

**TRANSPORT AND WORKS ACT 1992 (“TWA”): THE PROPOSED
CAMBRIDGE COUNTY COUNCIL AND GREATER CAMBRIDGE
PARTNERSHIP CAMBOURNE TO CAMBRIDGE ORDER**

Commencing 16th September 2025

Proof of Evidence on

Claimed Carbon Benefits for CtoC Scheme

**Prof. Louise Hirst, Professor of Materials Physics, University of
Cambridge**

On behalf of

**Cambridge Past, Present & Future and Coton Parish Council
(OBJ-251)**

1. Witness background and qualifications

- 1.1 My name is Louise C. Hirst. I am Professor of Materials Physics jointly in the Department of Physics and the Department of Materials Science and Metallurgy at the University of Cambridge. I provide the following evidence in a personal capacity on a voluntary basis, as one who is concerned with climate change and the need for accurate, reliable evidence to guide decision making in the development of net zero policy.
- 1.2 I have a BSc, MSc and PhD in Physics from Imperial College London and I am an expert in photovoltaic technologies; however, no specialist scientific or technical knowledge or qualifications are required to understand the evidence presented.

2. Scope of Evidence

4. Relevance of carbon calculations to the proposed scheme
5. Forecasting proportions of car kilometres by fuel type
6. Post-2050 assumption
7. Outdated forecast
8. Conclusion

3. Appendices

- A TAG Data Book May 2025 v2.01, Table A1.3.11 Forecast fuel consumption parameters
- B TAG Data Book May 2025 v2.01, Table A3.3 Carbon Emissions
- C TAG Date Book May 2022 v1.18, Table A1.3.9 Proportions of vehicle kilometres by fuel type
- D TAG Date Book May 2025 v2.01, Table A1.3.9 Proportions of vehicle kilometres by fuel type
- E Written Statement to Parliament – Phasing out the sale of new petrol and diesel cars from 2030 and support for zero emission vehicle (ZEV) transition. Published 6 January 2025.

4. Relevance of carbon calculations to the proposed scheme

- 4.1 The objectives of the Transport Strategy and high-level programme for Cambridge and South Cambridgeshire (TSCSC, agreed March 2014) includes meeting “...*carbon reduction targets*...” **[CD7-07, page 2-8]**. As such, a stated goal of the scheme is to “...assist in the moving to a low carbon economy” **[CD1-04, para 4.2.4]**.

- 4.2 Within the Applicant's Statement of Case **[CD23-01, para 9.16.13]** it is claimed that the scheme will "*support reductions in greenhouse gas emissions*" in accordance with the objectives of Chapter 9 (Promoting sustainable transport) and Chapter 14 (Meeting the challenge of climate change, flooding and coastal change) of the NPPF **[CD8-01, pages 48-53]** and Policy 28 of the Cambridge Local Plan 2018 **[CD6-01, pages 115-126]** and Policy CC/1 of the South Cambridgeshire Local Plan 2018 **[CD6-02, pages 100-101]**.
- 4.3 This claim is based on CO₂ emission calculations provided in the Environmental Statement **[CD1-10.01, para 10.3.4]**, which indicate modest net savings of 5,020 tCO₂e over the 60-year assessment period. The applicant then finds additional carbon savings associated with "*other measures that are expected to be introduced by the GCP to limit car use in and around Cambridge*" **[CD23-01, para 11.23.2]** to improve the carbon outlook yielding potential for net savings of about 47,000 tCO₂e. The evidence presented here highlights critical issues with the calculations underlying this assessment.

5. Forecasting proportions of car kilometres by fuel type

- 5.1 Accurate forecasting of the proportion of car kilometres by fuel type, electric vs petrol or diesel, is essential for calculating CO₂ emission savings over the lifetime of the scheme, as these classes of vehicle have radically different emission profiles. CO₂ emissions associated with electric cars are already substantially less than their petrol counterparts (see Figure 1a) and are forecast to fall dramatically in the coming decades, as low carbon sources contribute an increasing proportion to electricity production.

