Releasing the handbrake: unpacking misinformation on Electric Vehicles in UK print media

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Executive Summary

1. Focus, goals and methods

This research examines articles about electric vehicles (EVs) published during the first half of 2024 to identify the common forms of EV misinformation, as well as the media outlets and article types where such misinformation is most frequently encountered. Additionally, we took note of references to EV-related policies and stories concerning China to gauge the extent to which these themes are part of the contemporary EV narrative in the UK print media.

We assessed nine major nationwide newspapers, namely the Telegraph, Mail, Times, Sun, Express, Independent, Guardian, and Mirror, and their Sunday editions. Our sample consisted of 448 articles (of which 342 were reports, 41 were editorials/opinion pieces and 65 were other types of content), where the term 'Electric Vehicle(s)' or the acronym 'EV(s)' appeared in the headline. The analysis was conducted manually at the article level using a detailed codebook (Appendix A) of more than 20 variables.

2. Context

The EV industry has experienced a steady increase in sales in recent years, but the industry must continue to grow to ensure the road transport sector is fully decarbonised in time to meet the UK's Net Zero by 2050 targets. Recent analyses reveal that many UK petrol/diesel drivers have limited knowledge about EVs. This leaves them susceptible to the EV misinformation known to be propagated across a range of platforms, including the UK's leading newspapers, decreasing the likelihood that they will make the transition to EVs. Such is the severity of the issue that the House of Lords' Environment and Climate Change Committee identified misinformation as a serious barrier to EV adoption, and called on the Government to take action to counter it.

There is some discussion in relevant industry and policy reports about the common misconceptions regarding EVs but there is yet to be a large scale, rigorous study analysing the scale of EV misinformation in the UK, the form it takes, and the sections of the UK print media most responsible for its dissemination. This study attempts to fill that gap in the literature.

3. Results

3.1. Most prevalent EV discourses - *Demand is falling*, *Charger availability,* and *Vehicle cost*: The most common narratives found in EV articles were to do with the current status of the EV market, the availability of EV charging points and the cost of EVs.

3.2. Misinformation regarding EVs is widespread in the UK print media: 25% of our sample contained at least one misleading statement, including examples from every media outlet we examined.

3.3. Times, Telegraph and Mail most commonly exhibit misinformation relating to EVs: The Times had the highest proportion of misleading articles (52%), while the Telegraph had the largest absolute number (44).

3.4. Editorials and opinion pieces are most likely to contain misinformation about EVs, but this varies by newspaper.

3.5. Certain media outlets dominate specific misleading discourses: The Telegraph was responsible for the majority of the various misleading statements. However, the Telegraph also contributed the largest number of EV-related articles to the sample. Examining each media outlet individually revealed distinct tendencies among newspapers to promote specific misleading narratives.

3.6. The Mail, Telegraph & Times appear intent on presenting negative views on EVs: a sentiment analysis reveals that a quarter of articles sampled presented positive views on the EV industry, while a third of articles took an overall negative stance. The Mail, Telegraph and Times most commonly presented negative views, with over 50% of their EV-related articles being classified as 'negative' or 'somewhat negative' towards EVs.

3.7. Focus on topical EV policy varies by media outlet: While the 2030 petrol and diesel car ban and the Zero Emission Vehicle (ZEV) mandate are often mentioned in EV-related articles, neither policy appears to be a central focus of the contemporary EV rhetoric in the UK print media.

3.8. The print media express deep concern over Chinese manufacturers undercutting western automakers: Narratives concerning the influence of Chinese state subsidies on the success of Chinese EV manufacturers, and the threat China's EV industry poses to western automakers were found in all newspapers, but were particularly prevalent in the Telegraph and FT.

4. Conclusions: Our analysis of the UK print media highlights the presence of EV misinformation across a broad spectrum of discourses. However, a few misleading narratives stand out as especially prevalent, as do certain media outlets that play a key role in their dissemination. Notably, the Times, Telegraph and Mail, which often adopt a critical stance on EVs, are particularly responsible for driving the spread of EV misinformation.

Introduction

Climate change is arguably one of the most abstract and elusive challenges humanity has ever faced. Its multifaceted nature and deep interconnectedness with every aspect of society make it inherently challenging to break down into tangible, actionable solutions. The shift to Electric Vehicles is critical if ambitions to decarbonise the global economy are to be realised. Transport accounts for one sixth of global emissions (IEA, 2024; IPCC, 2022). In the UK, surface transport is the UK's highest emitting sector, accounting for 24% of the country's emissions, with cars accounting for over half (59%) of the sector's emissions. It is for this reason that the Climate Change Committee says EVs will be the main source of decarbonisation in the UK's most emitting sector, and why the EV transition is so important in enabling the UK to hit its target of Net Zero by 2050. Furthermore, as well as directly reducing humanity's dependence on fossil fuels[2], growth in the EV sector drives the demand for clean energy and stimulates innovation in related industries such as battery storage, charging infrastructure and grid management (IEA, 2024). In recent years, EV sales have experienced sustained growth. Global EV sales reached 17.1 million vehicles in 2024, a 25% increase on sales in 2023 (rho motion, 2025). It is essential that this trend continues, with adoption extending to developing and emerging economies, if we are to bring about a cleaner future and be within a realistic chance of limiting global warming to 1.5°C above pre-industrial levels.

The internal combustion engine (ICE) cemented its role as the primary technology for transportation in the UK in the early 20th century, and has remained largely unchallenged until recent years (Parissien, 2014). As a result, the adoption of an alternative technology, in the form of EVs, is being met with some resistance. A crucial element in breaking this paradigm is ensuring both decision-makers and end-users are well-informed about the potential of this new technology.

The traditional or 'legacy' print media has a key role to play in this movement. Research has found that car buyers frequently use print media to update their knowledge about cars, perceptions about EVs and awareness of relevant policies/incentives (Broadbent, et al., 2021). Therefore, the content that is

[2] The rollout of EVs is expected to avoid the need for nearly 6 million barrels of oil a day, by 2030 (IEA, 2024).

presented in leading newspapers is a significant factor in determining potential consumers' likelihood to buy. Furthermore, information surrounding EVs often contains a climate narrative and research shows the legacy media are particularly important in most countries when it comes to the seeking or receiving of information about climate change (Roberston, 2022). In addition, several of the UK legacy media organisations (particularly the BBC, Guardian, Mail, and Telegraph) enjoy a strong worldwide presence in English online, and are influential amongst policymakers outside of their home countries (O'Neill, et al., 2015; Kristiansen, et al., 2021). The UK legacy print media's influence therefore extends beyond the domestic consumer, to politicians and other decision-makers round the world who can pull levers that could either accelerate or slow down the EV transition.

In recent years, the EV transition has increasingly become a target for misinformation (CarbonBrief, 2023), with some analyses even attributing the slowdown in EV sales growth seen in 2023 to the spread of false narratives (Haghani & Ghaderi, 2024). The House of Lords' Environment and Climate Change Committee also identified misinformation as a serious barrier to EV adoption in the UK, adding that, "the scale of misinformation has not been matched by commensurate urgency in tackling it" (UK Parliament, 2024). As a result, UK drivers are often poorly informed, with a recent YouGov poll finding that more than half (57%) of petrol/diesel cars drivers got 2 or less out of ten correct on a true-false EV questionnaire (ECIU, 2024). In response, EV industry stakeholders have come together to establish an organisation specifically aimed at addressing and dispelling misconceptions held by many UK drivers (Lancefield, 2024). While this and other initiatives hold promise for driving positive change, further research is needed to better understand the recurring themes in the misinformation being spread and to identify the main sources responsible for its dissemination.

Misinformation (i.e. false information, regardless of intent) and/or disinformation (i.e. deliberately misleading information) can come in a range of forms. Commonly, a statement or article is misleading because: (i) it selectively quotes its source material to create an inaccurate impression of an issue (i.e. paltering); (ii) it fails to report other relevant reports on the same subject; (iii) it omits other points of view or data points of relevance; (iv) it fails to give the relevant background to a report (e.g. who funded it) or to a quote (i.e. the affiliation of the person quoted). Examples of typical misleading claims regarding EVs can be found within Appendices A & B.

We focused our analysis on articles about EVs published in UK legacy print media, identifying common themes in misinformation related to EVs during the first six months of 2024. This time frame was chosen, in part, because it encompasses the initial implementation of the UK's Zero Emissions Vehicle (ZEV) mandate on 1st January 2024— a significant milestone in the UK's EV transition. This policy implementation, along with other EV-related developments, ensured that EVs featured prominently in the print media, offering a wealth of material for examining the discourse surrounding them.

With the above context in mind, we focused our analysis on two research questions:

1. Are there patterns of misinformation about EVs in the UK print media?
2. Are there important differences in the coverage of EVs between the UK's major print media outlets?

