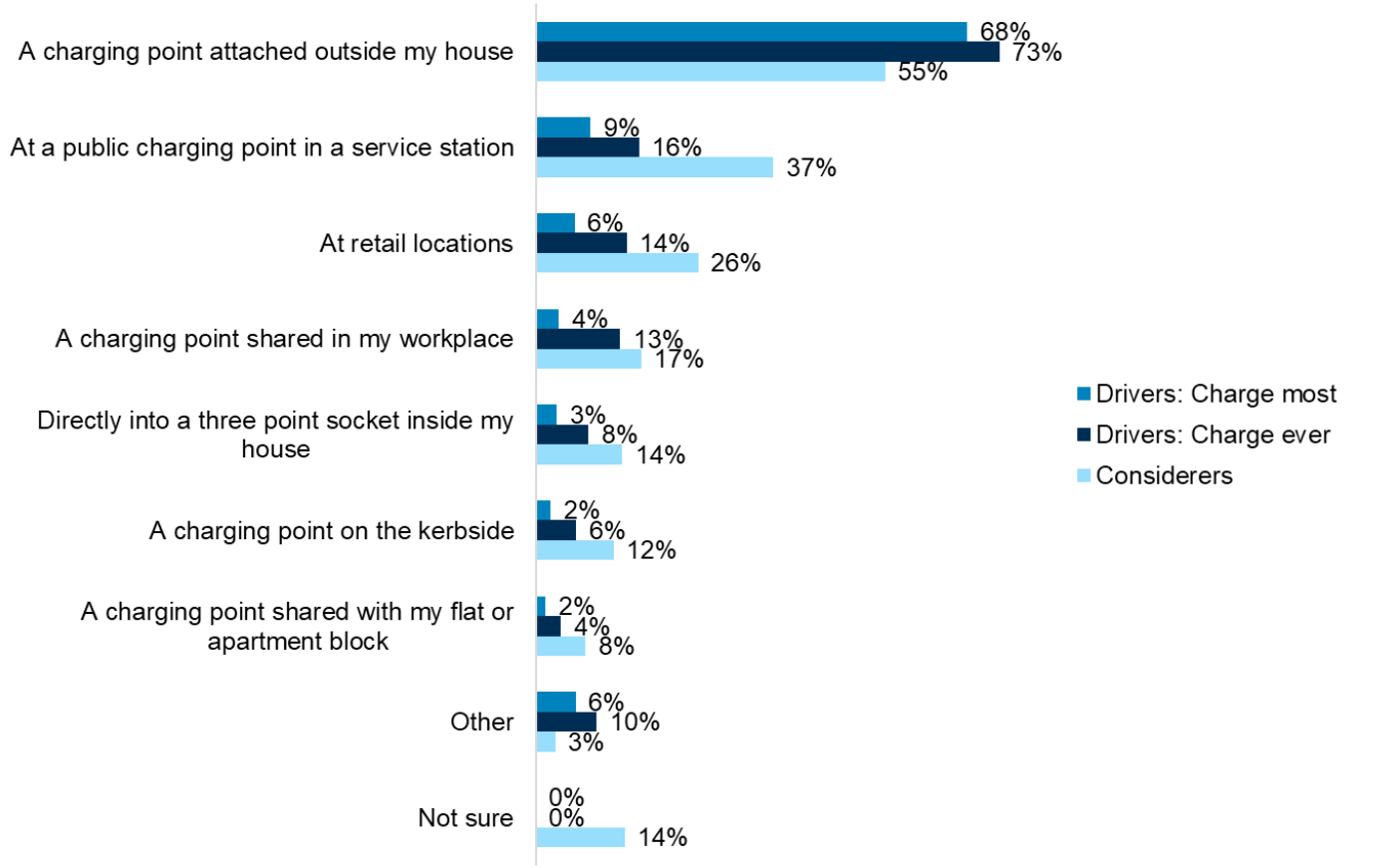
> *“My Nissan leaf is a pleasure to drive and I feel I am doing my bit for the environment. It is a win win.” (EV driver, survey data)*

Electric Vehicle Charging

Charging habits

At home charging is the most popular means of charging, with 73% of EV drivers in Scotland using a charging point attached outside their house and 8% a three-point socket inside their house. At home charging is significantly higher among EV drivers living in rural areas or the Scottish islands (82% vs. 68% in urban/ town and fringe areas). At home remains the most popular means of charging when respondents are asked where they charge their vehicle *most*, with a charging point attached outside their house being the most common response overall (68%), and significantly higher among rural/ island drivers (76% vs. 64% who drive in urban/ town and fringe areas). There is a wider spread of responses among those considering purchasing an EV in Scotland. While a charging point outside their home remains the most common response (55%), there is more consideration of public charging points (37% mention charging points in a service station and 26% at retail locations).

Figure 20. EV charging points used



Base: All (EV drivers, n=463; EV considerers, n=204)

Qualitative analysis of the open-end survey responses indicates that a key driver in EV considerers' interest in electric vehicles – aside from the perceived environmental and monthly cost-saving benefits – is the ability to skip the petrol station and charge from the comfort of their homes. Indeed, many EV drivers in the survey responses also note how central the ability to charge at home is to their enjoyment of their EVs. The fact that both considerers and drivers raise the topic of home charging as a benefit of owning an EV, entirely unprompted, demonstrates how key an incentive it is for owning an EV. For the respondents in the open-end survey responses, as well as those in the focus groups, at-home charging is associated with a variety of benefits – 'doubling up' on green efforts through charging with solar panels, charging cheaply and saving on costs, and in reducing effort/inconvenience overall.

Responses to ‘What I [would] like most about owning an electric vehicle:

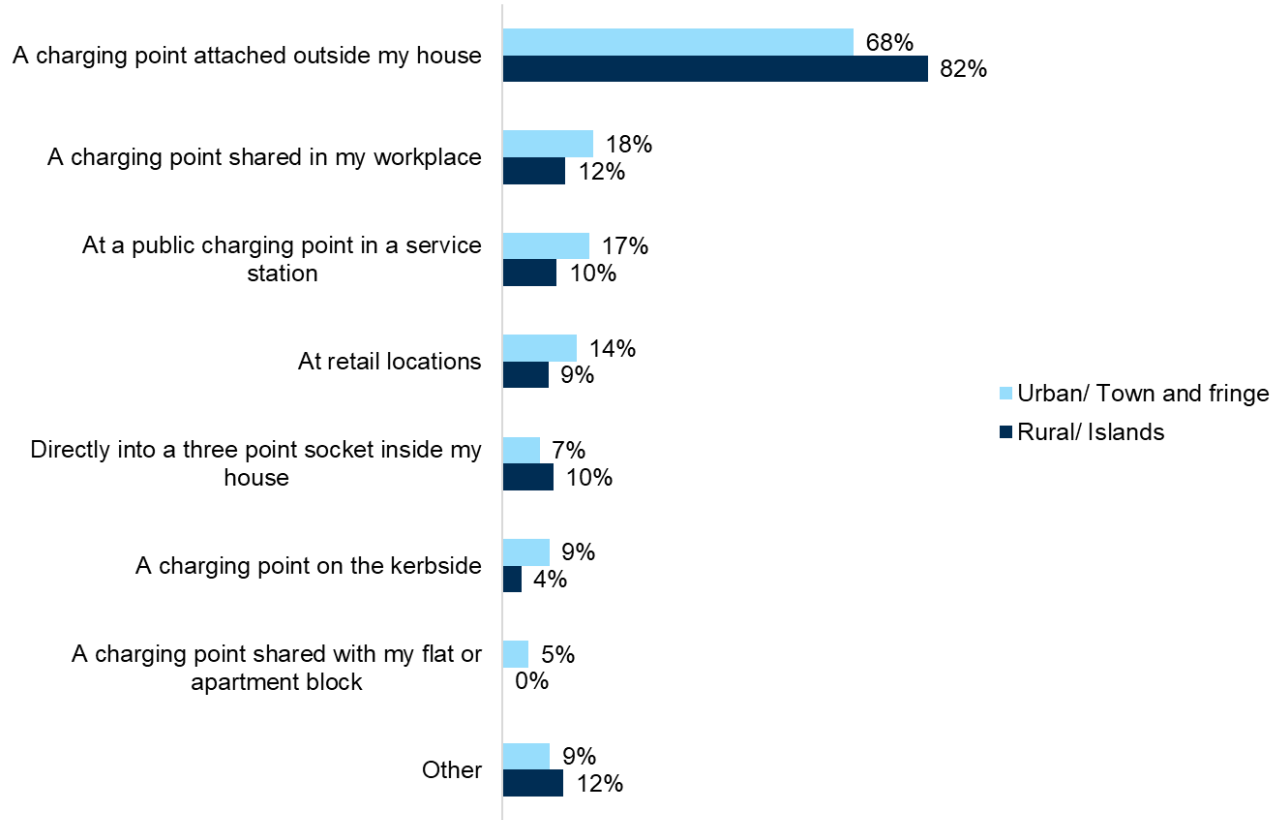
“Acceleration and the ability to charge at home from solar panels.” (EV Considerer, survey data)

“Charging overnight at cheap rate at home. Not having to go to fuel stations and buy…fossil fuels is great. Cleaner, quieter, smoother - it's just a much less stressful and enjoyable driving experience.” (EV driver, survey data)

“The cost of ‘commercial’ electricity forced our business to close when it went over £1/kWh. At home I was averaging 7p via solar and a Powerwall!” (Group 2 – Rural)

“Help reduce carbon emissions. My home also has solar panels so this would help.” (EV Considerer, survey data)

Figure 21. Charging points *ever* used by area



Base: All (EV drivers in urban/ town and fringe, n=258; EV drivers in rural/ islands, n=156)

Among both regional groups a charging point shared in their workplace is the second most popular means of charging their EV (18% urban/ town and fringe drivers, 12% rural/ island drivers). This is closely followed by public charging points in service stations among urban/ town and fringe drivers (17%).

Whilst both rural and urban respondents from the qualitative groups predominantly charge outside their homes, for rural EV drivers there is a greater reliance on at-home charging. Where possible, they are avoiding public chargers entirely – through using public transport, secondary ICE vehicles, hire cars etc, unless absolutely necessary for longer trips. Avoidance of public charging is driven by a variety of factors: convenience, cost, safety, wait time, and experiences of public charging being unreliable.

> *"I detest waiting while charging. Using Charge Place Scotland is too much pain for me now - slow, unreliable Swarco Raptions at a max of 50kWh (which they never reach), faster units are uncommon. The cost that some councils charge and the overstay fees. The location of chargers sucks." (Group 2 – Rural)*

The qualitative findings demonstrate that urban EV drivers have similar grievances to rural EV drivers when it comes to public charging, e.g. cost (and the variation of it) along with the reliability of public charging points. While the open-end survey responses show that some EV considerers generally expect to be able to charge at/outside their homes, the focus group findings show that installing charging points is not always possible, demonstrating the gap between expectation and reality with EV charging. The urban focus group respondents that do not charge at home live in rented accommodation and/or apartments, indicating that housing circumstances could impact choice when it comes to charging, with charging at home being the preferable 'gold standard.'