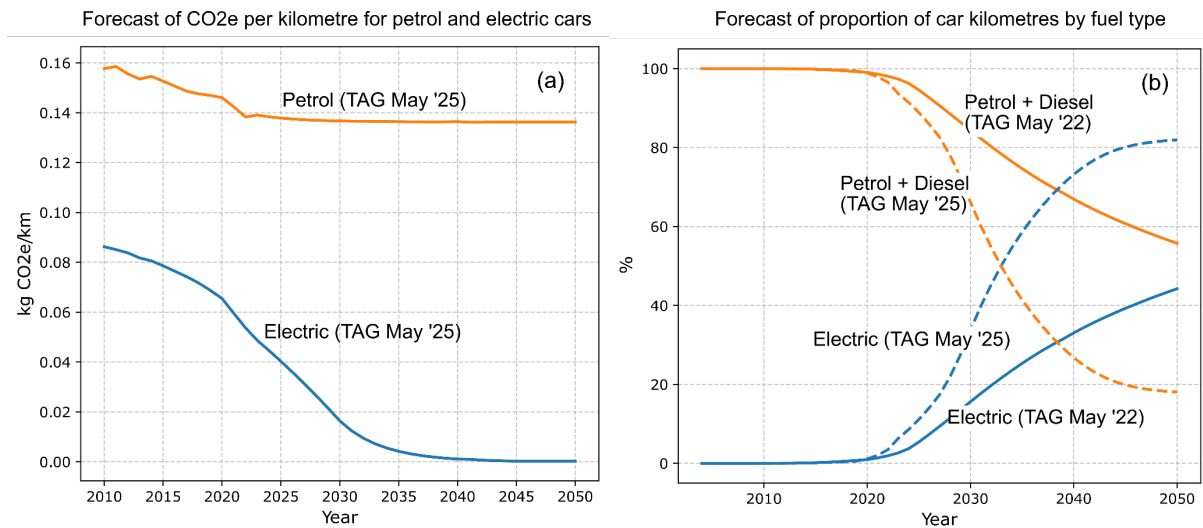


Figure 1: a) Forecast of CO2e per km for petrol and electric cars calculated using TAG data (May 2025, v2.01) table A1.3.11 (Appendix A) and table A3.3 (Appendix B). b) Forecast of proportion of car kilometres by fuel type showing change in forecast between May 2022 and May 2025 TAG data table A.1.3.9 (Appendices C and D).

Plate TR06-5-1 - Cumulative Change in Carbon Emission



Standard User Emissions Scenario	1. Carbon emissions due to construction activities and tree removal.	2. The scheme is anticipated to achieve Net Zero emissions by 2078.	3. Net carbon saving of -5,020 tCO ₂ e over 60-year appraisal period + construction.	4. Modal shift: -5,100 tCO ₂ e. To walking and cycling yields -600 tCO ₂ e carbon benefit. To bus yields -4,500 tCO ₂ e carbon benefit.	5. Behaviour change which encourages use of active modes and public transport as a result of wider societal or policy change, and paired with in-combination benefits will unlock additional user emissions carbon savings.
Optimistic User Emissions Scenario - Without Making Connections	6. Carbon emissions due to construction activities and tree removal.	7. The scheme is anticipated to achieve Net Zero emissions by 2044.	8. Net carbon saving of -47,040 tCO ₂ e over 60-year appraisal period + construction.	9. Modal shift: -47,120 tCO ₂ e. To walking and cycling yields -850 tCO ₂ e carbon benefit. To bus yields -46,270 tCO ₂ e carbon benefit.	10. Behaviour change which encourages use of active modes and public transport as a result of wider societal or policy change, and paired with in-combination benefits will unlock additional user emissions carbon savings.
Optimistic User Emissions Scenario - With Making Connections	11. Carbon emissions due to construction activities and tree removal.	12. The scheme is anticipated to achieve Net Zero emissions by 2039.	13. Net impact of -64,470 tCO ₂ e over 60-year appraisal period + construction.	14. Modal shift: +64,550 tCO ₂ e. To walking and cycling yields -850 tCO ₂ e carbon benefit. To bus yields -63,700 tCO ₂ e carbon benefit when Making Connections is accounted for.	15. Behaviour change which encourages use of active modes and public transport as a result of wider societal or policy change, and paired with in-combination benefits will unlock additional user emissions carbon savings.
Applies to all scenarios	16. Estimated +23,240 tCO ₂ e increase in emissions in 2023 and 2024 from infrastructure carbon during the construction phase.	17. Use of low-carbon construction materials and practices has the potential to reduce infrastructure carbon.	18. Maintenance impact of +5,890 tCO ₂ e over the appraisal period is primarily caused by asphalt at 40 years for resurfacing. This impact will also reduce (improve) as low carbon construction methods and materials become available.	19. Deconstruction scoped out as it is anticipated that asset(s) will not be decommissioned after 60 years.	20. Tree planting and loss is expected to have a net impact of approximately +1,910 tCO ₂ e over the 60 year appraisal period: caused initially by the removal of trees and associated release of carbon, with new tree planting sequestering some of that impact over time.
					21. Changes in general traffic flows (derived from link-by-link data) present a large proportion of carbon savings, equating to -30,960 tCO ₂ e.