Method

The articles selected for our analysis were found in the UK's leading legacy print newspapers - *Telegraph, Mail, Times, Financial Times, Sun, Express, Independent, Guardian, and Mirror* - from 1st January to 30th June 2024. The news outlets were chosen to represent a range of political standpoints and target audiences, while the six- month time period was selected to capture a broad sample of articles.

To capture content that focused on EVs, we used the *Factiva* search engine to find articles that contained key words (namely "Electric Vehicles" and/or "EV" and/or "EVs") in the headline. The search resulted in 448 articles, including 342 reports; 41 editorials/opinion pieces and 65 of miscellaneous genre[3]. These 448 articles made up the sample set that was to be examined for misinformation regarding EVs.

This selection strategy can lead to important omissions, but in general is regarded as a robust research method. In our study for example, it led to the exclusion of articles that used alternative phrasing (e.g. "Electric cars") or that discussed EVs in the body of the article without making reference to them in the headline. The distribution of articles from each news outlet to the sample sets can be seen in Table 1.

Table 1: Distribution of articles in sample by publication		
Publication	**Number of articles**	**% of sample**
Mail	11	2%
Express	79	18%
Financial Times	106	24%
Mirror	23	5%
Guardian	11	2%
Independent	55	12%
Sun	23	5%
Telegraph	113	25%
Times	27	6%
Total	448	100%

The sample was analysed using manual content analysis, an established technique whereby researchers use the coding of variables to systematically examine newspaper articles using a pre-defined codebook (Metag, 2016). For this study, the codebook (Appendix A) was prepared deductively, drawing on industry-specific analyses (e.g. reports from Climate Change Committee, Carbon Brief, Energy Transitions Commission), and then tweaked inductively based on the actual reading of the articles and the research questions above.

To date, neither academic literature nor relevant industry/policy reports have offered a comprehensive framework for identifying misleading claims related to EVs, making it necessary to develop one for this study. Through a review of a sub-set of 50 EV-related articles, we identified some of the most commonly discussed topics: cost, range anxiety, EV infrastructure, technological faults, environmental impacts, popular support, national security. Within each of these categories, variables were then developed to capture the common misleading claims. Meanwhile, the corresponding facts were established and cross-verified using multiple reputable sources (see Appendix B for misleading claims, associated facts and substantiating evidence).

The common misleading claims were formulated into a codebook. To enable consistent identification of the various forms of misinformation, clear examples of each variable were provided within the codebook (Appendix A). We also made the distinction between anecdotal references to each variable (not misleading) and generalisations (misleading), and examples of both instances were provided in the codebook. Additionally, we identified articles that presented misleading EV claims with the purpose of debunking or discrediting them. This was accomplished by identifying the presence of

[3] The miscellaneous category was mainly made up of 'Letters to the Editor' and 'Motor Reviews' of specific cars.

counterarguments in each article, which would balance, and sometimes negate, the presence of the associated misleading argument. If a misleading claim was countered within an article, then the article was not included in our final data sets for the presence of misinformation.

We also noted references to topical EV policies in the articles analysed, namely the 2035 petrol and diesel car ban and the Zero Emission Vehicle (ZEV) mandate, to gauge the extent to which media coverage of EVs is influenced by policy formation and implementation. Additionally, we examined any claims made about China in relation to EVs. Our initial review of articles indicated that China frequently plays a significant role in EV-related discussions. However, while many claims about China appeared questionable, they were not inherently misleading. As such, our aim was merely to assess the prevalence of various claims about China, rather than evaluating their potentially misleading nature.

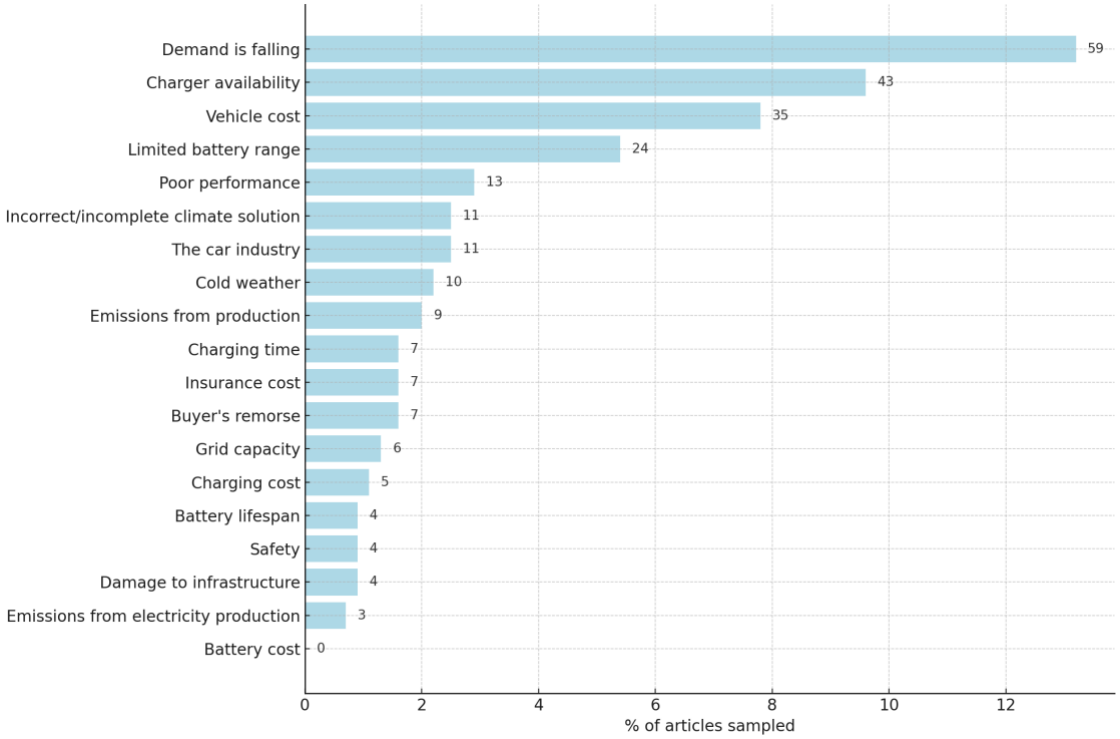
Results

1. Most prevalent EV discourses: *Demand is falling*, *Charger availability,* and *Vehicle cost*

In UK print articles that discussed EVs, we found the most prevalent discourses to be: *Demand for EVs is falling*, *Charger availability*, and *Vehicle cost* (Fig.1). The least prevalent (of our predefined discourses) was *Battery cost* which did not have a single mention across the 448 articles sampled, followed by *Emissions from electricity production*, which had only 3 mentions.

This part of the study was simply assessing the presence of certain discourses, rather than assessing the discourses for misinformation. Hence, the results displayed here include both misleading and not misleading variations of each variable.

Figure 1: Percentage of articles in the sample containing the predefined discourses (both misleading and not misleading variants)



N.B. Bar lables show actual number of articles

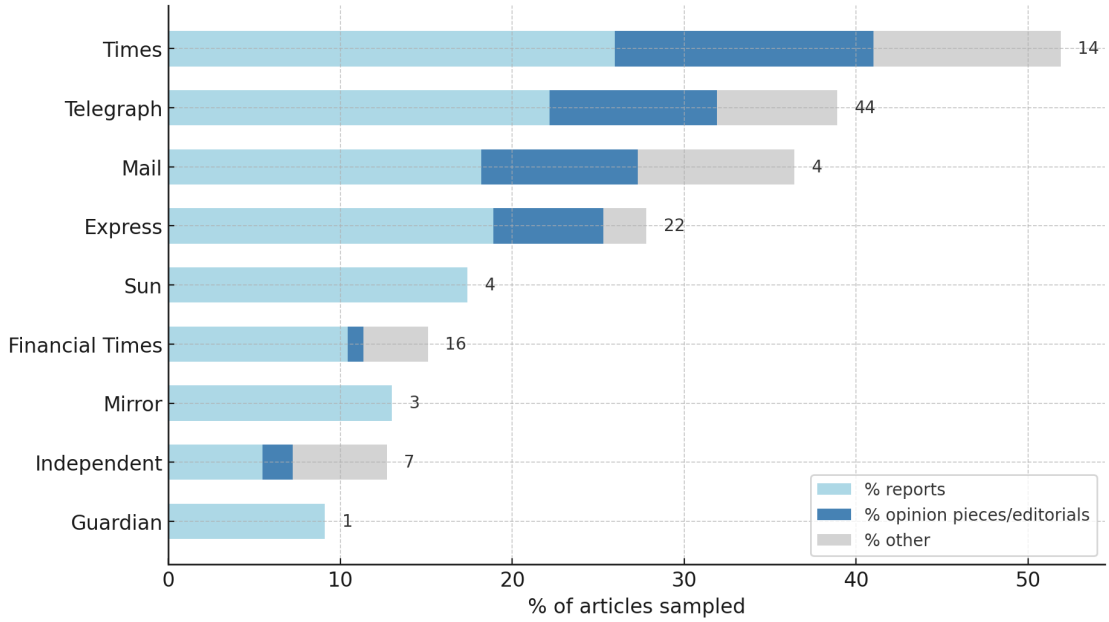
2. Misinformation regarding EVs is widespread in the UK print media

Across our sample of 448 articles, we identified 206 misleading statements. One in four articles (25%) contained at least one misleading statement, and 9% featured more than one. These misleading statements appeared in all genres of article (i.e. reports, editorials, opinion pieces), and were present in articles from every media outlet included in this study.