The qualitative research highlights how key at-home charging is for rural EV drivers – the majority consider it an absolute deal breaker in their ongoing EV ownership, owing to the cost of public charging, low availability of public charging points near them, and having grown accustomed to at-home charging. The utilisation of energy tariffs plays a key role for those charging at home, making it comparably cheaper than public charging (with 52% of rural/island drivers in the quantitative research already using a 'Time of Use tariff vs 34% of urban drivers). The majority of

rural EV focus group respondents either already use an energy tariff for EV charging or intend to find out more information about obtaining one.

> *"If I had to rely on public charging I'd sell the car and get something else. Public charging is out of control for cost. It takes too long and is very inconvenient." (Group 2 – Rural)*

> *"[No at-home charging is] a total deal breaker. No home charging and we would not have our EVs." (Group 2 – Rural)*

> *"I switched to Octopus just for the Intelligent Go tariff, it's brilliant. I average 1000 miles per month at a cost of under £20." (Group 2 – Rural)*

Comparably, whilst drivers in the urban focus group mostly charge at-home, they also charge at a variety of other locations, and charging at-home appears to be less essential to their overall EV ownership. This could partly be explained by their usage habits: urban EV drivers are generally taking shorter, inner-city journeys and are connected to a greater charging network than their rural counterparts. Alongside this, higher use of public charging across the urban focus group respondents could also mean that they are better acquainted with public charging points (including the process of finding them as a typical part of a journey, and the relevant card/app required) and therefore are more accustomed to the various challenges that public charging can involve.

> *"I don't often drive long distances so it's the perfect city car for me, longer journeys are a bit more stressful though." (Group 1 – Urban)*

> *"I find you really have to plan ahead and check all possible chargers." (Group 1 – Urban)*

> *"Definitely love it for town driving, but I think it worries me too much going on long trips." (Group 1 – Urban)*

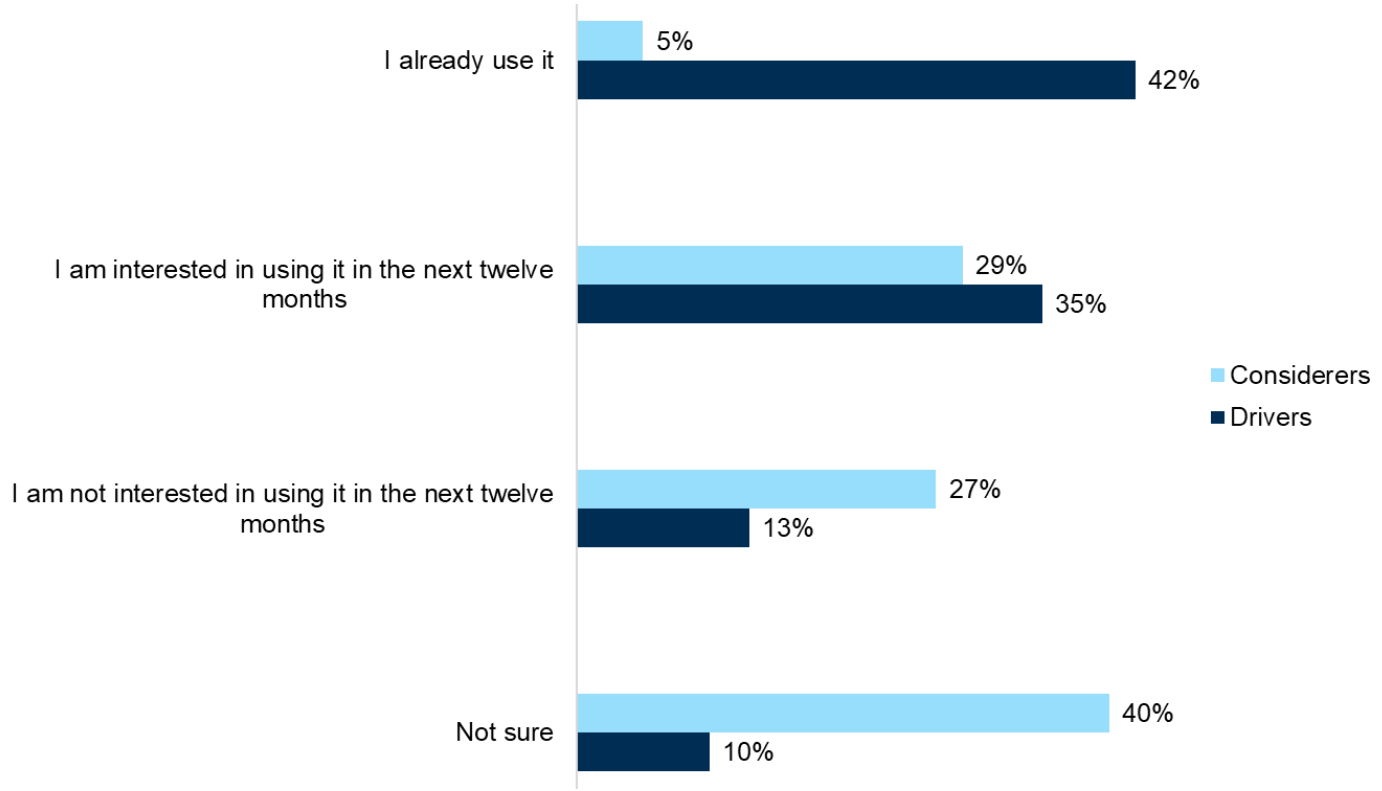
The majority of drivers typically charge their vehicle at least once a week (90%), with 10% doing so daily. This is consistent among all demographic groups. However, considerers expect to charge their vehicle less often, with 68% thinking they will need to charge weekly (10% daily).

Time of Use energy tariffs

A 'Time of Use' energy tariff offers cheaper rates for certain times (usually overnight) and may be balanced with higher costs at other times. Interest in a ‘Time of Use’ tariff is higher among current EV drivers, with 42% already using one – with significantly higher use among rural/ island drivers (52%) when compared with urban/ town and fringe drivers (34%).

Interest in using a ‘Time of Use’ tariff in the next twelve months is slightly higher among current EV drivers (35%), though three in ten (29%) considerers are also interested in using one. A similar proportion (27%) of considerers are not interested in using a ‘Time of Use’ tariff in the next twelve months, and 40% are unsure about it.

Figure 22. Interest in using a Time of Use tariff



Base: All (EV drivers, n=463; EV considerers, n=204)

Interest in the Time of Use tariff increases in line with the frequency of how often drivers charge their vehicle, with 53% of drivers who charge their vehicle daily already using this tariff, as do 50% of drivers who charge a few times a week, dropping to 19% among drivers who charge around once a fortnight. In turn, drivers who take frequent long trips are significantly more likely to use a Time of Use tariff (54% taking long trips weekly vs 35% among those taking such trips less often).

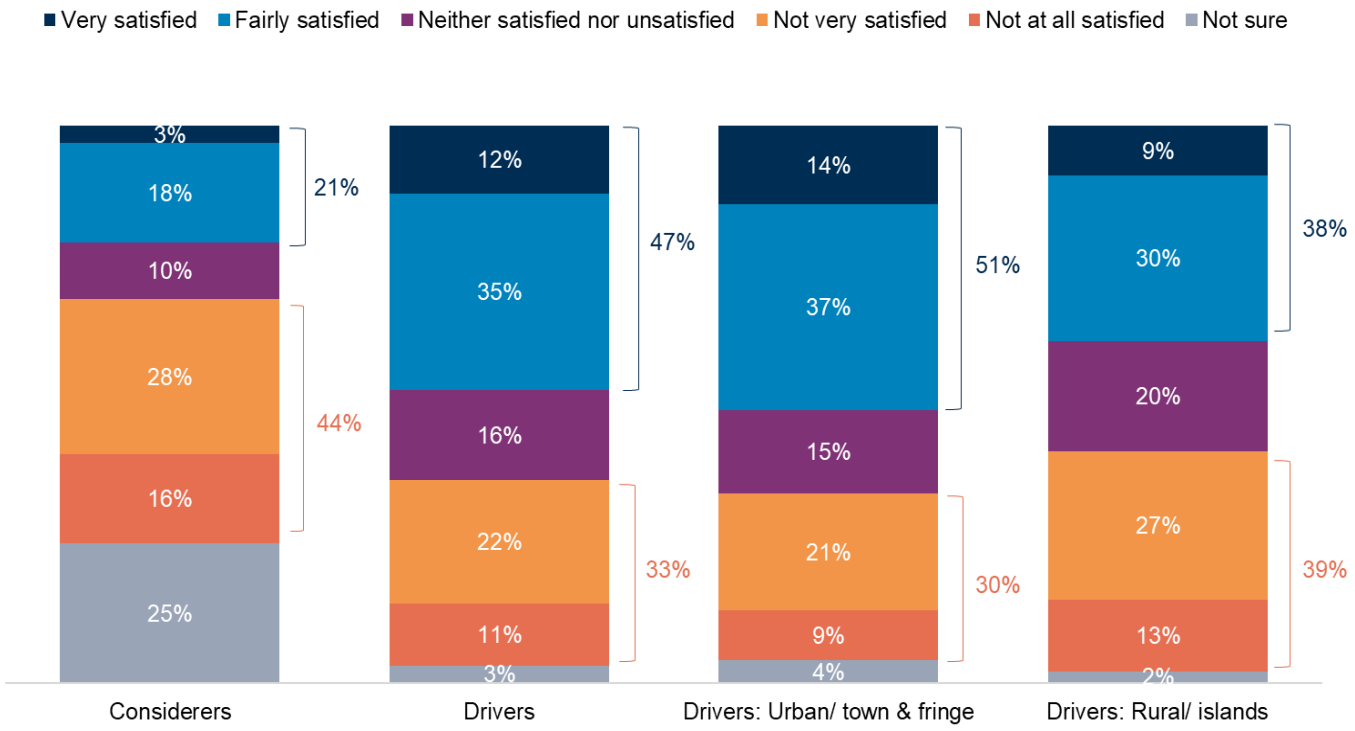
Two in five drivers who take less frequent long trips remain interested in using a Time of Use tariff in the next twelve months (39%).