Figure 2: Reproduction of Figure 10.2 of the Environmental Statement [CD1-10.01], also featuring in Technical Report 6 Greenhouse Gases [CD1-11.06].

5.2 The CO₂ emission calculations presented in the Environmental Statement **[CD1-10.01]** have two critical issues, which lead to an inaccurate forecast of proportion of car kilometres by fuel type (electric vs petrol or diesel) and corresponding artificially inflated calculations of carbon savings. These issues are summarised below.

5.2.1 Post-2050 assumption: The use of constant proportion of car kilometres by fuel type (electric vs petrol or diesel) post 2050.

5.2.2 Outdated forecast: The use of outdated forecasts of proportion of car kilometres by fuel type (electric vs petrol or diesel).

6. Post-2050 assumption

6.1 Technical Report 6 Greenhouse Gases **[CD1-11.06, para 3.2.13]** specifies that end-user vehicle emissions were quantified for the Environmental Statement **[CD1-10.01]** using TAG data¹ from the Department for Transport accessed 03/11/2022, which corresponds to TAG data May 2022 v1.18.

6.2 TAG Table A1.3.9 provides forecasts for proportion of vehicle kilometres by fuel type. A key limitation of this data is that there are no values forecast post 2050. It is noted in TAG Table A1.3.9 that “*values are assumed to be constant post 2050*” (Appendices C and D). The Environmental Statement does not explicitly specify this assumption has been made; however, its effects are clearly present in the calculations and readily visualised in Figure 10.2 of the Environmental **Statement [CD1-10.01]** (reproduced here as Figure 2). This data shows a near linear carbon recovery post 2050 for the duration of the assessment period, i.e. the applicant claims that the scheme continues to reduce carbon emissions at a constant rate, many decades after the sale of petrol and diesel cars has ceased. Given that the assessment period for the CtoC busway extends to 2085, the CO₂ emission calculations within the Environmental Statement are dominated by a period beyond the DfT forecast values. Using a constant proportion of vehicle kilometres by fuel type post 2050 effectively assumes that ~56% of car kilometres will be petrol or diesel in 2085; equal to the May 2022 TAG data for 2050.

6.3 The government has made a commitment that no new petrol or diesel cars will be sold after 2030 (Appendix E). It is implausible that 55 years after this ban comes into effect that ~56% of

¹ Department for Transport, (2022). Guidance: Tag Data book. [online] Available at: <https://www.gov.uk/government/publications/tag-data-book> (Accessed: 03/11/2022 – corresponds to May 2022 v1.18). The relevant tables relied upon here have been supplied as pdf readouts, .xlsm file copies are available at the link supplied here and on request.

car kilometres will still come from this vehicle type. The assumption of constant proportions of vehicle kilometres by fuel type post 2050 is therefore not valid for this period.