3. Times, Telegraph and Mail most commonly exhibit misinformation relating to EVs.

The Times had the highest proportion of misleading articles, with 52% containing at least one misleading statement (Fig.2). This was followed by the Telegraph and Mail that contained at least one misleading statement in 39% and 36% of their articles, respectively. The Guardian had the lowest proportion of misleading articles, with only 9% found to contain a misleading statement.

Figure 2: Percentage of articles from each media outlet containing a misleading statement



N.B. Bar lables show actual number of articles

4. Editorials and opinion pieces are most likely to contain misinformation about EVs, but this varies by newspaper.

Editorials/opinion pieces were most likely to be misleading, with 63% of this genre featuring at least one misleading statement. This was followed by the miscellaneous genre (i.e. 'Other') with 32%, and then by reports with 21% containing at least one misleading statement.

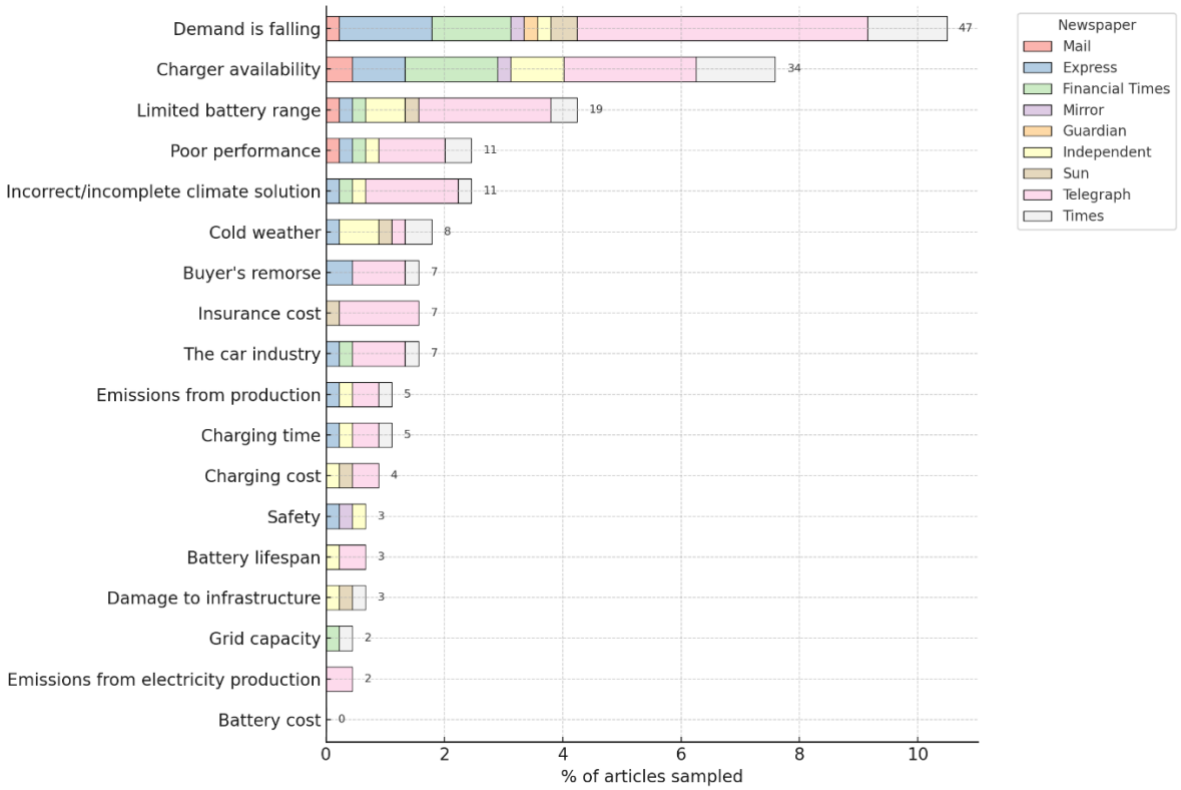
However, if we look at the breakdown by media outlet (see stacked bars in Fig.2 above), we see a different picture: half of the misleading articles from the Times were reports, approximately a quarter were editorials/opinion pieces and about a quarter were other types of content. About the same genre split was found for misleading articles from the Telegraph and Mail.

All editorials/opinion pieces in the Mail, Express, and Independent, as well as two-thirds of those in the Telegraph and the Times, were found to contain at least one misleading statement. In contrast, the Guardian did not have a single misleading opinion piece, with its misleading statement found in a straight report.

5. Certain media outlets dominate specific misleading discourses.

The three most common misleading discourses were *Demand is falling* (occurring in 47 articles; 11% of articles sampled), *Charger availability* (34 articles; 8%) and *Vehicle cost* (28 articles; 6%) (Fig.3). Other frequently occurring misleading discourses included: *Limited battery range* (19 articles; 4%), *Poor performance* (11 articles; 3%) and *Cold weather* (8 articles; 2%). Meanwhile, the least common narratives where those surrounding *Battery cost* (0%), *Emissions from electricity production* (0.4%) and *Grid capacity* (0.5%).

Figure 3: Percentage of articles sampled containing each misleading discourse



N.B. Bar lables show actual number of articles

Most of the common misleading discourses were found in the Telegraph articles. The Telegraph contributed 47% (22 articles) of the misleading articles in the *Demand is falling* category; 29% (10 articles) in the *Charger availability* category; and 43% (12 articles) in the *Vehicle cost* category. However, the Telegraph also contributed more articles to the overall sample (113 articles; 25% of the total sample) than any other news outlet.

When comparing media outlets, we find that the Times had the highest proportion of articles containing the top three most common misleading discourses: 22% of Times articles contained the *Demand is falling* discourse; 22% contained the *Charger availability* discourse; and 11% contained the *Vehicle cost* discourse. Other noteworthy newspapers for the top three most common discourses were the Telegraph (with 20% of its articles containing the *Demand is falling* discourse and 11% containing the *Vehicle cost* discourse), the Mail (with 18% of its articles containing the *Charger availability* discourse), and the Express (with 10% containing the *Vehicle cost* discourse).

Additionally, it is worth noting that the Mail had the highest proportion of articles containing the *Limited battery range* and *Poor performance* discourses (9% of articles in both cases) and the Times had the highest proportion of articles containing the *Cold weather* discourse (7%).

6. The Mail, Telegraph & Times appear intent on presenting negative views on EVs:

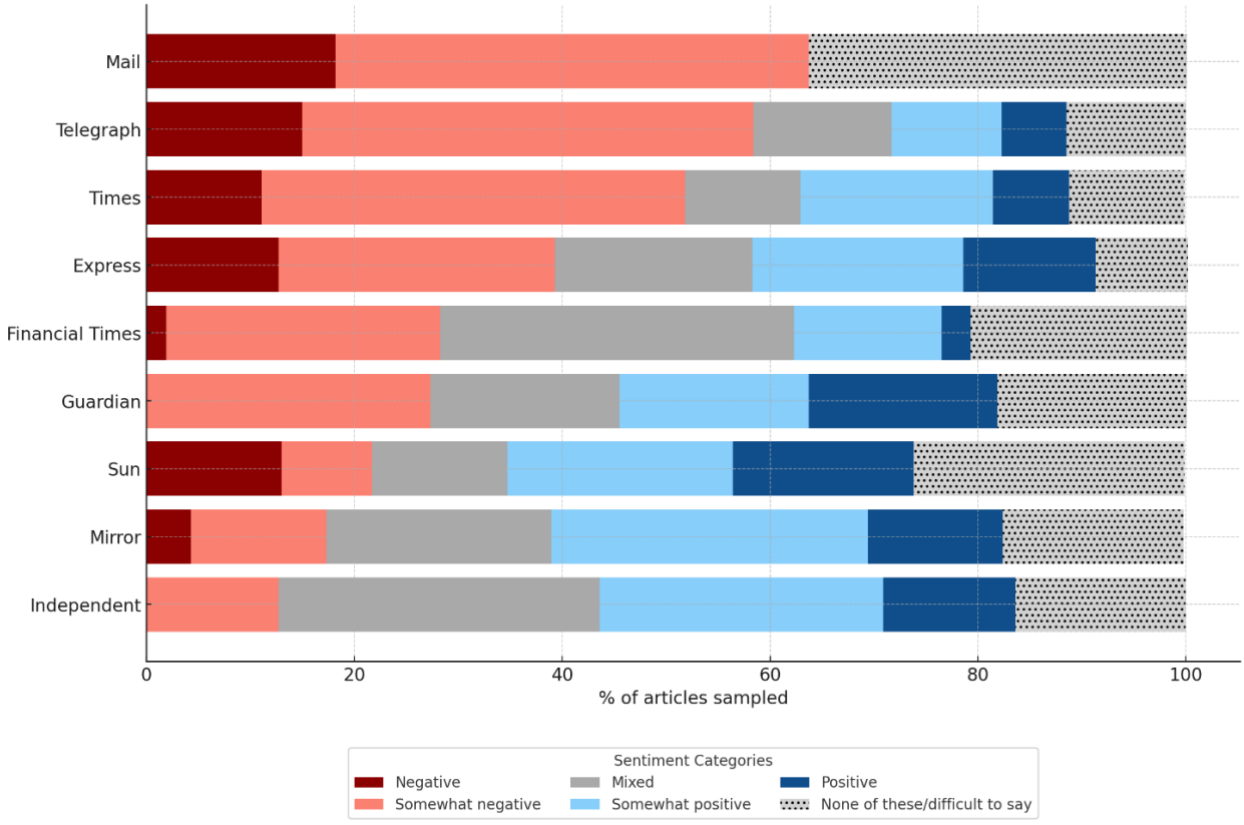
Many of the articles sampled had an overall negative framing of the EV industry, with over a third of articles categorised as either 'somewhat negative' (29% of total sample) or 'negative' (9%). Those media outlets with the highest proportion of negatively-toned articles included: Mail (64%), Telegraph (58%), and *Times* (52%) (Fig.4).