Attitude toward public charging points

While nearly half of EV drivers are satisfied (47%) with the number of public charging points, a third (33%) are dissatisfied and 16% are neither satisfied nor dissatisfied (the remainder are unsure). There are some clear distinctions when analysing by area, with significantly more drivers in urban/ town and fringe areas satisfied (51%), when compared with rural or island drivers (38%). Satisfaction levels among rural or island drivers is equally distributed between satisfied (38%), dissatisfied (39%), or neither of these (20%), meaning there are no significant differences in level of dissatisfaction between them and urban drivers. Women show higher levels of dissatisfaction (42%) with the number of public charging points when compared with men (29%). The same proportion of women are satisfied (42%), while far more men are satisfied (50%) than dissatisfied (29%)

When analysing satisfaction with the number of public charging points there is a further distinction between current EV drivers and those considering purchasing an EV. Drivers are significantly more satisfied than those considering an EV (47% and 21% respectively). Among considerers, more are dissatisfied (44%) or unsure (25%) in regard to the number of public charging points than are satisfied (21%) - the remainder answering ‘neither’ (10%).

Figure 23. Satisfaction with the number of public charging points

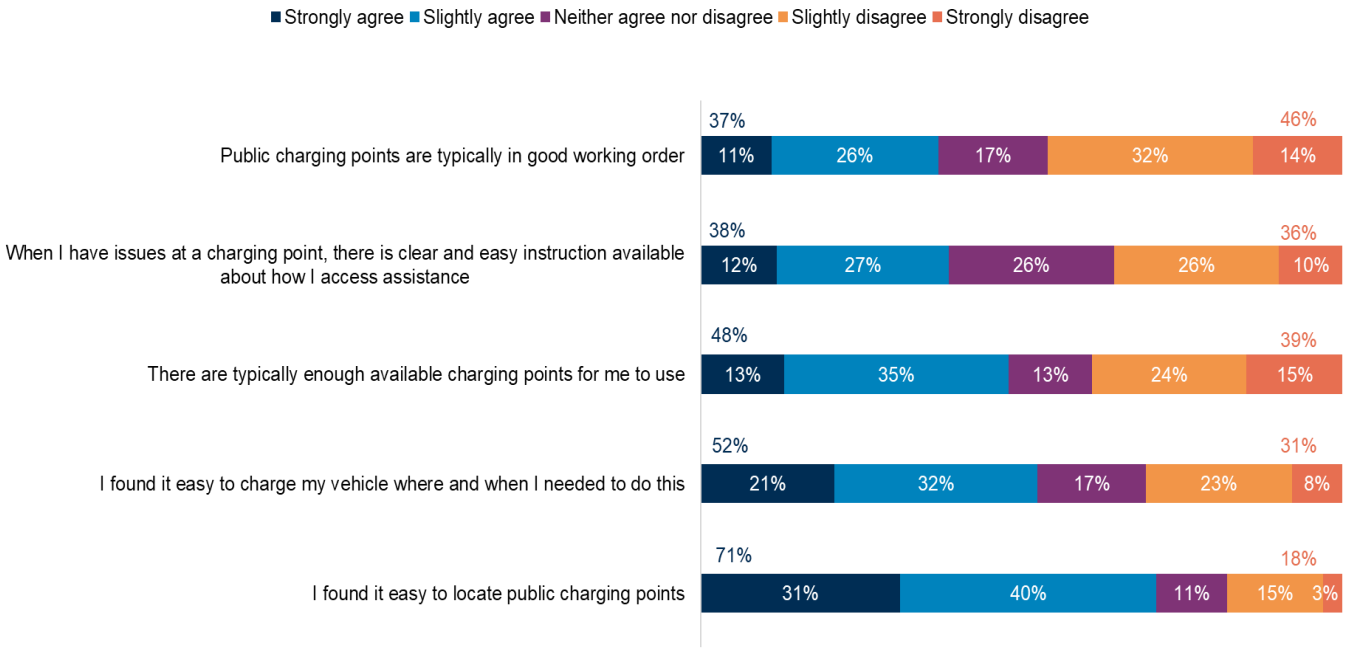


Base: All (EV drivers, n=463; EV considerers, n=204, EV drivers in urban/ town and fringe n=258, EV drivers in rural/ islands n=156)

Level of satisfaction with the number of public chargers is lower among current EV drivers who would not consider purchasing an EV again in the future, with 43% satisfied and 38% dissatisfied. This is compared with 50% satisfaction among drivers who would consider an EV in the future (30% dissatisfaction).

While more drivers agree than disagree that public charging points are easy to locate, opinions are split on their ease of use, quantity and whether they tend to be in good working order. Specific areas of uncertainty are whether there are typically enough available charging points to use (48% agree, 39% disagree, 13% neutral), whether assistance instructions are clear and easy (38% agree, similarly 36% disagree, 26% neutral) and more *disagreement* that public charging points are typically in good working order (37% agree, 46% disagree, 17% neutral).

Figure 24. Attitude toward public charging points



Base: All (EV drivers, n=463)

There is a higher level of disagreement for a number of the statements among current drivers who would not consider purchasing an EV in the future, when compared with those who would consider an EV again. This is particularly notable in relation to whether respondents find it easy to charge their vehicle where and when needed (37% who wouldn't consider an EV in the future disagree with this, compared with 27% of drivers who would); and that there are typically enough available charging points to use (46% who wouldn't consider an EV in the future disagree with this, compared with 36% of drivers who would).

Drivers with a disability or long-term health condition have a higher level of disagreement with all but one of the statements above than drivers without a disability or long-term health condition. This is most notable in relation to finding it easy to charge where and when needed, (with a 24% difference between dissatisfaction among drivers with a disability or long-term health condition and those without).

The qualitative findings show that EV drivers widely consider public charging and the overall infrastructure to be the worst part of EV ownership, due to the issues around availability, ease of use and reliability.

"The CPS network is pretty shocking and the unreliability of their chargers has left me stuck several times as I don't have huge range." (Group 1 – Urban)

"The fragmented charging network is a nightmare. Tesla have it nailed (and Rivian in the USA)." (Group 2 – Rural)

Whilst some focus group respondents predominantly charge from home since first owning their EV, others used to charge in public and now charge at home due to the unreliability of public charging.

"I used to charge at 5 in the morning before work at 6 at the public car park but it got to a stage where it was not always working, so decided on a home charger." (Group 2 – Rural)

Drivers from urban/ town and fringe areas tend to be in agreement with those from rural/ islands, with a similar proportion agreeing and disagreeing with each of the statements about public charging. However, there is one area where there is a notable difference, with significantly fewer rural/ islands drivers agreeing that there are typically enough available charging points to use (36% vs. 52% of urban/ town and fringe drivers).

Indeed, across both urban and rural qualitative respondents, they agree that the quantity of public charging points in rural areas is insufficient.

"My biggest surprise was the lack of infrastructure in Scotland, especially when you go anywhere rural." (Group 1 – Urban)

"We went for a road trip to Skye 2 days after taking delivery … it was quite the adventure trying to find a charger that works. Spoiler alert, Skye as a whole needs its network upgraded." (Group 1 – Urban)

Open-ended responses from the survey also suggest that a concern for considerers is the availability/reliability of public charging and the distance that can be travelled on a single charge;.

anticipating that the infrastructure is lacking and/or that there would be range issues. However, this would require further validation due to sample size.

> *"So far I have been put off switching [to an EV] by their price…concern over their range before recharging and availability of working public chargers." (Considerer, survey data)*

Qualitative analysis of the open-ended survey responses indicates a preference for at-home charging due to the ease it adds to the charging experience for those with disabilities:

> *[What I like most about owning an EV] "The fact that I can charge my car at my house and I don't have to go to a service station. I am disabled so sometimes getting out of the car at a service station to fill the car with fuel was too difficult." (Driver, survey data)*

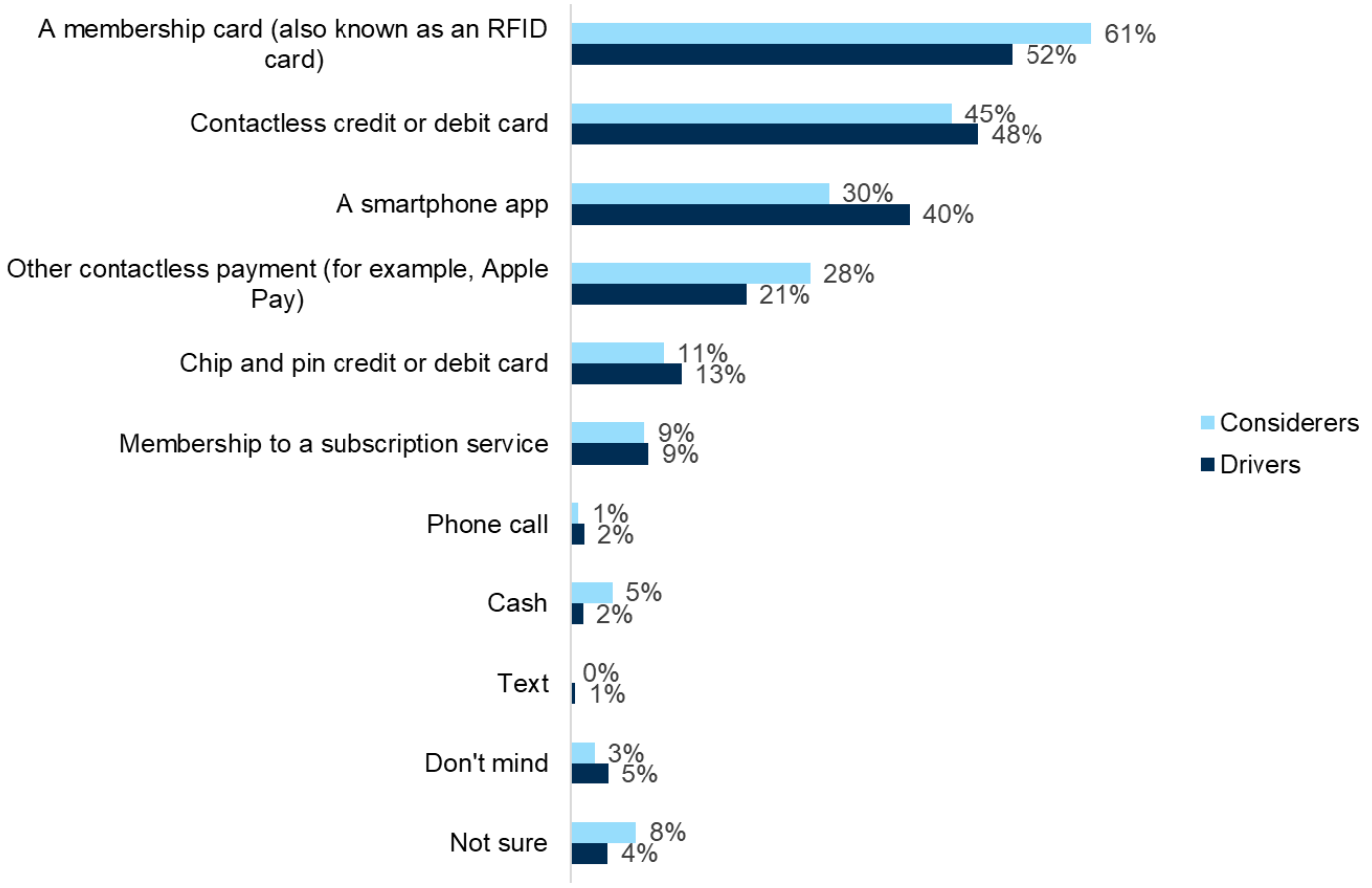
> *[What I like most about owning an EV] "It is ideal for our disabilities and needs." (Driver, survey data)*

Use of public charging points

While the majority of drivers charge at home, one in five (21%) say they use a public charging point at least once a week (13% fortnightly, 54% less often, 11% never). Weekly use of public charging points is significantly higher among urban/ town and fringe drivers (23% vs. 12% of rural/ island drivers).