7. Outdated forecast

- 7.1 The TAG data included in Table A1.3.9 on proportions of vehicle kilometres by fuel type has changed substantially since May 2022 v1.18, with much faster electric vehicle uptake and the forecast for proportion of electric vehicles in 2050 increasing from 44% (May 2022 v1.18 used in Environmental Statement, Appendix C) to 82% (May 2025 v2.01, Appendix D) (Figure 1b). This means the rate of carbon recovery will be significantly slower than assumed in the Environmental Statement, i.e. 2050 net emissions will be significantly greater than ~12,000 tCO₂ (taken from Figure 10.2 of the Environmental Statement [CD1-10.01], reproduced here as Figure 2).
- 7.2 In the Environmental Statement more than half of carbon recovery occurs post-2050. Given the updated TAG forecast and increased electric vehicle uptake, it would be reasonable to assume negligible CO₂e savings post-2050. Indeed, net CO₂e would be expected to increase post-2050 by 5,890 tCO₂, primarily due to asphalt resurfacing in year forty (Figure 2, point 18), bringing net CO₂ emissions by the end of the assessment period (which does not include decommissioning) to significantly greater than 17,980 tCO₂. **The CtoC scheme is thus a substantial net CO₂ emitter, in conflict with its stated aims.**
- 7.3 The Environmental Statement also describes potential -47,040 tCO₂e benefits (labelled Optimistic User Emissions Scenario – without Making Connections in Environmental Statement [CD1-10.01] Figure 10.2, point 8) arising from “*progressive work by the city council to deter car use*” [CD1-10.01, para 10.3.6], rephrased within the Applicant’s Statement of **Case [CD23-01, para 11.23.2]** as “*numerous other measures that are expected to be introduced by the GCP to limit car use in and around Cambridge*”. Evidence linking this to the CtoC scheme is not readily identifiable within the Environmental Statement and as such it is not clear why it is discussed at all; however, for completeness it is noted that the calculated values, relating to other schemes, suffer from the same inaccurate forecasting issues as the standard user emissions scenario calculations which relate to CtoC.

8. Conclusion

- 8.1 Reducing carbon emissions is a stated aim of the CtoC scheme and the Environmental Statement claims a modest net CO₂e benefit (-5,020 tCO₂e) over the assessment period [CD1-10.01, para 10.3.4]. Accurate forecasts of the proportion of vehicle kilometres by fuel type

(electric vs petrol or diesel) are critical to the calculation of net CO₂e as they have radically different emission profiles, with CO₂ emissions associated with electric vehicles reducing to negligible amounts by 2050. The CO₂e calculations presented in the Environmental Statement significantly overestimate CO₂e recovery arising from two key issues with the vehicle type forecasting: i) post-2050 assumptions and ii) the use of outdated forecasts.

- 8.2 Post-2050 assumption: DfT do not provide post-2050 forecasts of the proportion of vehicles by fuel type. Assuming a constant value post-2050 produces a linear recovery in CO₂e, as observed in the Environmental Statement, i.e. it is claimed that 55 years after the sale of new petrol and diesel vehicles is banned the scheme continues to recover carbon at a constant rate. This assumption is implausible.
- 8.3 Outdated forecast: The Environmental Statement uses DfT forecasts from May 2022. These have changed substantially in recent years with the rapid uptake of electric vehicles. In the May 2025 update of these forecasts the proportion of electric vehicles in 2050 increases from 44% (May 2022 v1.18 used in Environmental Statement) to 82% (May 2025 v2.01). This change results in significantly slower CO₂e recovery pre-2050 and negligible recovery post-2050. With the updated forecast it is likely net CO₂ emissions over the assessment period (which does not include decommissioning) will be significantly greater than 17,980 tCO₂. **The CtoC scheme is thus a substantial net CO₂ emitter, in conflict with its stated aims.**

9. Witness Declaration

- 9.1 The evidence which I have prepared and provide for this inquiry in this proof of evidence is true and has been prepared and is given in accordance with the guidance of my professional institution and I confirm that the opinions expressed are my true and professional opinions.