Approximately a quarter of the articles sampled had an overall positive framing of the EV industry, with 17% of the sample categorised as 'somewhat positive' and 9% as 'positive'. The media outlets with the highest proportion of positively-toned articles included: Mirror (43%), Independent (40%), and Sun (39%).

The Financial Times and the Independent had a high proportion of their articles with a 'mixed' sentiment (34% and 31%, respectively).

Across our entire sample, we did not find a single instance of a Mail article with a 'positive', 'somewhat positive', or even 'mixed' take on the EV industry. Meanwhile, over a third (36%) of Mail articles were deemed to lack sufficient tone to warrant a sentiment score.

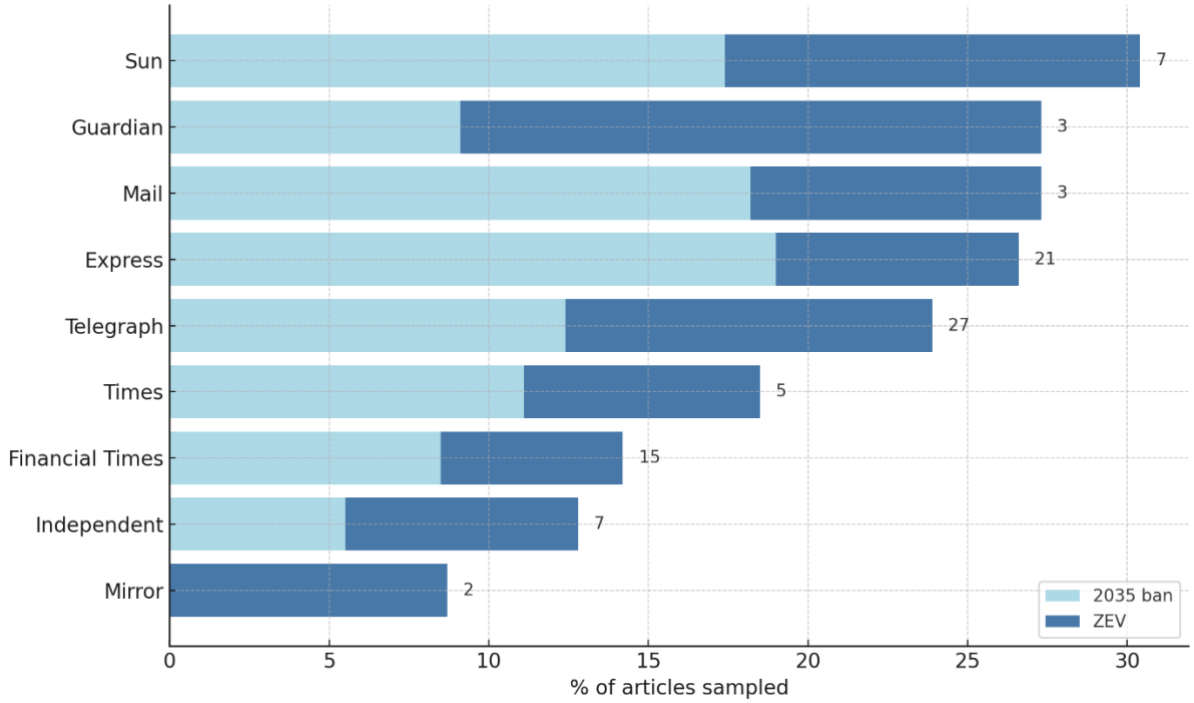
Figure 4: Percentage of articles from each media outlet in each sentiment category



7. Focus on topical EV policy varies by media outlet

Topical EV policy—defined here as the *2030 and 2035 petrol and diesel car bans* and/or the *Zero Emission Vehicle (ZEV) mandate*—was mentioned in approximately 15% of the sampled articles. While the Telegraph and Express referenced these policies most overall, the Sun mentioned them most frequently, with at least one appearing in nearly a third of its sampled articles (Fig. 5).

Figure 5: Percentage of articles from each media outlet mentioning EV policies



N.B. Bar lables show actual number of articles

Mentions of the *2030 and 2035 petrol and diesel car bans* were more common than those of the *ZEV mandate*, occurring in 11% (51 articles) compared to 9% (39 articles) of the sample. The Express (19%), Mail (18%), and Sun (17%) had the highest proportion of articles discussing the 2035 ban. In contrast, the ZEV mandate was most frequently mentioned in the Guardian (18%), followed by the Sun (13%) and the Telegraph (12%).

8. The print media express deep concern over Chinese manufacturers undercutting Western automakers

China was referenced in relation to EVs in 176 out of the 448 articles analysed (39%), encompassing 280 distinct mentions (i.e. many articles mentioned China in more than one way). The most prevalent China-EV discourse, appearing in 20% of the articles analysed, reported on the story about Chinese government subsidies and their role in enabling Chinese manufacturers to dominate the global EV market (e.g. "concerns grow that Beijing has given its car producers an unfair edge through huge subsidies." Express, February 2024). This narrative was often accompanied by claims that the subsidies were unfair, with some suggesting that western markets may impose tariffs to safeguard domestic production, but that decision-makers should also proceed with caution due to likely retaliation measures from Beijing. This discourse appeared in articles from all media outlets analysed, but gained the most traction in the FT and the Telegraph, which raised the point in 23 and 19 articles, respectively.

Another related China-EV discourse argued that China's leadership in EV production will devastate western automakers (e.g. "Britain and Europe must work together to resist an onslaught of cheap Chinese electric vehicles" Telegraph, February 2024). This claim appeared in 17% of articles and, once

again, was carried by news outlets from all political leanings, but with most traction in the Telegraph, FT and Express that used this narrative in 21, 15 and 15 articles, respectively.

We also took note of claims that did not fit into our predefined set of China-EV discourses. Common themes within these claims included: narratives about Chinese manufactures suffering from production exceeding demand and other supply-chain bottlenecks; reports on Chinese manufacturers setting up factories in Europe and North America and forming joint ventures with European and US companies so to circumvent trade barriers and gain a foothold in foreign markets; and stories about the alleged poor quality of cheap Chinese EVs.

One discourse we anticipated seeing more prominently was the claim that Chinese-made EVs could be used as tools for espionage, collecting data and compromising national security. However, this narrative appeared in only 5% of the articles, with the Telegraph accounting for the majority, citing it 6 times.

Discussion

Diverted traffic: the omission of misleading environmental discourses

A surprising finding from this study is that the most common misleading statements in the UK legacy print media during the sample period did not concern the environmental impacts of EVs. As outlined in Result No. 5 and Figure 3 above, the most frequently mentioned misleading discourses appeared approximately 40 times (~9% of articles), while those related to environmental concerns (i.e. *Incorrect/incomplete climate solution, Emissions from production, Emissions from electricity production and Damage to infrastructure*) were mentioned no more than 11 times (~2% of articles). This suggests that the environmental benefits of EVs are less contested compared to other aspects of the EV transition. Furthermore, it points to a possible shift in the nature of EV misinformation in recent years.