While traditional payment methods for public charging points are popular (48% contactless or debit card among drivers, 21% other contactless payment, 13% chips and pin credit or debit card), the most popular form of payment is through a membership card (52% among drivers, 61% among EV considerers). The membership card is a significantly more popular choice among rural/ island drivers (63% vs. 50% urban/ town and fringe drivers).

Figure 25. Payment preference at public charging points



Base: All (EV drivers, n=463; EV considerers, n=204)

Findings from the focus groups demonstrate that paying for public charging involves a myriad of issues – from finding information on where to charge cheaply, to executing payment itself. Paying via apps is a particularly challenging aspect of public charging, from the need to have different apps for different charging points, to some apps lacking a user-friendly feel, such as Charge Place Scotland's. More uniformity is desired, some EV drivers have upwards of half a dozen apps installed for different charging points.

> *"I don't understand at all why the charging network needs to be set up like this... I get people want to monitor how much they are charging on apps etc but it would be great if you had the option at every public charger to just tap and go with your contactless debit/credit card and not be downloading apps etc at the roadside for a different type of charging station." (Group 2 – Rural)*

"All points should work with a debit card or phone, not needing subscriptions etc. That should be made law." (Group 1 – Urban)

"For Charge Place Scotland – the app is awful." (Group 2 – Rural)

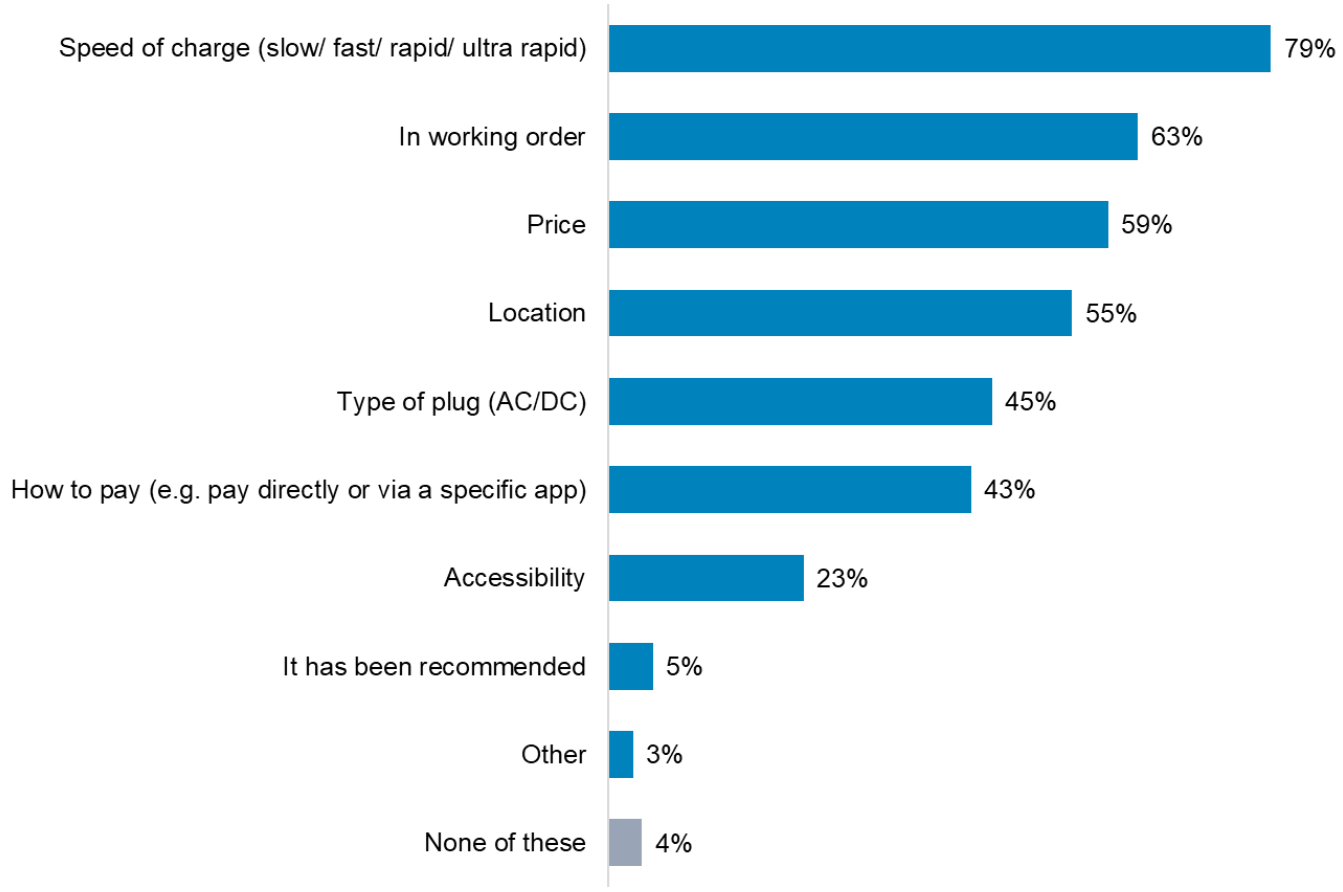
"A lot of chargers especially up north are too old to work with the app and seem to have trouble communicating with some models." (Group 1 – Urban)

Drivers like to make informed decisions when looking for a public charging point, with the majority (96%) looking at one or more of the factors listed. 'Speed of charge' is the most common factor assessed (79%), with over half also checking whether the charging point is in good 'working order' (63%), the 'price' (59%) and its 'location' (55%).

It is only in relation to checking the location of the public charging point that there is a significant difference between drivers from urban or rural areas – nearly three in five (58%) of urban/ town and fringe drivers mention this, while fewer (44%) rural/ island drivers do.

Accessibility of public charging points is understandably a factor mentioned more by drivers with a disability or long-term health condition (34% vs. 20% of drivers without a disability or long-term health condition), and more among female drivers (31% vs. 19% of male drivers).

Figure 26. Factors checked before using a public charging point



Base: All EV drivers who use public charging points (n=401)

There is a general feeling across both urban and rural focus group respondents that the charging infrastructure in Scotland is slow to catch up to advancements in technology – with regard to speed, reliability, quality, and support.

> *"With public chargers in Scotland there are steps that could be done. The current model doesn't work. Councils using funding from Transport Scotland to fit mostly Swarco units in council car parks doesn't work. We need a better class of charger. A centralised support team that doesn't farm the work off to the owner and a universal decent tariff. You know... what Charge Place Scotland was meant to be?" (Group 2 – Rural)*

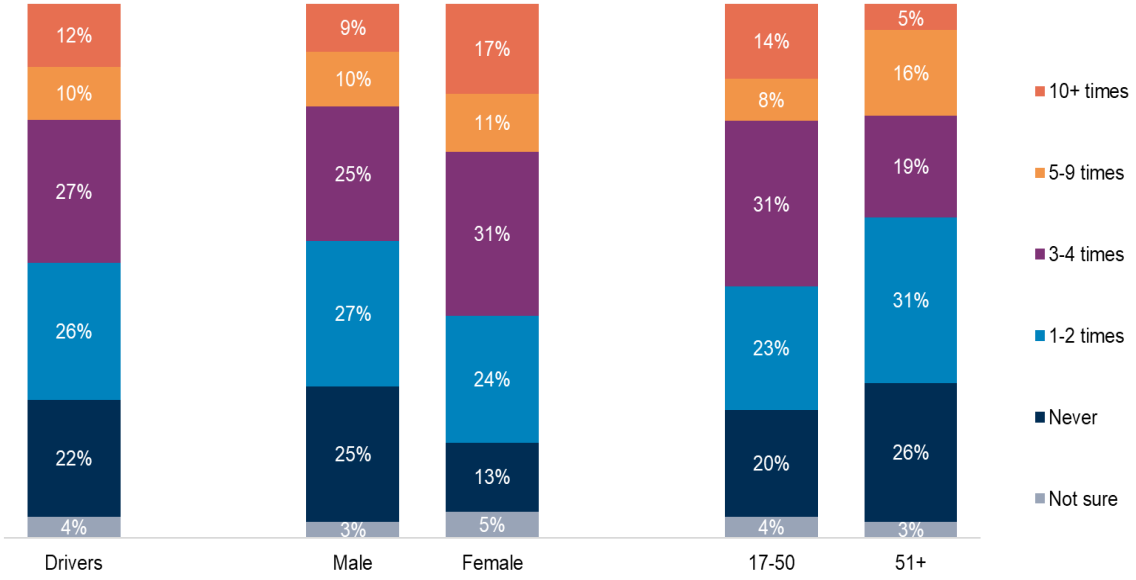
> *"If you remove Tesla from the equation, I think things are improving but slowly. Scotland used to be a leader but the existing chargers aren't fit for purpose anymore. Even fitting so*

called fast 50kWh ones don't even scratch the surface as car technology is getting better, the requirement for more output is needed." (Group 2 – Rural)

Issues with public charging points

Nearly three in four (74%) drivers who use public charging points have had to choose a different charging point than the one they had originally intended to use in the last twelve months (22% never have and 4% are unsure). Around one in five (22%) drivers using public charging points have had to choose a different charging point more than five times – overall 12% did so more than ten times.