Louise C. Hirst, 12/08/2025

APPENDIX A

TAG Data Book May 2025 v2.01, Table A1.3.11 Forecast fuel consumption
parameters

APPENDIX B

TAG Data Book May 2025 v2.01, Table A3.3 Carbon Emissions

**Department
for Transport**
TAG Table A 3.3
Carbon Emissions

This version:
May 2025 v2.01
May 25

Links:
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TAG Unit 3.3.5
TAG Unit A 3

Parameters:

Initial fo year: 2010

Sheet Navigation:

Notes

Source: [DESNZ 2023](#) Table 1 (electricity emission factors)
DfT Low Carbon Fuels division - Liquid fuel to CO2e emission factors

Notes:
(1) Roads electricity emissions factors are taken from the long-run marginal 'Domestic' series.
(2) Rail electricity emissions factors are taken from the long-run marginal 'Industrial' series.
(3) All electricity emissions factors are assumed by DESNZ to be flat post-2050
(4) Liquid fuel emissions factors include carbon and non-carbon GHG and account for forecast biofuel blending rates from the Renewable Transport Fuel Obligation (RTFO) bioblend targets and E10 regulations.
(5) Liquid fuel emissions factors are assumed to decrease to 2032 as the current RTFO bioblend targets increase. These targets then fall in line after 2032.
(6) These figures include Scope 1 emissions (from combustion of the fuel). Biofuels blended in are assumed to have zero Scope 1 carbon emissions to account for the CO2 absorbed by fast-growing bioenergy sources during their growth.
(7) The estimates here do not reflect the full fuel lifecycle meaning that Scope 2 and Scope 3 emissions are not included. For more guidance on out-of-scope emissions and what is within these breakdowns for the RTFO, please see: [GHG reporting: conversion factors](#) [RTFO Compliance guidance, para 8.47](#)

This feeds Table A 3.3, Electricity and VoC Fuel
TAG 4, Unit 3.3.5 (Table 1)