Although systematic research on the evolving nature of EV misinformation remains limited, related analyses provide context. For example, *CarbonBrief* 's 2023 fact-check of "21 of the most common – and persistent – myths about EVs" highlights that many misleading statements that year focused on EVs' role in reducing pollution and combating climate change. Similarly, research in 2022 found that a significant barrier to EV adoption stemmed from widespread media misinformation regarding their environmental impacts (Almansour, 2022). Together, these findings suggest that earlier misinformation tended to emphasise environmental concerns. By contrast, this study shows that in the first half of 2024, the focus of EV misinformation had shifted to other issues.

Could misinformation steer consumer behaviour?

The most prevalent misleading narrative identified in our analysis was *Demand is falling*, which appeared in 47 articles, accounting for 11% of the sample. This claim manifested in one of two forms: (i) assertions such as "No one wants an EV" and (ii) statements suggesting that "UK EV sales have stalled and/or are falling". The former category consisted of definitive claims that the current norm is a lack of interest in purchasing EVs, while the latter referred specifically to nationwide EV sales data. In the case of the latter, it was necessary to make distinctions between seemingly similar EV sales statistics so to avoid erroneously categorising regionally-specific or sub-sector sales statistics as misinformation (see variable 13a1 clarification, Appendix A).

Within the nationwide EV sales statistics, there was further nuance to distinguish. While both first-hand and second-hand EV sales did grow during the sample period, the rate of growth slowed (SMMT, 2024). Misleading articles would often misconstrue this fact, suggesting instead that absolute nationwide EV sales had stalled/fallen, which was not the case. The nuance here is important because the

misconception - that fewer people are buying EVs than before - could potentially give rise to informational and normative social influence (Burnkrant & Cousineau, 1975; Nolan, et al., 2008). These well-documented psychological phenomena describe how individuals often base decisions or behaviours on perceived cues from others, assuming those cues reflect expertise or reliable information.

In the context of EVs, prospective buyers may be discouraged from purchasing due to a perceived decline in EV popularity, brought about by misinformation in the media. At scale, this could lead to an actual reduction in demand, creating a self-reinforcing feedback loop. The ability of misinformation - or deliberate disinformation - to shape public perception and behaviour on such a scale is not without precedent (Raman, et al., 2020), with incidents such as the alleged Russian interference in the 2016 US presidential election and the Brexit referendum (Persily, 2017; Emerson, 2017). It is this potential for widespread impact that makes clear the importance of monitoring, addressing and correcting misleading claims.

The Times and Telegraph put EV misinformation in the driver's seat

As outlined in Result No. 3 and illustrated in Figure 2 above, the Times had the highest proportion of articles containing EV misinformation, with 52% of its coverage including at least one misleading statement. This was followed by the Telegraph (39%) and the Mail (36%). Meanwhile, the Telegraph published the largest absolute number of articles containing EV misinformation (44 articles), followed by the Express (22), FT (16) and Times (14). The Times and Telegraph both cited *Demand is falling* and *Vehicle Cost* more than any other misleading discourse. However both papers also exhibited a wide variety of misleading narratives, with 12 of the 18 misleading narratives identified for this study appearing at least once in the Times, and 14 of the 18 appearing at least once in the Telegraph. In sum, both the Times and Telegraph provided sizeable platforms for EV misinformation: the Times more consistently pushed misleading narratives in its EV-related pieces while the Telegraph disseminated a higher volume of misleading articles on the topic of EVs during the sample period.

Misleading EV claims are parked in opinion sections

Result no. 4 outlines the role of opinion pieces and editorials in the dissemination of misinformation on EVs. This finding is unsurprising given the higher tolerance for subjective content permitted in these articles by the regulator, the Independent Press Standards Organisation (IPSO). Unlike news reports which are supposed to be held to strict standards of accuracy and impartiality, opinion pieces and editorials are allowed to exaggerate an issue for rhetorical effect, but are still supposed to avoid presenting demonstrably false claims as fact. For opinion pieces/editorials, IPSO rulings are typically based on whether the writer knowingly misled readers and whether the claims made are within a reasonable expression of a subjective view (IPSO, 2021). Therefore, it stands to reason that the more questionable claims being made about EVs are more likely to appear in the opinion/editorial section of newspapers, where scrutiny for accuracy and balance tends to be less rigorous. However, section 1(i) of the IPSO Editors' Code of Practice states: "The press must take care not to publish inaccurate, misleading or distorted information" and this clause applies to all types of content published. As each of the claims identified for this study have been demonstrated as misleading (see Appendix B), there is an argument that some media outlets are nonetheless in breach of IPSO Editors' Code of Practice, whether claims are found in the opinion or straight reporting section of the newspapers.

As detailed in the methods section above, this study was conducted on a specific six-month period and there remain limitations to both the article selection and coding analysis stages of our research. Despite these constraints, the sample examined reveals a clear trend: certain misleading discourses were regularly propagated by particular media outlets (see *Results*, §5 for details). Notably, these

discourses rarely contested the environmental benefits of EVs. Instead, they concentrated on the current status of the EV market, EV infrastructure and the typical range and cost of modern EVs.

While EV misinformation was found in articles from all media outlets, it was most prevalent and frequent in the Times, Telegraph and Mail – the same newspapers that tended to portray EVs in a negative light. As anticipated, opinion pieces and editorials were most likely to contain misleading content. However, misleading statements about EVs also appeared in news reports, which actually made up the majority of EV-related articles during our sample period. Finally, while EV policy was often an element in the rhetoric surrounding EVs, it was not a central focus in the UK print media, whereas developments in China's EV industry emerged as a dominant discourse.

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Appendices

Appendix A: Codebook

Codes*:* If not stated otherwise, the codes are 0 for not mentioned and 1 for mentioned. Enter the code in that variable's cell. Please do not leave any cells empty. If something is not mentioned, there should be a 0 in that cell. NB if you are not sure about whether to code some aspect as '1', it usually means that the evidence from the article is not strong enough, so you should err on the side of caution and probably code it as '0'. Or make a note in the comment section (variable 19) that you are unsure, and it can be picked up later.

Section A: Formal variables

1. **Coder** (use initials, e.g. Simon Cocks = SC)
2. **A) News organization** e.g. Telegraph
   B) Political leaning: left, right, centre [Auto-filled]
3. **Date**
4. **URL**
5. **Headline**
6. **Author** (for Letters to the editor, please write 'FT/ Telegraph/ Times Reader' rather than the name of the author)
7. **Type of article**: 1 Straight report/reportage/feature; 2 Editorials (unsigned); 3. Opinion pieces (signed); 4. Other (including Letters to the editor)

Section B. Presence of themes/argument (subject to assessment of misleading nature)
N.B. In all of the variables in this section, please make the distinction between anecdotal references to each variable (NOT misleading) and generalisations (misleading).

E.g. "We waited patiently but it was over half an hour before we managed to start charging – which then took an hour. So we added nearly an hour and a half to a two-and-a-half-hour journey" (Independent) = NOT misleading

"It is not news to us, or any UK EV driver, that the charging infrastructure is woefully inadequate" (Independent) = misleading

8. Cost

8a1 Vehicle cost: The lifetime cost of EVs is higher than that of Internal Combustion Engine (ICE) vehicles. *Y/N* [N.B. Doesn't have to specify 'lifetime' cost; can be a generalisation that EVs are 'too expensive' BUT it is NOT misleading for an article to say that the 'upfront' price of an EV is higher than that of an ICE] *Examples: "The simple fact is that electric cars are unaffordable – they're just not affordable for most people" (Express)*

[Clarification: While the upfront cost of some EVs can be higher, total cost of ownership (TCO) are typically lower due to savings on fuel, maintenance, and potential tax incentives (i.e. EVs currently don't have road tax). Most EVs on the secondhand market (where 80% of car sales take place) have achieved price parity with their petrol equivalents.]