Figure 27. Frequency of having to choose a different public charging point



Base: All EV drivers who use public charging points (n=401)

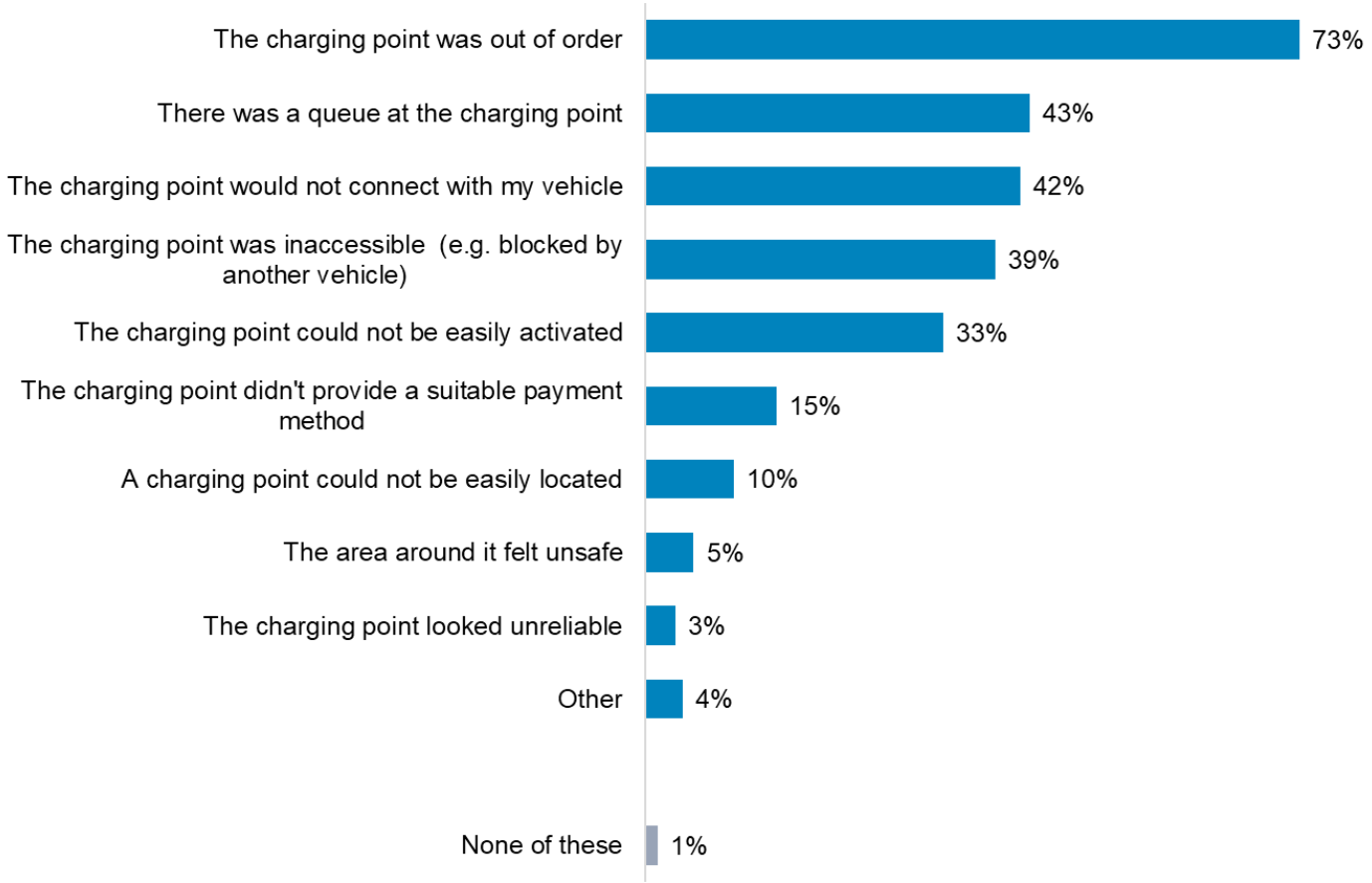
Female drivers are more likely to have chosen a different charging point than the one they originally intended to use (82%), compared with 71% of male drivers. Among female drivers, 27% have chosen a different charging point more than five times (19% of male drivers), 17% more than ten times (9% of male drivers).

Furthermore, among current EV drivers who would not consider purchasing an EV in the future, 17% have had to choose a different charging point ten times or more in the last twelve months (vs. 8% among drivers who would consider an EV in the future).

The most common reason for having to abandon a public charging point was it being out of order (73%). Other common *technical issues* include the 'charging point would not connect with my vehicle' (42%); the 'charging point could not be easily activated' (33%); it 'didn't provide a suitable payment method' (15%); and 'it looked unreliable' (3%).

Issues around *availability* included 'there was a queue' (43%); it was 'inaccessible' (39%); 'the charging point could not be easily located' (10%); and the area 'felt unsafe' (5%).

Figure 28. Factors that have prevented charging at a public charging point



Base: All EV drivers who have had to choose a different public charging point in the last twelve months (n=301)

The findings from the qualitative groups also demonstrate the high prevalence of EV drivers having to switch charging points due to a variety of issues with the charging point. This appears to be more common with urban EV drivers, possibly due to them charging in public more frequently than rural EV drivers. In general, for urban EV drivers, the *quantity* of public charging points is less

of an issue given the increase as demand for EVs has risen overall, and rather the *quality* of public charging points is the primary issue. Many are either out of order and not always marked as out of order, it takes a driver unsuccessfully attempting to charge, to discover that it is faulty. Faulty charging points mean that, across the working charging points, there is increased demand and therefore increased waiting time for it to become available. Often, it is easier to abandon the charging point and look for another one.

> *"I often can't even get connected the first time I plug in, very often I need to unplug and try again. I got charged extra last weekend after 2 failed attempts, it was a joke. Not to mention the couple I tried to help who couldn't get their car connected (because the unit they were plugged to was faulty it turns out)." (Group 1 – Urban)*

> *"I went to Edinburgh and used the Leaf Satnav to find a charger. It sent me to Newbridge [public site] but I couldn't find it, then Edinburgh airport but I couldn't find that one either, then the [commercial location]. I found the charger – it seemed to be working but wouldn't charge my car. Eventually I crossed the bridge and went to Halbeath [park and ride] and found a working charger!" (Group 1 – Urban)*

When asked specifically how safe they feel at public charging points, the 5% who had abandoned a charging point because they felt unsafe at the previous question is mirrored here, with 93% of drivers who use public charging points feeling safe doing so, 5% feeling unsafe, and the remainder not sure. This finding is also reflected among drivers who do not use public charging points, with 93% thinking they are safe, 3% thinking them unsafe and the remainder not sure).

While the majority of respondents across the qualitative and quantitative studies perceive charging points to be safe for use, findings from the qualitative groups speak to the sense of insecurity some respondents feel when charging their vehicles. Deeper analysis uncovers how concerns about safety can be a significant factor in shaping some EV drivers' experience of charging their EVs. Most notably, these concerns are flagged by female respondents. Worries about charging at night and in the dark are particularly associated with rural areas, where public charging points may be poorly lit. The 'random' placement of EV chargers and poor signage also potentially exacerbate this issue, causing individuals to spend longer trying to find a charging point.

"Some chargers are in remote car parks, and if I have to charge after dark it freaks me out." (Group 2 – Rural)

"I got stuck on the way to Aberdeen as there was only one charger in a small town and someone was on it, it was dark and I had a long way to go. I did not feel safe." (Group 1 – Urban)

[On factors they take into account with public charging] "Availability and location i.e. rapid chargers and somewhere well-lit and safe (more important in winter and at night." (Group 1 – Urban)

Use of helplines at public charging points

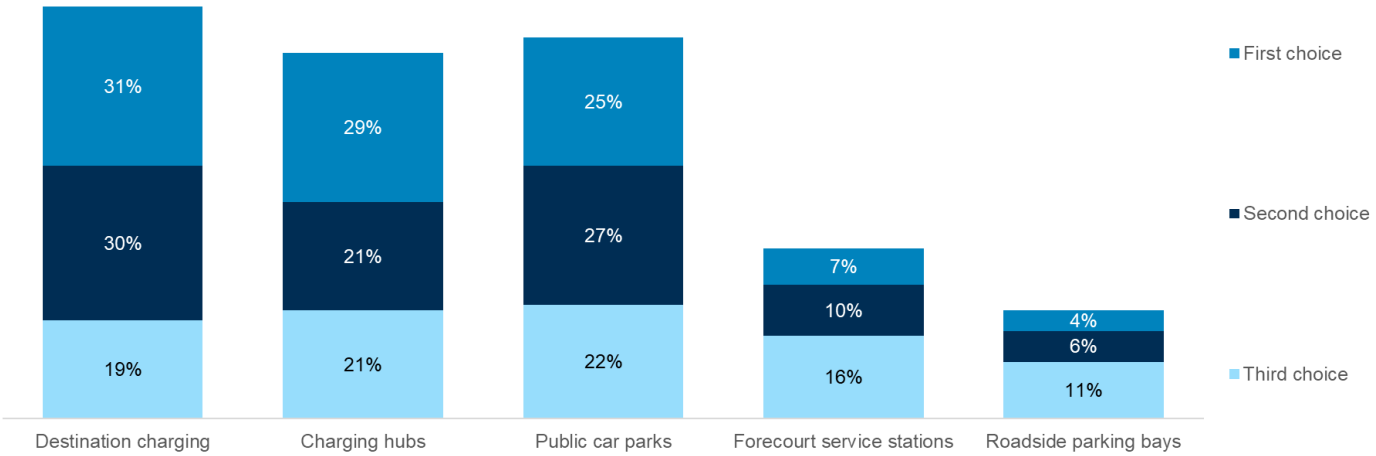
Around half (49%) of drivers who use public charging points have had to call a helpline in the past twelve months (for example, to ask for assistance accessing the charging point or because something wasn't working properly). Three in ten (29%) have had to call one to two times, 20% three times or more, 49% never, with the remainder being not sure. Among those calling a helpline around seven in ten (69%) had their issue resolved (31% did not).

Drivers with a disability or long-term health condition using public charging points are more likely than drivers without to have called a helpline (65% vs. 45%), and more likely to have done so regularly (29% three times or more, vs. 18%).

Public charging points location preference

Drivers' first choice of location for charging points is at a 'destination', such as a leisure facility, hospitality venue, library or hospital (31%), or a 'charging hub' (29%), closely followed by a quarter (25%) choosing 'public car parks'. Less popular choices are 'forecourt services' (7% choosing as their first choice), and 'roadside parking bays' (4% as a first choice). This pattern is repeated among all demographic groups including those considering purchasing an EV, with 34% of whom mentioning 'destination charging' as their first choice. A similar proportion of those considering purchasing an EV drivers choose 'charging hubs' (20%) and 'public car parks' (25%) as their first choice, leaving 'forecourt service stations' (5%) and 'roadside parking bays' (9%) the less popular options among this group, as they are among current EV drivers.

Figure 29. Preferred location for public charging points



Base: All (EV drivers, n=463). Those answering 'not sure' or not ranking an option not charted.

Electric Vehicle Reflections

Analysis of the qualitative text-based groups allows us to untangle the disparity between urban and rural respondents' attitudes towards buying electric vehicles in the future, and their thoughts more generally on a future in which electric vehicles are the only option. The urban group largely feel content with the prospect of such a future, with most saying they would consider buying electric again, or even that they will never buy an ICE again. They feel that electric vehicles are better for the environment, cheaper to run, and nicer to drive.