Table A 3.3: Carbon dioxide emissions per litre of fuel burnt / kWh used					
Year	Petrol	Diesel	Gas Oil	Electricity	Electricity
	Kg CO2e/l	Kg CO2e/l	Rail Diesel Kg CO2e/l	Roads CO2e/kWh	Rail CO2e/kWh
2010	2.230	2.662	2.926	0.389	0.375
2011	2.236	2.671	2.926	0.384	0.370
2012	2.233	2.593	2.926	0.377	0.364
2013	2.226	2.705	2.758	0.368	0.355
2014	2.229	2.705	2.758	0.362	0.348
2015	2.229	2.704	2.757	0.351	0.338
2016	2.228	2.704	2.757	0.340	0.328
2017	2.226	2.705	2.758	0.330	0.318
2018	2.229	2.698	2.750	0.319	0.307
2019	2.229	2.657	2.709	0.307	0.295
2020	2.230	2.537	2.694	0.293	0.283
2021	2.187	2.530	2.708	0.279	0.269
2022	2.136	2.503	2.703	0.264	0.254
2023	2.114	2.472	2.703	0.248	0.239
2024	2.114	2.462	2.703	0.230	0.222
2025	2.114	2.454	2.703	0.211	0.203
2026	2.114	2.443	2.703	0.191	0.184
2027	2.114	2.432	2.703	0.169	0.163
2028	2.114	2.421	2.703	0.145	0.140
2029	2.114	2.409	2.703	0.120	0.116
2030	2.114	2.398	2.703	0.093	0.090
2031	2.114	2.388	2.703	0.071	0.069
2032	2.114	2.376	2.703	0.055	0.053
2033	2.114	2.377	2.703	0.042	0.041
2034	2.114	2.378	2.703	0.032	0.031
2035	2.114	2.383	2.703	0.025	0.024
2036	2.114	2.382	2.703	0.019	0.018
2037	2.114	2.382	2.703	0.015	0.014
2038	2.114	2.381	2.703	0.011	0.011
2039	2.114	2.382	2.703	0.009	0.008
2040	2.114	2.382	2.703	0.007	0.006
2041	2.114	2.382	2.703	0.006	0.006
2042	2.114	2.383	2.703	0.004	0.004
2043	2.114	2.383	2.703	0.003	0.003
2044	2.114	2.385	2.703	0.002	0.002
2045	2.114	2.386	2.703	0.001	0.001
2046	2.114	2.387	2.703	0.001	0.001
2047	2.114	2.388	2.703	0.001	0.001
2048	2.114	2.389	2.703	0.002	0.001
2049	2.114	2.390	2.703	0.002	0.001
2050	2.114	2.392	2.703	0.001	0.001
2051	2.113	2.374	2.700	0.003	0.002
2052	2.113	2.374	2.700	0.003	0.002
2053	2.113	2.374	2.700	0.003	0.002
2054	2.113	2.374	2.700	0.003	0.002
2055	2.113	2.374	2.700	0.003	0.002
2056	2.113	2.374	2.700	0.003	0.002
2057	2.113	2.374	2.700	0.003	0.002
2058	2.113	2.374	2.700	0.003	0.002
2059	2.113	2.374	2.700	0.003	0.002
2060	2.113	2.374	2.700	0.003	0.002
2061	2.113	2.374	2.700	0.003	0.002
2062	2.113	2.374	2.700	0.003	0.002
2063	2.113	2.374	2.700	0.003	0.002
2064	2.113	2.374	2.700	0.003	0.002
2065	2.113	2.374	2.700	0.003	0.002
2066	2.113	2.374	2.700	0.003	0.002
2067	2.113	2.374	2.700	0.003	0.002
2068	2.113	2.374	2.700	0.003	0.002
2069	2.113	2.374	2.700	0.003	0.002
2070	2.113	2.374	2.700	0.003	0.002
2071	2.113	2.374	2.700	0.003	0.002
2072	2.113	2.374	2.700	0.003	0.002
2073	2.113	2.374	2.700	0.003	0.002
2074	2.113	2.374	2.700	0.003	0.002
2075	2.113	2.374	2.700	0.003	0.002
2076	2.113	2.374	2.700	0.003	0.002
2077	2.113	2.374	2.700	0.003	0.002
2078	2.113	2.374	2.700	0.003	0.002
2079	2.113	2.374	2.700	0.003	0.002
2080	2.113	2.374	2.700	0.003	0.002
2081	2.113	2.374	2.700	0.003	0.002
2082	2.113	2.374	2.700	0.003	0.002
2083	2.113	2.374	2.700	0.003	0.002
2084	2.113	2.374	2.700	0.003	0.002
2085	2.113	2.374	2.700	0.003	0.002
2086	2.113	2.374	2.700	0.003	0.002
2087	2.113	2.374	2.700	0.003	0.002
2088	2.113	2.374	2.700	0.003	0.002
2089	2.113	2.374	2.700	0.003	0.002
2090	2.113	2.374	2.700	0.003	0.002
2091	2.113	2.374	2.700	0.003	0.002
2092	2.113	2.374	2.700	0.003	0.002
2093	2.113	2.374	2.700	0.003	0.002
2094	2.113	2.374	2.700	0.003	0.002
2095	2.113	2.374	2.700	0.003	0.002
2096	2.113	2.374	2.700	0.003	0.002
2097	2.113	2.374	2.700	0.003	0.002
2098	2.113	2.374	2.700	0.003	0.002
2099	2.113	2.374	2.700	0.003	0.002
2100	2.113	2.374	2.700	0.003	0.002

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APPENDIX C

TAG Date Book May 2022 v1.18, Table A1.3.9 Proportions of vehicle
kilometres by fuel type



Department
for Transport

TAG Table A 1.3.9

Proportions of vehicle kilometres by fuel type

This version:

May 2022 v1.18
May-22

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TAG Unit 3.5.6
TAG Unit A 1.3

Parameters:

Source year: 2010

Sheet Navigation:

Notes

Source: DfT, Environmental Analysis

Notes:

- (1) Values are assumed to be constant post 2050
- (2) These data are in line with the assumptions made for the road emissions component of BEIS's Energy and Emissions Projections, to be published this year. [Link to last EEP publication](#)
- (3) They represent the current Government policy reference scenario, meaning that they reflect all agreed policies where decisions on policy design are sufficiently advanced to allow robust estimates of impact (i.e. including "planned" policies)
- (4) Forecasts are based on DfT's internal fleet model, produced by the Environmental analysis team.
- (5) At present, it is assumed there are no OGVs or PSVs using electricity. These columns are for possible future use.
- (6) OGV 1 comprises rigid up to 26 tonnes, whereas OGV 2 comprises rigid over 26 tonnes, and artics. Rigid and artics are as defined in the DfT Traffic Statistics. [Link to traffic stats definitions](#)

Data Book Source worksheets: VoC Mileage %. This table feeds into Tables A 1.3.12, A 1.3.13 and A 1.3.15.