8a2 *If yes, are counter-arguments present? Y/N*

8b1 Battery cost: EV owners have to spend large amounts of money replacing their electric car batteries. *Y/N* [N.B. It is NOT misleading for an article to say that EV batteries are expensive] *Example: "Electric vehicle owners are facing repair bills that are thousands of dollars higher than those for gas cars. A lack of specially-trained mechanics, extra safety measures for potentially explosive batteries and a greater need for replacement parts are to blame." (Daily Mail)*

8b2 *If yes, are counter-arguments present? Y/N*

8c1 Insurance cost: Insurance costs are higher for EVs than for petrol equivalents. *Y/N Example: "Electric cars cost twice as much to insure as petrol and diesel vehicles" (Telegraph)*

8c2 *If yes, are counter-arguments present? Y/N*

8d1 Charging cost: EV charging stations are more expensive than petrol and diesel refills *Y/N Example: "Recharging electric cars can be more expensive than a petrol refill amid surging electricity costs" (Daily Mail)* [N.B. Criticism needs to be generic rather than specific: If the article gives a particular example of a case where an EV charger was more expensive = not misleading; If article focuses on price of charging with ultra-rapid chargers vs petrol/diesel refills = not misleading]

8d2 *If yes, are counter-arguments present? Y/N*

9. Range anxiety

9a1 Limited battery range: The generalisation that EVs batteries have a very limited range and are not suitable for long trips; EVs regularly run out of charge. *Y/N* [N.B. Criticism needs to be generic rather than specific: If the article gives a particular example of a case of an EV with limited range = not misleading; If article makes a generalised comment about EVs having limited range = misleading] *Example: "The trip showed me that the 'long-distance anxiety' surrounding electric vehicles…is completely valid." (Daily Mail)*

9a2 *If yes, are counter-arguments present? Y/N*

9b1 Charging time: EVs take too long to charge, making them impractical for everyday use. [N.B. Criticism needs to be generic rather than specific: If the article gives a particular example of a case where an EV charger took a long time to charge an EV = not misleading; If article makes a generalised comment about EV charging time making EV's impractical for everyday use = misleading] *Y/N Example: "I bought a VW EV but charging takes too long and the price is a total rip off… I feel absolutely mugged off" (Sun)*

9b2 *If yes, are counter-arguments present? Y/N*

10. Insufficient Infrastructure

10a1 Charger availability: There aren't enough charging stations for EVs [N.B. The assertion that there are regional disparities in charging points does not constitute a misleading statement NOR does the assertion that that EV owners think there are not enough charging points – there was a YouGov poll that found that 69% of electric car owners are dissatisfied with the availability of charging stations] *Y/N Example: 'Electric car revolution at crisis point' due to 'charging point shortage' (Daily Mail)*

10a2 *If yes, are counter-arguments present? Y/N*

10b1 Grid Capacity: The UK electrical grid cannot handle the increased demand from EVs. [N.B. To be misleading, this criticism has to be towards the overall UK national grid capacity, NOT a criticism of the capacity of specific areas of the national grid (e.g. remote areas)] *Y/N Example: 'Britain's creaking power grid cannot cope with charging electric cars' (Sun)*

10b2 *If yes, are counter-arguments present? Y/N*

11. Technological faults

11a1 Battery lifespan: Lithium-ion batteries degrade quickly and lose their capacity within a few years. *Y/N Example: The lifetime of EV batteries is 'horribly uncertain' (Telegraph)*

11a2 *If yes, are counter-arguments present? Y/N*

11b1 Cold weather: EVs don't perform well in cold weather [N.B. Criticism has to be towards EVs in general; can't be specific to a particular model or a set of circumstances] *Y/N Example: "EVs don't work in the cold" (Daily Mail)*

11b2 *If yes, are counter-arguments present? Y/N*

11c1 Safety: EVs can pose a safety risk by acting without driver input e.g. drivers unable to brake, vehicle accelerating independently; EVs are more likely to catch fire than gasoline vehicles; Lithium-ion batteries are prone to catching fire and/or exploding. [N.B. Criticism has to be towards EVs in general; can't be specific to a

particular model or a set of circumstances] *Y/N Example: "Electric vehicles can explode – petrol ones only do it in movies" (Sun)*

11d1 Poor performance: EVs are slow and lack performance compared to gasoline vehicles; EVs are inefficient due to their additional weight; EVs are less reliable (e.g. more likely to break down) than ICE vehicles [N.B. Criticism has to be towards EVs / gasoline vehicles in general; can't be specific to a particular model] *Y/N Example: "Electric cars are far less reliable than traditional petrol vehicles" (Daily Mail)*

11d2 *If yes, are counter-arguments present? Y/N*

12. Environmental impacts

12a1 Emissions from Production: The environmental cost of producing EVs generally and/or producing lithium-ion batteries is so high that it negates the benefits of using them; Lithium-ion batteries are impossible to recycle; Lithium is a rare element, and we will run out of it soon due to the demand from batteries. *Y/N "The green revolution is fuelling environmental destruction." (Daily Telegraph) & "Old bangers are the green motorist's choice"* (Guardian)

12a2 *If yes, are counter-arguments present? Y/N*

12b1 Emissions from Electricity production: EVs are not truly environmentally friendly as their lifetime CO2 emissions are no better for the environment that the petrol cars they are replacing because of the emissions from electricity generation *Y/N Example: "driving an electric car simply displaces carbon emissions from roads to distant power stations" (Daily Mail)*

12b2 *If yes, are counter-arguments present? Y/N*

12c1 Damage to infrastructure: EVs are significantly heavier than gasoline vehicles, making them less efficient and more damaging to roads and infrastructure e.g. car parks. *Y/N* [N.B. mention of vehicle weight is not a requirement for positive coding] *Example: "Car parks could collapse under the weight of electric cars." (Telegraph)*

12c2 *If yes, are counter-arguments present? Y/N*

12d1 Incorrect/incomplete climate solution: EVs alone cannot solve climate change therefore we should push back on adoption of EVs; Cars powered by hydrogen are a better solution than EVs for decarbonising our cars; Cars powered by synthetic fuels, or efuels, are a better solution than EVs for decarbonising our cars. *Y/N Example: "Hydrogen cars were the future once – might they be again?" (The Times)*

[N.B. the notion that 'EVs alone cannot solve climate change' does NOT constitute positive coding]

12d2 *If yes, are counter-arguments present? Y/N*

13. Popular support

13a1 Demand is falling:

There are two potential framings of this claim:

(i) No one wants an EV. [N.B. Here we are looking for statements that strongly assert that the status quo is that people don't want to buy EVs. This does NOT include specific examples of individuals' decisions not to buy an EV NOR does it include weaker claims that people 'have concerns' about EVs] *Example: "I've driven thousands of cars and have decades of motors experience – no one wants to buy an EV for three reasons" (Sun)*

(ii) UK EVs sales have stalled and/or are falling [N.B. Criticism must refer to nationwide EV sales in the UK, not regional or sub-sector sales statistics (e.g. Private sales)] *Example: "the electric car market in this country is in real jeopardy" (Mirror)*

[Clarification:

The situation is that growth in the UK EV market has slowed over the last year, but that absolute EV sales have continued to grow. Therefore, any statement that claims EVs sales have stalled and/or are falling is misleading, but a claim that sales growth has slowed is NOT misleading.

Similarly, statements which refer to nationwide UK EV sales as "softening," "waning," or "weakening" should NOT be categorised as misinformation as they do not explicitly assert a stall/fall in absolute sales.

Additionally, it is accurate to say that the growth in EVs' market share stalled in 2023, as it stood at 16.5% whereas it was 16.6% in 2022.]

13a2 *If yes, are counter-arguments present? Y/N*

13b1 Buyer's remorse: EV drivers regret their decision to purchase an EV, that the challenges outweigh the benefits, and plan on going back to petrol. *Y/N Example: "Nearly half of EV drivers regret their purchase and want to return to gas" (Sun)*

13b2 *If yes, are counter-arguments present? Y/N*

14. National Security

14a1 The car industry: Forcing the UK's car industry to switch to building electric vehicles will likely damage/destroy it, and the hundreds of thousands of jobs that depend on it. *Y/N Example: "The motor industry roared back into life in 2023, but the transition to zero-emission vehicles threatens to stall it again in 2024" (The Times)*

[N.B. This code is not addressing claims that imported Chinese vehicles will damage the auto industry, these claims are addressed in 17a]

14a2 *If yes, are counter-arguments present? Y/N*

Section C. Presence variables

The following variables are not assessed for their misleading nature but rather their presence so to ascertain how often these topics are raised in EV-related articles.

16. Specific policies

16a 2035 Diesel and Petrol Car Ban [N.B. Must mention the date '2035']

16b Zero Emissions Vehicle (ZEV) Mandate [N.B. Must mention the words 'Zero Emissions Vehicle' or use the abbreviation 'ZEV']

17. China

17a China Claims

This variable is coded slightly differently from above. If China is mentioned in relation to EV, select from the claims below as to which argument/s are put forward. If more than one argument is put forward use a comma as a divider in cell 17a (e.g. 1,2). Please do not leave any cells empty. If China is not mentioned, there should be a 0 in the cell.

1. The EV industry is dependent on China for batteries which creates a significant national security risk.
2. China has a monopoly on lithium resources, which gives it undue influence over the global EV market.
3. Chinese-made EVs will be used as tools for espionage, collecting data and compromising national security.
4. China's leadership in EV production will economically devastate western automakers / western countries automotive industries.
5. Chinese manufacturers are dominating EV markets because of Chinese government subsidies.
6. Other (if so, please briefly describe this claim in column 19a)

Section D. Overall sentiment analysis

The following section focuses on the overall sentiment of the article. It is not specifically about the number of statements in favour or against EVs but rather the impression that you get from the author by the end of the article. Do you think they are a supporter of the EV Industry? Save the extreme values (i.e. 1 and/or 5) for authors that are particularly emphatic about their opinion.

18a What was the overall sentiment of the article towards the EV industry? *Choose one of the options below:*

1. Negative: no arguments are included which support the EV industry.

2. Somewhat negative, negatives outweigh the positives: some arguments/statements in support of the EV industry are given, but these are outweighed by arguments/statements against it.