> *"I would not go back to polluting the planet [with] an ICE vehicle." (Group 1 – Urban)*

> *"When we replace the i10, we will get another electric… it's a cost-to-run thing and I find EVs a lovely drive." (Group 1 – Urban)*

> *"My Leaf is very comfortable to drive, by far the most comfortable I've owned - especially on a long trip - marred only by the need to find a charger and hang around for 45 minutes!" (Group 1 – Urban)*

A minority of the urban respondents say they may opt for alternative vehicles in future due to issues with electric vehicle range, though this sentiment appears more in the rural focus group; while many enjoy driving electric, giving similar reasons to the urban group, they sit more on the fence, displaying anxiety at the prospect of electric being the only viable option.

"I'd be tempted to look at hybrids next, just that long distance reliability…I do enjoy driving my EV though." (Group 1 – Urban)

"I would go 100% EV if they could tow 3.5 tonnes and were on cost parity with an ICE of the same type." (Group 2 – Rural)

"I would consider a hybrid vehicle, but I would need to do a lot more research on the pros and cons. At the moment, I do love my EV." (Group 2 – Rural)

It is widely agreed across the groups that Scotland's current charging infrastructure is dissatisfactory, due to the quality (e.g. broken chargers, variety in cost and high prices) and availability of infrastructure, especially in certain parts of Scotland. Both the rural and urban respondents agree that an electric-only future neither feels realistic nor possible with the current infrastructure, with both groups' prime concern surrounding how it will be improved.

"I would prefer this world, where there are no polluting vehicles! However the infrastructure is completely incapable of supporting anywhere near this world." (Group 1 – Urban)

This would be great assuming the electricity network could cope, which I'm not sure if it can at the moment (Group 2 – Rural)

The emphasis on infrastructure improvements is interesting, given that most respondents in the urban and rural groups predominantly charge their vehicles at home. However, considering respondents' claims about range anxiety, which come into far sharper focus with the rural respondents, this concern is not unreasonable. As discussed, range anxiety can have a significant impact on drivers' confidence levels, even when leaving the house with a full battery, and a wide range of factors can contribute to fuel levels falling faster than normal (e.g. driving fast, weather, etc). Drivers' perceptions of trip length vary depending on where they live; for the urban group, longer trips generally entail leaving town and travelling to other parts of the UK, whereas, for the rural group, a trip to the local shops could be considered long, due to the longer distances required to travel. As such, while for the urban respondents issues with charging infrastructure more commonly cause inconvenience (e.g. spending time, money and fuel searching for a charger,

having to find alternatives when the charger is occupied), unforeseen problems might lead to far greater consequences (e.g. not being able to travel at all, being stranded overnight miles from the nearest charger). It can therefore be argued that the urban respondents are more concerned about the quality of charging points, whereas the rural group seem to be more concerned about the actual presence of charging points.

Respondents agree that a lot needs to change, with the Scottish government named squarely as the body responsible for improving charging infrastructure, and for providing incentives for private investment (e.g. from private charger companies). The government aside, respondents think car manufacturers, service stations and fuel providers also have a part to play in improving infrastructure. In terms of confidence that the changes will happen, opinions are varied; some believe the changes will be made, but think it will take far too long. Others are doubtful, saying that the government currently struggles even to take basic care of the roads, for example in filling in potholes – impacting their EV maintenance needs when it comes to replacing tyres.

Respondents in the qualitative groups name a variety of areas for improvement, specifically citing the need to increase the availability and affordability of chargers throughout Scotland. Some of the more specific suggestions are listed below; it is worth noting here that it is not possible to rank them in order of prevalence, but each suggestion has been included in the report because it was mentioned by several respondents, and therefore felt to be important.

- Standardising charging rates across regions
- Abandoning extra fees (excess fee, connection fee, etc.)
- Discouraging overstays to increase uptake
- Improving maintenance to ensure chargers work reliably
- Introducing a booking system to guarantee anxious drivers a spot
- Improving signage so drivers can find chargers more easily
- Installing chargers in locations near attractions and shops, so people can get on with their day while their vehicle charges

“A way to book time in to use chargers would be helpful if there were enough available to make that feasible. Would certainly help people to be more confident in doing longer trips…could be managed by having to scan a QR code or something.” (Group 1 – Urban)

“Better charging infrastructure - better information on charging - ways to better home charge if you don't have off road parking.” (Group 2 – Rural)

[When asked what needs to improve with charging] “Very important – good signage so one can actually find the thing [charger] - and a high expectation that it will be working when one finds it!” (Group 1 – Urban)

“Signage – please improve this, you can’t find chargers half the time.” (Group 1 – Urban)

Overall, whilst EV drivers are broadly happy with their current vehicles, advances in the infrastructure are crucial if they are to retire use of other ICE vehicles and feel content with an EV-only future.

Conclusion

The sample profile of Scottish EV drivers shows that they tend to be in the wealthier proportion of the population; being in the higher household income bracket (£60,000+) and mainly homeowners rather than renters. The sample of those considering an EV in the future also reflects this, though with slightly more variability in household income. Furthermore, current EV drivers tend to live in houses, with a minority in flats or maisonettes. There is a shift among those considering an EV in the future, with over a quarter (27%) currently living in flats or maisonettes.

Electric vehicle use in Scotland has risen rapidly in recent years, with the majority of electric vehicles owned having been manufactured since 2021. A number of consistent trends are apparent from this research in terms of how EV drivers use their vehicles; the majority use them as their primary vehicle, driving them every day or almost every day, while a substantial minority also report longer trips being part of their weekly usage patterns.

The most common way of purchasing an EV in Scotland is to buy one new, though alternative methods, namely buying second-hand or leasing a vehicle, are also cited by relatively large proportions of drivers. Indeed, purchasing a vehicle second-hand is the most popular method mentioned by those considering purchasing an EV, emphasising the need for support on second-hand vehicle purchasing going forward. Both the quantitative and qualitative research provided evidence of the benefits of 'help-to-buy' schemes in driving EV uptake; 40% of drivers report using at least one scheme when purchasing, supported by respondents in the qualitative groups saying that doing so made the overall process of going electric more inviting. However, the data indicates that use of these schemes is more common among those on higher incomes, which may be linked to employment, while others cited the process of actually accessing these schemes marred by long wait times and paperwork. These results link to more general issues around information-seeking in the EV purchasing process. EV drivers in Scotland find information about purchasing an electric vehicle to be generally accessible and satisfactory, though this is principally driven by online reviews, meaning that a level of self-motivation was required, and felt like a 'learn-as-you-go' experience. Issues with dealerships are apparent in particular, with some respondents critiquing that information from dealers in hindsight lacks the finer details, or a lack of willingness to engage with the help-to-buy process. As EV uptake continues to wider groups who may be less motivated and/or capable of doing this research themselves, readily available information from other sources, including dealerships, is likely to be of increased importance.

However, the most common issue experienced overall when it comes to purchasing an EV in Scotland is a logistical one. Long delivery wait times, as well as an inability to source locally and timescale issues were the three most commonly cited problems by EV drivers. Concerns about cost, while still important, are somewhat less prevalent for drivers than for considerers. Still, significant minorities of drivers report having been concerned about the cost of the vehicle itself, the cost of installing a pod point and the cost of insurance prior to purchasing, again emphasising the need for clear and easily accessible information regarding costs in these areas for potential buyers, as well as financial support available.

When it comes to expectations vs. experiences of driving electric vehicles, EV drivers report quite positive perceptions overall. This is particularly the case when it comes to ease of use and running costs, where drivers lean strongly towards saying these are just as or better than expected. Perceptions of battery performance, as well as insurance costs, are slightly less positive, with around one in three saying these are less than expected and cost more than expected, respectively. Range anxiety and battery performance in particular are perhaps the key issues when it comes to people's experience of driving their EV. A point emphasised in the qualitative groups is that available range / range anxiety contributes significantly to how EV drivers use their vehicles/the type of journeys they make, particularly among rural drivers, contributing to a reluctance to commit to an 'EV-only' future for some. Surprise around the 'actual' range and factors that impact the battery is mirrored by the quantitative research, with batteries draining quickly in cold weather, limited overall range and battery mileage being overstated prior to or reducing since purchase being the most common battery-related issues mentioned.

Survey data provides further insight into the specific factors driving this range anxiety for many EV drivers in Scotland. In particular, while drivers are split as to whether they agree or disagree that they worry their EV won't have enough capacity for the journeys they make, more drivers agree that they worry they- will not be able to charge their EV when out and about. We can therefore infer that respondents are more worried about potential opportunities to charge their EV than the maximum range of the battery. When it comes to charging, the results show a strong preference for at-home charging among EV drivers, particularly those in rural areas. This is by far the most popular method of charging among drivers, both when asked where they ever charge or where they mainly charge, while qualitative analysis of the open-end survey responses shows that at-

home charging is a key driver in EV drivers' interest in their electric vehicle. Indeed, some indicate that they would give up their EV altogether if they could not charge at home.

In contrast, perceptions of public charging infrastructure for EVs in Scotland are quite negative. When it comes to using public charge points, EV drivers are split when it comes to how easy it is to find public charging points, their ease of use and whether they tend to be in good working order. While respondents in urban areas are generally satisfied with the quantity of public charge points, rural respondents are much less favourable here. Indeed, a majority of drivers have had to abandon a charge point in the last year, with it being out of order the top reason cited.

Respondents to the qualitative research report even more negative perceptions of Scotland's EV charging infrastructure, widely considering it to be the worst part of EV ownership, due to the issues around availability, ease of use and reliability. An urban-rural divide was again apparent here; general, for urban EV drivers, the quantity of public charging points is less of an issue given the increase as demand for EVs has risen overall, and rather the quality of public charging points is the primary issue. In contrast, rural drivers are more worried about there not being sufficient public charge points available in general, a key problem given the heightened range anxiety among this group. The research also reveals a frustration with a lack of centralisation in the payment system for public charging infrastructure, increasing the complexity in their use.

Overall, the research reveals a need for substantial levels of investment in Scotland's EV charging infrastructure. Drivers express different priorities across different locations, though chargers being of higher quality and quantity, easier to use and a less complex payments system are all priorities for future planning and investment.

UK26505545_ConsumerScotland_ElectricCars

Question type: ***Multiple***

#row order: randomize

[vehicle_owned] What type of engine is in the vehicle(s) you own, either solely or jointly with someone else? Please select all that apply.

<1>	Petrol	<8>	Compressed natural gas
<2>	Diesel	<9>	Bio Fuel
<3>	Electric	<10>	Ethanol Flexible-fuel vehicle FFV
<4>	Full hybrid	<11>	Liquid Petroleum Gas (LPG)
<5>	Plug-in hybrid	<97 fixed>	Other
<6>	Mild hybrid	<98 fixed xor>	None of these
<7>	Hydrogen		

Question type: ***Multiple***

#row order: randomize

#Question display logic:

if not 3 in vehicle_owned

[future_purchase] Which type of engine would you consider purchasing in the future for your new or second-hand car? Please select all that apply.