TAG 1: Unit 3.5.6 (Table 12)

Table A 1.3.9: Proportion of cars, LGV & other vehicle kilometres using petrol, diesel or electricity													
Year	Cars			LGV			OGV1		OGV2		PSV		
	Petrol	Diesel	Electric	Petrol	Diesel	Electric	Diesel	Electric	Diesel	Electric	Diesel	Electric	
2004	73%	27%	0%	8%	92%	0%	100%	0%	100%	0%	100%	0%	
2005	71%	29%	0%	7%	93%	0%	100%	0%	100%	0%	100%	0%	
2006	68%	32%	0%	6%	94%	0%	100%	0%	100%	0%	100%	0%	
2007	66%	34%	0%	5%	95%	0%	100%	0%	100%	0%	100%	0%	
2008	64%	36%	0%	4%	96%	0%	100%	0%	100%	0%	100%	0%	
2009	62%	38%	0%	4%	96%	0%	100%	0%	100%	0%	100%	0%	
2010	60%	40%	0%	3%	96%	0%	100%	0%	100%	0%	100%	0%	
2011	58%	42%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%	
2012	55%	45%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%	
2013	53%	47%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%	
2014	51%	48%	0%	2%	97%	0%	100%	0%	100%	0%	100%	0%	
2015	50%	50%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2016	48%	51%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2017	48%	52%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2018	49%	51%	1%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2019	49%	50%	1%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2020	50%	49%	1%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2021	51%	48%	1%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2022	52%	46%	2%	2%	98%	0%	100%	0%	100%	0%	100%	0%	
2023	53%	45%	3%	2%	97%	1%	100%	0%	100%	0%	100%	0%	
2024	53%	43%	4%	2%	97%	1%	100%	0%	100%	0%	100%	0%	
2025	53%	41%	5%	2%	97%	1%	100%	0%	100%	0%	100%	0%	
2026	53%	39%	7%	2%	96%	1%	100%	0%	100%	0%	100%	0%	
2027	53%	38%	9%	2%	96%	2%	100%	0%	100%	0%	100%	0%	
2028	53%	36%	11%	2%	95%	2%	100%	0%	100%	0%	100%	0%	
2029	53%	34%	13%	3%	94%	3%	100%	0%	100%	0%	100%	0%	
2030	52%	32%	16%	3%	94%	4%	100%	0%	100%	0%	100%	0%	
2031	51%	31%	18%	3%	93%	4%	100%	0%	100%	0%	100%	0%	
2032	51%	29%	20%	3%	92%	5%	100%	0%	100%	0%	100%	0%	
2033	50%	28%	22%	3%	91%	6%	100%	0%	100%	0%	100%	0%	
2034	49%	27%	24%	3%	90%	7%	100%	0%	100%	0%	100%	0%	
2035	48%	26%	25%	3%	89%	8%	100%	0%	100%	0%	100%	0%	
2036	47%	26%	27%	3%	88%	9%	100%	0%	100%	0%	100%	0%	
2037	46%	25%	29%	4%	87%	10%	100%	0%	100%	0%	100%	0%	
2038	46%	24%	30%	4%	86%	11%	100%	0%	100%	0%	100%	0%	
2039	45%	24%	32%	4%	85%	12%	100%	0%	100%	0%	100%	0%	
2040	44%	23%	33%	4%	84%	12%	100%	0%	100%	0%	100%	0%	
2041	43%	23%	34%	4%	83%	13%	100%	0%	100%	0%	100%	0%	