3. Mixed: a rough balance of arguments/statements in favour and against the EV industry.

4. Somewhat positive, positives outweigh negatives: some arguments/statements against the EV industry are given, but these are outweighed by arguments/statements for it.

5. Positive: only arguments/statements are included which support the EV industry.

6. None of these, difficult to say.

Other Comments

19a This section is to be used for highlighting articles that have heavy criticism/support of a specific policy (the presence of which is coded for in 16) OR to note when the overall argumentation around a theme is misleading when you have coded a weak counter-argument OR to note the occurrence of other EV-related discourses not covered by the variables OR to note when the article is about America or Australia.

Appendix B: Misleading claims regarding EVs, associated facts and substantiating evidence

	Variable name	Misleading Claim	Associated facts	Substantiating evidence
Cost	*Vehicle Cost*	The lifetime cost of EVs is higher than that of Internal Combustion Engine (ICE) vehicles.	While the upfront cost of some EVs can be higher, total cost of ownership is typically lower due to savings on fuel, maintenance, and potential tax incentives (i.e. EVs currently don't have road tax). Most EVs on the second-hand market (where 80% of car sales take place) have achieved price parity with their petrol equivalents.	[1, 2, 3]
	Battery cost	EV owners have to spend large amounts of money replacing their electric car batteries.	EV batteries have improved significantly, with the industry expecting them to typically outlast the lifespan of the car itself. Therefore, EV drivers are unlikely to spend large amounts of money replacing their car battery.	[4, 5 ,6]
	Insurance costs	Insurance costs are higher for EVs than for petrol equivalents.	Insurance premiums have increased dramatically for all vehicles in the UK, not just EVs. In fact, the average EV insurance premium is lower than the average petrol car insurance premium.	[7]
	Charging Cost	EV charging stations are more expensive than petrol and diesel refills.	On average, charging an EV at home or at a standard public EV charger costs significantly less per mile than fuelling a petrol or diesel vehicle. 86% of drivers find owning an EV cheaper to run than a petrol or diesel car. [N.B. Ultra-rapid chargers can be more expensive and therefore any references to the high cost of ultra-rapid chargers were not considered misleading by coders – see Appendix A, variable 8d1]	[8]
Range anxiety	*Limited battery range*	The generalisation that EVs batteries have a very limited range and are not suitable for long trips; EVs regularly run out of charge.	While early EVs had limited ranges, the average range of EVs sold today is 247 miles on a single charge. 99% of car journeys in the UK are under 100 miles, well within the range of most modern EVs (i.e. EV ranges are sufficient for the vast majority of car trips undertaken in the UK).	[9, 10]
	Charging time	EVs take too long to charge, making them impractical for everyday use.	While charging times can be longer than refuelling a gas car, advancements in fast-charging technology allow EVs to gain significant range in a short period. Home charging overnight can also be very convenient, allowing the majority of households that have access to private off-street charging to do the baulk of their charging overnight whilst they are asleep.	[11, 12]

Insufficient Infrastructure	*Charger availability*	There aren't enough charging stations for EVs.	The number of charging stations is increasing rapidly, with a near exponential growth in the number of chargers being installed meaning the UK is on course to hit its 300,000 chargers by 2030 target. Many countries and companies are investing heavily in expanding the charging infrastructure, leading the IEA to claim that charger installation rates are keeping track with rising EV sales.	[13]
	Grid Capacity	The electrical grid cannot handle the increased demand from EVs.	While there will be an increase in electricity demand, smart grid technology, off-peak charging, and renewable energy integration can help manage this demand effectively. The National Grid has stated that electricity demand in the UK has fallen 16% from its high point in 2002. The transition to EVs is only expected to add 10% to current levels of demand.	[14]
Technological faults	*Battery lifespan*	Lithium-ion batteries degrade quickly and lose their capacity within a few years.	EV batteries have improved significantly, with the industry expecting them to typically outlast the lifespan of the car itself. Warranties often cover 8 years or more, with even the oldest EVs on the road today still having average battery health in excess of 90%.	[4, 5, 6]
	Cold weather	EVs don't perform well in cold weather.	While cold weather can affect battery efficiency and range, EVs are designed to handle a wide range of temperatures. Preconditioning the battery and cabin, along with other battery management systems help maintain performance and protect the battery in extreme conditions. ICE vehicles also experience significant reductions in efficiency in wintery conditions.	[9, 15, 16]
	Safety	EVs can pose a safety risk by acting without driver input e.g. drivers unable to brake, vehicle accelerating independently.	Claims that EVs have accelerated away, or not braked, have not been proven. In fact, in one case where a driver claimed that his EV wouldn't slowdown from high speeds, the driver was subsequently arrested for dangerous driving	[17]
		EVs are more likely to catch fire than gasoline vehicles.	EVs are subject to rigorous safety standards and are significantly less likely to catch fire than petrol vehicles – studies indicate there are anywhere between 20 to 80 times less likely to set on fire.	[18, 19]
	Poor performance	EVs are slow and lack performance compared to gasoline vehicles.	EVs can offer impressive acceleration and performance due to their electric motors providing instant torque – they will typically outperform their petrol equivalents. Many high-performance EV models are available on the market.	[20]

		EVs are inefficient due to their additional weight.	Despite the additional weight, EVs are more efficient due to the higher efficiency of electric motors compared to internal combustion engines (77% compared to 20-30%). Regenerative braking, which recaptures energy during deceleration, also contributes to their higher overall efficiency.	21
		EVs are less reliable than ICE vehicles.	EVs have far fewer complex mechanical parts, so have less things to go wrong - which is why they are typically more reliable than petrol cars	9, 22
Environmental impacts	*Emissions from Production*	The environmental cost of producing EVs generally and/or producing lithium-ion batteries is so high that it negates the benefits of using them.	While battery production does have an environmental footprint, numerous studies have shown that EVs and renewable energy storage still offer significant net environmental benefits over their lifetimes compared to fossil fuel alternatives. An EV driven in the UK today typically produces three times less CO2 over the course of its lifetime than a petrol car.	23, 24
		Lithium-ion batteries are difficult or impossible to recycle.	Lithium-ion batteries can be recycled, and the recycling processes are continually improving. Various methods are being developed to reclaim valuable materials from used batteries, making recycling more efficient, cost-effective and profitable. It is estimated that, once recycling is properly up and running, 95% of the material in an EV's battery will be recyclable.	25, 26
		Lithium is a rare element, and we will run out of it soon due to the demand from batteries.	Lithium is relatively abundant, and known reserves are sufficient to meet foreseeable demand. Furthermore, ongoing research into battery technology may reduce dependence on lithium or lead to alternative battery chemistries e.g. sodium-ion batteries.	27
		Because of the CO2 released when building a new EV, its better for the climate to keep hold of an old petrol or diesel 'banger' than replace it with a new EV	There is still a net benefit to the environment in retiring an old banger and replacing it with an EV.	28
	Emissions from Electricity production	EVs are not truly environmentally friendly as their lifetime CO2 emissions are no better, or worse, for the environment that the petrol cars they are replacing because of the emissions from electricity generation.	Studies show that EVs have a lower overall environmental impact compared to internal combustion engine vehicles, even when accounting for electricity generation. An EV driven in the UK today typically produces three times less CO2 over the course of its lifetime than a petrol car. The electricity grid is also becoming greener with more renewable energy sources.	29

	Damage to infrastructure	EVs are significantly heavier than gasoline vehicles, making them less efficient and more damaging to roads and infrastructure e.g. car parks.	It is true that EVs tend to be heavier than their internal combustion engine counterparts due to the weight of the battery packs. However, this added weight does not necessarily make them more damaging to infrastructure. EVs are not typically heavier than the largest gasoline or diesel-powered vehicles, such as trucks and SUVs, that are currently on the roads. Nonetheless, EV manufacturers are working on lightweight materials and designs for future EV models.	30, 31
	Incorrect/incomplete climate solution	EVs alone cannot solve climate change therefore we should push back on adoption of EVs.	While EVs are only part of the solution to decarbonising road transport (or even the wider economy), most reputable climate scientists believe that EVs are one of the most crucial strategies to employ in the pursuit of Net Zero. Moreover, the inability of any one strategy to solve the climate crisis on its own is not a valid reason to abandon said strategy.	32
		Cars powered by hydrogen are a better solution than EVs for decarbonising our cars.	Hydrogen-powered cars require two to three times more electricity to travel a mile compared to EVs, due to the energy-intensive process of producing green hydrogen, resulting in higher costs for consumers. To provide this energy would require the construction of substantially more solar and wind farms,. Additionally, lifecycle emissions from hydrogen cars would be 60-70% higher than that of EVs.	33, 34, 35, 36
		Cars powered by synthetic fuels, or efuels, are a better solution than EVs for decarbonising our cars.	Cars powered by synthetic fuels, or e-fuels, require four to five times more electricity to travel a mile compared to EVs, due to the energy-intensive process of producing these fuels. To provide this energy would require the construction of significantly more solar and wind farms, resulting in much higher costs for consumers. Additionally, lifecycle emissions from vehicles running on synthetic fuels or e-fuels are substantially higher than that of EVs.	37, 38, 39
Popular support	*Demand is falling*	EVs sales have stalled, and are even falling, because no one wants an EV.	Whilst the rate of growth in EV sales has slowed in the UK, EV sales have continued to grow, steadily increasing their share of the new vehicle market over time. The number of EVs sold in the first 5 months of 2024 was 10% higher than the first five months of 2023. Meanwhile, the second-hand market is expanding rapidly, with second hand EV sales in 2023 91% higher than 2022.	40, 41, 42, 43