<1>	Petrol	<8>	Compressed natural gas
<2>	Diesel	<9>	Bio Fuel
<3>	Electric	<10>	Ethanol Flexible-fuel vehicle FFV
<4>	Full hybrid	<11>	Liquid Petroleum Gas (LPG)
<5>	Plug-in hybrid	<97 fixed>	Other
<6>	Mild hybrid	<98 fixed xor>	None of these
<7>	Hydrogen		

#skip logic:

exit status=screenout if (not 3 in vehicle_owned) and (not 3 in future_purchase)

Question type: ***Text***

This survey is on the topic of electric cars.

We have tested the survey and found that, on average it should take around 10 minutes to complete the questionnaire.

Your YouGov Account will be credited with 50 points for completing the survey.

Please click the forward button below to continue.

Base: Scottish EV drivers

Question type: ***Single***

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[Vehicle_use_drivers] Thinking about the electric vehicle that you own or lease, either individually or jointly. Is this your primary or secondary vehicle?

If you own more than one electric vehicle please think about the electric vehicle bought most recently.

<1>	Primary – The vehicle I use most frequently
<2>	Secondary - The vehicle I use as a backup

Base: Scottish drivers considering an EV

Question type: ***Single***

#Question display logic:

If [future_purchase] - Electric is selected [if 3 in future_purchase]

[Vehicle_use_considerers] Thinking about the electric vehicle that you are considering purchasing or leasing, either individually or jointly.

Would this be your primary or secondary vehicle?

<1>	Primary – The vehicle I use most frequently
<2>	Secondary - The vehicle I use as a backup

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[Vehicle_type] Which of the following type of electric vehicle $pipetext1.raw?

<1>	Car
<2>	Van
<3>	Other
<4 xor>	Not sure

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[Brand] And is the make of electric vehicle you $pipetext2.raw a Tesla or other brand?

<1>	Tesla
<2>	Other brand
<3>	Either
<4 xor>	Not sure

#option display logic:

<3> - If [future_purchase] - Electric is selected [if 3 in future_purchase]

Base: Scottish EV drivers

Question type: ***Open***

#decimal

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[Gen] In what year was the electric vehicle you own manufactured? If you are unsure please provide your best estimate.

Range: 2000 ~ 2024

Not Sure

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[usage_freq] Typically, how often $pipetext3.raw drive your electric vehicle? If you are unsure, please provide an estimate.

<1>	Less than once a week
<2>	One to two days a week
<3>	Three to four days a week
<4>	Five to six days a week

<5>	Every day

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[Long_trip] Typically, how often $pipetext4.raw take longer trips outside of your local area in your electric vehicle? Again if you are unsure, please provide an estimate

<1>	Less than once a week
<2>	One to two days a week
<3>	Three to four days a week
<4>	Five to six days a week
<5>	Every day

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[motorway] Thinking about all of the driving you $pipetext5.raw in your electric vehicle, how frequently $pipetext17.raw drive in it on motorways?

<1>	Less than once a month
<2>	Once a month
<3>	Once a fortnight
<4>	Once a week
<5>	Between 2 and 4 days a week
<6>	Five days a week or more
<97>	Not applicable – I do not drive on motorways
<98>	Not sure

Question type: ***Text***

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

Where do you tend to charge your vehicle? Please tick all that apply

Question type: ***Text***

#Question display logic:

If [future_purchase] - Electric is selected [if 3 in future_purchase]

Thinking about the electric vehicle that you are considering, where do you intend to charge your vehicle? Please tick all that apply

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize #min number of choices: 1 #max number of choices: 3

[location_charge_allx] .

<1>	Directly into a three point socket inside my house
<2>	A charging point attached outside my house
<3>	A charging point shared with my flat or apartment block
<4>	A charging point shared in my workplace
<5>	A charging point on the kerbside
<6>	At a public charging point in a service station
<7>	At retail locations
<97 fixed>	Other (open [location_charge_allxother]) [open] please specify
<98 fixed>	Not sure

#option display logic:

<98> - If [future_purchase] - Electric is selected [if 3 in future_purchase]

Base: Scottish EV drivers

Question type: ***Single***

#Question display logic:

if 3 in vehicle_owned and len(location_charge_allx.selected)>1

[location_charge_most] And where do you tend to charge your vehicle the MOST?

<1>	Directly into a three point socket inside my house
<2>	A charging point attached outside my house
<3>	A charging point shared with my flat or apartment block
<4>	A charging point shared in my workplace
<5>	A charging point on the kerbside
<6>	At a public charging point in a service station
<7>	At retail locations
<97>	$location_charge_allxother

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[Freq] On average how often $pipetext6.raw need to charge your electric vehicle?

<1>	Daily
<2>	A few times a week
<3>	Around once a week
<4>	Around once a fortnight
<5>	Less often
<6>	Not sure

Question type: ***Text***

The next questions are about the experience of purchasing $pipetext7.raw electric vehicle and the costs of running it.

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[P1] How $pipetext8.raw purchase your electric vehicle? $pipetext18.raw

<1>	$pipetext19.raw a used / pre-owned electric vehicle
<2>	$pipetext19.raw a new electric vehicle
<3>	$pipetext20.raw a vehicle (i.e., using the vehicle for a fixed period of time at an agreed amount of money for the lease)
<97>	Other (open [P1other]) [open] please specify
<98>	Not sure
<99>	Prefer not to say

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize

[P2] Which if any, of the following help to buy schemes $pipetext9.raw when purchasing your vehicle?

<1>	Benefit-in-Kind (BiK)
<2>	Green Loans
<3>	Salary sacrifice
<4>	Private company scheme
<5>	Plug-in Car Grant (PICG)
<6>	Government subsidy
<7>	Local authority grant
<8>	Used Electric Vehicle Loan
<97 fixed>	Other (open [P2other]) [open] please specify
<98 fixed xor>	Not sure
<99 fixed xor>	None – I did not use any help to buy schemes

#option display logic:

<99> - If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize

[P3] PRIOR to purchasing your electric vehicle where, if at all, $pipetext10.raw out information?

<1>	Friends and family	<7>	Consumer financial advice websites (e.g. Money Advice Service, MoneySavingExpert)
<2>	My local dealership	<8>	Price comparison websites (eg. Moneysupermarket.com, Go Compare, etc.)
<3>	EV Manufacturers	<9>	Car magazines
<4>	Insurance companies	<10>	Online reviews
<5>	Government website	<97 fixed>	Other (open [P3other]) [open] please specify
<6>	RAC	<98 fixed xor>	None – no information sought

Base: Scottish EV drivers and those considering an EV who have sought out information

Question type: ***Single***

#Question display logic:

if not 98 in P3

[P4] Overall how satisfied $pipetext11.raw you that the information you accessed before your purchase about electric vehicles $pipetext21.raw helpful?

<1>	Very satisfied
<2>	Quite satisfied
<3>	Neither satisfied not dissatisfied
<4>	Not very satisfied
<5>	Not at all satisfied

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize

[P5] $pipetext12.raw electric vehicle which, if any, of the following have you experienced?

<1>	Lack of transparent pricing / hidden costs
<2>	Lack of standardised pricing
<3>	Long delivery wait time
<4>	Too many configuration options
<5>	Relevant price / performance detail hard to find
<6>	Limited financing
<7>	Inability to source locally
<8>	No test drive options

<9>	Timescales
<97 fixed xor>	None of these
<98 fixed xor>	Not applicable

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[P6] $pipetext13.raw the cost to purchase an electric vehicle more, less, or as you expected it to be?

Please take into account the total cost, including any add-ons or customisations.

<1>	More than I expected
<2>	Just as I expected
<3>	Less than I expected
<4>	Not sure

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize

[P7a] What, if any, concerns $pipetext14.raw you have about the _costs_ of your electric vehicle PRIOR to purchasing it? Please select all that apply

<1>	Cost of the vehicle itself
<2>	Cost to run the vehicle
<3>	Cost to maintain the vehicle
<4>	Cost to fix faults with the vehicle
<5>	Cost to install a pod point
<6>	Cost of insurance
<7>	Lower resale value of the vehicle
<8>	Limited choice of electric vehicles
<97 fixed>	Other (open [P7aother]) [open] please specify
<98 fixed xor>	None – no concerns

Base: Scottish EV drivers

Question type: ***Multiple***

#row order: randomize

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[P7b] And what, if any, concerns do you have about the costs of your electric vehicle SINCE purchasing it? Please select all that apply

<1>	Cost of the vehicle itself
<2>	Cost to run the vehicle
<3>	Cost to maintain the vehicle
<4>	Cost to fix faults with the vehicle
<5>	Cost to install a pod point
<6>	Cost of insurance
<7>	Lower resale value of the vehicle
<8>	Limited choice of electric vehicles
<97 fixed>	Other (open [P7bother]) [open] please specify
<98 fixed xor>	None – no concerns

Question type: ***Text***

The next questions are about driving and using $pipetext7.raw electric vehicle

Base: Scottish EV drivers

Question type: ***Grid***

#row order: randomize

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[D1] To what extent, if at all, has your electric vehicle matched your expectations in each of the following ways?

-[D1_1]	Running costs
-[D1_2]	Insurance costs
-[D1_3]	Ease of use
-[D1_4]	Range of battery

<1>	More than I expected
<2>	Just as I expected
<3>	Less than I expected
<4>	Not sure

Base: Scottish EV drivers

Question type: ***Multiple***

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[D2] Have you had your electric vehicle serviced or repaired since you bought it?

<1>	Yes – serviced (this may include software updates)

<2>	Yes – repaired in an emergency
<3>	Yes – repaired at a scheduled time
<4 xor>	No - neither serviced nor repaired

Base: Scottish EV drivers who have had their car serviced

Question type: ***Grid***

#row order: randomize

#Question display logic:

if D2.has_any([1])

[D2serviced] When you had your electric vehicle SERVICED how satisfied were you with each of the following?

-[D2serviced_1]	Ease of finding a technician
-[D2serviced_2]	Choice of technicians
-[D2serviced_3]	Cost of service
-[D2serviced_4]	Length of time for service

<1>	Very satisfied
<2>	Quite satisfied
<3>	Neither satisfied not dissatisfied
<4>	Not very satisfied
<5>	Not at all satisfied
<99>	Not Applicable

Base: Scottish EV drivers who have had their car repaired

Question type: ***Grid***

#row order: randomize

#Question display logic:

if D2.has_any([2,3])

[D2repaired] When you had your electric vehicle REPAIRED how satisfied were you with each of the following?

-[D2repaired_1]	Ease of finding a technician
-[D2repaired_2]	Choice of technicians
-[D2repaired_3]	Cost of service
-[D2repaired_4]	Length of time for repair

<1>	Very satisfied
<2>	Quite satisfied

<3>	Neither satisfied not dissatisfied
<4>	Not very satisfied
<5>	Not at all satisfied
<99>	Not Applicable

Base: Scottish EV drivers

Question type: ***Multiple***

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[D4] Which, if any, of the following issues have you experienced with the battery of your electric vehicle?

<1>	Limited battery range
<2>	Unreliable battery range
<3>	Maximum range has reduced since I bought the vehicle
<4>	Takes too long to charge
<5>	Maximum milage was overstate at purchase
<6>	The range display is unreliable
<7>	Battery goes down too quickly in cold weather
<8>	Battery has failed
<99 fixed xor>	None of these

Base: Scottish EV drivers and those considering an EV

Question type: ***Grid***

#row order: randomize

[D5] To what extent, if at all, do agree or disagree with the following statements?

-[D5_1]	I worry $pipetext22.raw electric vehicle won't have enough capacity for the journeys I make
-[D5_2]	I worry I will not be able to charge $pipetext22.raw electric vehicle when I'm out and about

<1>	Strongly agree
<2>	Slightly agree
<3>	Neither agree nor disagee
<4>	Slightly disagree
<5>	Strongly disagree

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize

[D6a] What, if any, concerns $pipetext14.raw you have about _driving_ your electric PRIOR to purchasing it? Please select all that apply

<1>	Safety of vehicle for passengers
<2>	Safety of vehicle for pedestrians
<3>	Security of locking vehicle
<4>	The reliability of the in-vehicle electronics/ software
<5>	Low top speeds
<6>	Battery getting too hot
<7>	Ease of use
<8>	Battery life
<9>	Range/ battery degradation
<97 fixed>	Other (open [D6aother]) [open] please specify
<98 fixed xor>	None – no concerns

Base: Scottish EV drivers

Question type: ***Multiple***

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[D6b] And what, if any, concerns do you have about your electric vehicle SINCE purchasing it? Please select all that apply

<1>	Safety of vehicle for passengers
<2>	Safety of vehicle for pedestrians
<3>	Security of locking vehicle
<4>	The reliability of the in-vehicle electronics/ software
<5>	Low top speeds
<6>	Battery getting too hot
<7>	Ease of use
<8>	Battery life
<9>	Range/ battery degradation
<97 fixed>	Other (open [D6bother]) [open] please specify
<98 fixed xor>	None – no concerns

Question type: ***Text***

The next questions are about charging $pipetext7.raw electric vehicle.

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[C1] On average how often $pipetext15.raw public charging points to charge your electric vehicle?

This is a charging point that is in a public space and may or may not charge a fee for its use.

<1>	Daily
<2>	A few times a week
<3>	Around once a week
<4>	Around once a fortnight
<5>	Less often
<6>	Never
<97>	Not sure

Base: Scottish EV drivers who use public charging points

Question type: ***Grid***

#row order: randomize

#Question display logic:

If [vehicle_owned] - Electric is selected

And If [C1] - Daily or A few times a week or Around once a week or Around once a fortnight or Less often, is selected

[if 3 in vehicle_owned and C1 in [1,2,3,4,5]]

[C2] Thinking about when you have used public charging points, to what extent do you agree or disagree with the following statements?

-[C2_1]	I found it easy to locate public charging points
-[C2_2]	I found it easy to charge my vehicle where and when I needed to do this
-[C2_3]	There are typically enough available charging points for me to use
-[C2_4]	Public charging points are typically in good working order
-[C2_5]	When I have issues at a charging point, there is clear and easy instruction available about how I access assistance

<1>	Strongly agree
<2>	Slightly agree
<3>	Neither agree nor disagree
<4>	Slightly disagree
<5>	Strongly disagree

Base: Scottish EV drivers and those considering an EV

Question type: ***Multiple***

#row order: randomize #max number of choices: 3

[C3x] How $pipetext16.raw you prefer to pay at public charging points? Please select up to three options.

<1>	A smartphone app
<2>	A membership card (also known as an RFID card)
<3>	Contactless credit or debit card
<4>	Other contactless payment (for example, Apple Pay)
<5>	Chip and pin credit or debit card
<6>	Cash
<7>	Membership to a subscription service
<8>	Phone call
<9>	Text
<98 fixed xor>	Don't mind
<99 fixed xor>	Not sure

Base: Scottish EV drivers who use public charging points

Question type: ***Multiple***

#row order: randomize

#Question display logic:

If [vehicle_owned] - Electric is selected

And If [C1] - Daily or A few times a week or Around once a week or Around once a fortnight or Less often, is selected

[if 3 in vehicle_owned and C1 in [1,2,3,4,5]]

[C4] Which, if any, of the following do you check before choosing a public charging point?

<1>	Price
<2>	How to pay (e.g. pay directly or via a specific app)
<3>	Location
<4>	It has been recommended
<5>	Type of plug (AC/DC)
<6>	Speed of charge (slow/ fast/ rapid/ ultra rapid)
<7>	Accessibility
<8>	In working order
<97 fixed>	Other (open [C4bother]) [open] please specify
<98 fixed xor>	None of these

Base: Scottish EV drivers who use public charging points

Question type: ***Single***

#Question display logic:

If [vehicle_owned] - Electric is selected

And If [C1] - Daily or A few times a week or Around once a week or Around once a fortnight or Less often, is selected

[if 3 in vehicle_owned and C1 in [1,2,3,4,5]]

[C5] In the past twelve months how many times, if at all, have you had to choose a different charging point than the one you had originally intended to use? If you are unsure please provide your best estimate

<1>	Never
<2>	1-2 times
<3>	3-4 times
<4>	5-9 times
<5>	10+ times
<6>	Not sure

Base: Scottish EV drivers who have had to choose a different public charging point in the last year

Question type: ***Multiple***

#row order: randomize

#Question display logic:

If [C5] - 1-2 times or 3-4 times or 5-9 times or 10+ times, is selected [if C5 in [2,3,4,5]]

[C6] Thinking of the last twelve months, which, if any, of the following has prevented you from charging your vehicle at a public charging point? Please tick all that apply

<1>	A charging point could not be easily located
<2>	The charging point was out of order
<3>	There was a queue at the charging point
<4>	The charging point was inaccessible (e.g. blocked by another vehicle)
<5>	The charging point would not connect with my vehicle
<6>	The charging point could not be easily activated
<7>	The charging point didn't provide a suitable payment method
<8>	The charging point looked unreliable
<9>	The area around it felt unsafe
<97 fixed>	Other (open [C6other]) [open] please specify
<98 fixed xor>	None of these

Base: Scottish EV drivers who use public charging points

Question type: ***Single***

#Question display logic:

If [vehicle_owned] - Electric is selected

And If [C1] - Daily or A few times a week or Around once a week or Around once a fortnight or Less often, is selected

[if 3 in vehicle_owned and C1 in [1,2,3,4,5]]

[C7a] How safe or unsafe do you personally feel at public charging points?

<1>	Very safe
<2>	Quite safe
<3>	Not very safe
<4>	Not at all safe
<5>	Not sure

Base: Scottish EV drivers who don't use public charging points, or are considerers of EVs

Question type: ***Single***

#Question display logic:

If [future_purchase] - Electric is selected

Or If [C5] - Never or Not sure, is selected

[if 3 in future_purchase or C5 in [1,6]]

[C7b] How safe or unsafe do you think public charging points are?

<1>	Very safe
<2>	Quite safe
<3>	Not very safe
<4>	Not at all safe
<5>	Not sure

Base: Scottish EV drivers who use public charging points

Question type: ***Single***

#Question display logic:

If [vehicle_owned] - Electric is selected

And If [C1] - Daily or A few times a week or Around once a week or Around once a fortnight or Less often, is selected

[if 3 in vehicle_owned and C1 in [1,2,3,4,5]]

[C8] In the past twelve months, how many times, if at all, have you needed to call a helpline when at a public charging point?

This may be to ask for assistance accessing the charging point or because something wasn't working properly.

<1>	Never
<2>	1-2 times
<3>	3-4 times
<4>	5-9 times
<5>	10+ times
<6>	Not sure

Base: Scottish EV drivers who have used a helpline at a public charging point

Question type: ***Single***

#row order: randomize

#Question display logic:

If [C8] - 1-2 times or 3-4 times or 5-9 times or 10+ times, is selected [if C8 in [2,3,4,5]]

[C9] And did the helpline resolve your issue(s)? If you have called a helpline more than once please think about the last time you called one.

<1>	Yes – issue was resolved
<2>	No – issue was NOT resolved

Base: Scottish EV drivers and those considering an EV

Question type: ***Rank***

#row order: randomize #min number of choices: 1 #max slot: 3

[C10rank] What is your preferred location for _public_ charging points? Please start with the location you MOST prefer, followed by the location you prefer second most and third.

<1>	Roadside parking bays
<2>	Public car parks
<3>	Charging hubs
<4>	Forecourt service stations
<5>	Destination charging e.g., leisure facility, hospitality venue, public services such as library, hospital etc.
<97 fixed>	Other

Not sure

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[C11] Overall, how satisfied, if at all, would you say you are with the number of _public_ charging points in your local area?

<1>	Very satisfied
<2>	Fairly satisfied
<3>	Neither satisfied nor unsatisfied
<4>	Not very satisfied
<5>	Not at all satisfied
<97>	Not sure

Base: Scottish EV drivers and those considering an EV

Question type: ***Single***

[C12] Which of these best describes your interest in using a 'Time of Use' tariff for your home energy tariff?

This is a tariff that offers cheaper rates for certain times, usually overnight. This may be balanced with higher costs at other times.

<1>	I already use it
<2>	I am interested in using it in the next twelve months
<3>	I am not interested in using it in the next twelve months
<97>	Not sure

Base: Scottish EV drivers

Question type: ***Multiple***

#row order: randomize

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[future_purchase_drivers] Which type of engine would you consider purchasing in the future for your new or second-hand car? Please select all that apply.

<1>	Petrol	<7>	Hydrogen
<2>	Diesel	<8>	Compressed natural gas
<3>	Electric	<9>	Bio Fuel
<4>	Full hybrid	<10>	Ethanol Flexible-fuel vehicle FFV
<5>	Plug-in hybrid	<11>	Liquid Petroleum Gas (LPG)
<6>	Mild hybrid	<97 fixed>	Other (open [future_purchaseother]) [open] please specify

Base: Scottish EV drivers who wouldn't consider an electric car for their future purchase

Question type: ***Open***

#any

#Question display logic:

if 3 in vehicle_owned and not 3 in future_purchase_drivers

[non_considerers] For what reasons would you NOT consider purchasing an electric car in the future?

Not Sure

Base: Scottish EV drivers

Question type: ***Open***

#any

#Question display logic:

If [vehicle_owned] - Electric is selected [if 3 in vehicle_owned]

[anything_else] Is there anything else that you would like to add about how driving your electric vehicle has or hasn't matched up to your expectations?

Not Sure