	Buyer's remorse	EV drivers regret their decision to purchase an EV, that the challenges outweigh the benefits, and plan on going back to petrol.	Surveys repeatedly show that over 90% of EV drivers would never go back to owning a petrol or diesel vehicle	44, 45, 46, 47
National Security	*The car industry*	Forcing the UK's car industry to switch to building electric vehicles will likely damage/destroy it, and the hundreds of thousands of jobs that depend on it.	80% of the cars built in the UK are exported, the majority of which go to markets that are committed to phasing out the sale of petrol and diesel vehicles. The failure to transition to producing EVs, which are increasingly demanded by the market, is what actually poses an existential threat to the car industry in the UK.	48

[1] Over the course of their lifetimes, the top 10 selling EVs of 2023 will save their owners close to £18,000 each (almost £1,300 a year) ECIU analysis found.

[2] In an October 2023 article, the UK's Climate Change Committee (CCC) says EVs "will be significantly cheaper than petrol and diesel vehicles to own and operate over their lifetimes".

[3] Most EVs on the second-hand market (where 80% of car sales take place) have achieved price parity with their petrol equivalents.

[4] A study of 15,000 EVs by Seattle-based battery analysis firm Recurrent Motors found that only 2.5% of batteries had been replaced.

[5] Autocar says that most batteries will last the lifetime of the car.

[6] A survey of 3,000 EV owners by Which? found that the oldest EVs had only experienced an average drop in range of 9%.

[7] Average EV insurance premiums are £50 lower than average petrol premiums.

[8] A survey of over 1,600 electric vehicle drivers found that 86% of drivers found owning an EV cheaper to run than a petrol or diesel car.

[9] Articles may use the statistic of "6% of all callouts to electric vehicles are because they have run out of power" when according to a report from the Department for Transport, around 40% of breakdowns are caused by running out of fuel.

[10] The average range of EVs sold today is 247 miles.

[11] 99% of car journeys are under 100 miles.

[12] 75% of EV owners do most or all of their charging at home.

[13] Department for Transport statistics (from April 2024) show near exponential growth in EV public charging points - now 59,670 in the UK by 1 April 2024, an increase of 49% since 1 April 2023.

[14] The highest peak electricity demand in the UK in recent years was 62GW in 2002. Since then, the nation's peak demand has fallen by roughly 16% due to improvements in energy efficiency. Even if we all switched to EVs overnight, we estimate demand would only increase by around 10%.

[15] In February 2024, Edmund King, President of the UK's Automobile Association (AA) said "There is no evidence that the UK's colder weather means EVs struggle, even if range is slightly reduced. Of course, EVs, like all types of vehicles, are not as efficient in the extreme cold, but our data showed they worked well in January in the UK."

[16] A petrol car's fuel efficiency can drop by as much as 24% in winter, US government data show.

[17] Driver of runaway electric car who claimed brakes weren't working is arrested.

[18] The Swedish Civil Contingencies Agency states that petrol and diesel cars 20 times more likely to catch fire than EVs.

[19] The Australian Government's EV FireSafe found that 0.0012% of EVs caught fire between 2010 and 2023, compared to 0.1% for diesel and petrol cars - making them 80 times more likely to catch fire than EVs.

[20] The quickest EVs typically outpace traditional performance petrol cars.

[21] The reason that EVs can cut emissions, even when running on fossil-heavy electricity, is that they are roughly four times more energy efficient than combustion-engine cars.

[22] 3 year old EVs are over two times less likely to break down than 3 year old petrol/diesel cars, according to the German equivalent of the AA.

[23] It takes less than two years for a typical EV to pay off the "carbon debt" from its battery. Over the full vehicle lifecycle, carbon dioxide (CO_2) emissions from an EV are around three times lower than an average petrol car.

[24] Misleading claims on EV production emissions almost always make the same three key mistakes, which serve to underplay the emissions from combustion-engine cars and overestimate those from EVs: (i) these claims routinely overstate the emissions associated with manufacturing EV batteries, often cherry-picking older studies with the highest estimates; (ii) they usually take fuel-efficiency figures at face value, ignoring the long-standing issue that vehicle test cycles are unrealistic – with real-world efficiency around 40% worse than stated; (iii) they generally ignore the significant amount of CO_2 associated with fuel production, including refining, which adds at least 20% – or more – to that emitted from the car's tailpipe. Taking these together, the ICCT concludes that combustion-engine cars have lifecycle emissions that are "twice as high as official tailpipe CO_2 values".

[25] More than 95% of the key minerals in an EV battery can be profitably recycled.

[26] T&E has found that only 30kg is lost over the life cycle of an EV - the rest is recycled. Meanwhile, 17,000 litres of petrol are burned by the average car.

[27] The Energy Transitions Commission (ETC) said in a July 2023 report that there was "no fundamental shortage" of any key materials. It said: "geological resources exceed the total projected cumulative demand from 2022-50 for all key materials, whether arising from the energy transition or other sectors."

[28] An average UK driver replacing an "old banger" would pay off the carbon debt from buying a new EV within around four years.

[29] The lifecycle benefits of EVs are increasing over time as electricity grids get cleaner. In a 2021 lifecycle analysis, the ICCT found that an EV bought in Europe would cut emissions by 66-69%, relative to a conventional car. By 2030, this emissions saving would rise to 74-77%, the ICCT said, "as the electricity mix continues to decarbonise". Erroneous claims generally ignore the significant amount of CO2 associated with fuel production, including refining, which adds at least 20% – or more – to that emitted from the car's tailpipe.

[30] "EVs' additional weight has little impact on infrastructure".

[31] By the time most cars being sold are EVs, improvements in battery technology and reductions in weight mean that they will not be heavier than the petrol cars they are replacing.

[32] No serious strategy for decarbonising road transport – let alone the entire global economy – could rely on EVs alone. But this is hardly a reason to push back on the adoption of EVs. On the contrary, the IPCC concludes that EVs are "likely crucial". Its latest report says: "Widespread electrification of the transport sector is likely crucial for reducing transport emissions." Indeed, the IPCC finds that EVs – along with other zero-carbon fuels – likely have the single-largest potential to cut transport emissions.

[33] UK government analysis found that EVs are "much more efficient" than hydrogen cars, using only a third of the energy. It also said lifecycle emissions from hydrogen cars would be 60-70% higher than EVs, even assuming that the hydrogen was from low-carbon.

[34] An EV converts 77% of the electricity generated into motion, whereas a hydrogen car only converts 33% of the electricity generated into motion.

[35] It's estimated that a car running on e-fuels will cost the average driver 10,000 euros more over five years than running an electric car.

[36] UK Government analysis found that lifecycle emissions from hydrogen cars would be 60-70% higher than EVs, even assuming that the hydrogen was from low-carbon sources.

[37] EVs running on renewables also have significantly lower CO2 emissions than cars burning e-fuels made from the same source of power, according to lifecycle analysis for the UK government.

[38] T&E analysis finds 77% of the electricity generated ends up moving an electric vehicle. Conversely an e-fuel powered car only achieves 16-20% efficiency. This means you will need 4-5 times more energy to move an e-fuel powered car than you do a battery electric powered one.

[39] T&E finds lifecycle emissions from an EV in 2030 would be 53% lower than for a combustion-engine car running on e-fuels.

[40] EV sales in the first 5 months of 2024 are 10% higher than the first 5 month of 2023.

[41] The second hand EV market has grown by 71% in the last year.

[42] The UK has Europe's largest EV market.

[43] 84% of cars leased on salary sacrifice schemes are EVs - and salsac volumes are up 47% in the last quarter.

[44] A survey of 8,867 EV drivers by Fully Charged found that 93% would not go back to ICE, and 99% would recommend having an EV.

[45] A survey of over 3,000 EV drivers by Zap Map found that 91% would not go back to ICE.

[46] A survey of 563 EV drivers by the RAC found that 90% wouldn't go back to ICE.

[47] A survey of 1,600 EV drivers found that 91% have no intention of going back to ICE.

[48] Electrifying Growth: a report by CBI Economics exploring what electrification could mean for the UK's automotive industry