2042	42%	22%	36%	4%	82%	14%	100%	0%	100%	0%	100%	0%
2043	41%	22%	37%	4%	81%	15%	100%	0%	100%	0%	100%	0%
2044	41%	21%	38%	4%	80%	16%	100%	0%	100%	0%	100%	0%
2045	40%	21%	39%	4%	79%	17%	100%	0%	100%	0%	100%	0%
2046	39%	20%	40%	4%	78%	18%	100%	0%	100%	0%	100%	0%
2047	39%	20%	41%	5%	77%	19%	100%	0%	100%	0%	100%	0%
2048	38%	20%	42%	5%	76%	19%	100%	0%	100%	0%	100%	0%
2049	37%	19%	43%	5%	75%	20%	100%	0%	100%	0%	100%	0%
2050	37%	19%	44%	5%	74%	21%	100%	0%	100%	0%	100%	0%

APPENDIX D

TAG Date Book May 2025 v2.01, Table A1.3.9 Proportions of vehicle
kilometres by fuel type



Department
for Transport

TAG Table A 1.3.9

Proportions of vehicle kilometres by fuel type

This version:

May 2026 v2.01

May 25

Links:

Contents

TAG Unit 3.5.6

TAG Unit A 1.3

Parameters:

Source year:

2024

Sheet Navigation:

Notes

Source: DfT, Environmental Analysis

Notes:

(1) Values are assumed to be constant post 2050

(2) They represent the current Government policy reference scenario, meaning that they reflect all agreed policies where decisions on policy design are sufficiently advanced to allow robust estimates of impact (i.e. including "planned" policies)

(3) Forecasts are based on DfT's internal fleet model, produced by the Environmental Analysis team.

(4) At present, it is assumed there are no OGVs using electricity. These columns are for possible future use.

(5) OGV 1 comprises rigid's up to 26 tonnes, whereas OGV 2 comprises rigid's over 26 tonnes, and artic's. Rigid's and artic's are as defined in the DfT Traffic Statistics.

[Link to traffic stats definitions](#)

Data Book Source worksheets: VoC Mileage %. This table feeds into Tables A 1.3.12, A 1.3.13 and A 1.3.15.

[TAG 1: Unit 3.5.6 (Table 12)]

Table A 1.3.9: Proportion of cars, LGV & other vehicle kilometres using petrol, diesel or electricity														
Year	Cars			LGV			OGV1		OGV2		PSV			
	Petrol	Diesel	Electric	Petrol	Diesel	Electric	Diesel	Electric	Diesel	Electric	Diesel	Electric		
2004	73%	27%	0%	8%	92%	0%	100%	0%	100%	0%	100%	0%		
2005	71%	29%	0%	7%	93%	0%	100%	0%	100%	0%	100%	0%		
2006	68%	32%	0%	6%	94%	0%	100%	0%	100%	0%	100%	0%		
2007	66%	34%	0%	5%	95%	0%	100%	0%	100%	0%	100%	0%		
2008	64%	36%	0%	4%	96%	0%	100%	0%	100%	0%	100%	0%		
2009	62%	38%	0%	4%	96%	0%	100%	0%	100%	0%	100%	0%		
2010	60%	40%	0%	3%	96%	0%	100%	0%	100%	0%	100%	0%		
2011	58%	42%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%		
2012	56%	44%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%		
2013	54%	46%	0%	3%	97%	0%	100%	0%	100%	0%	100%	0%		
2014	52%	48%	0%	2%	97%	0%	100%	0%	100%	0%	100%	0%		
2015	50%	50%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%		
2016	49%	51%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%		
2017	48%	51%	0%	2%	98%	0%	100%	0%	100%	0%	100%	0%		
2018	49%	51%	0%	2%	98%	0%	100%	0%	100%	0%	99%	1%		
2019	50%	49%	1%	2%	98%	0%	100%	0%	100%	0%	99%	1%		
2020	51%	48%	1%	2%	97%	0%	100%	0%	100%	0%	99%	1%		
2021	52%	46%	2%	2%	97%	1%	100%	0%	100%	0%	98%	2%		
2022	53%	43%	3%	2%	96%	2%	100%	0%	100%	0%	97%	3%		
2023	54%	40%	6%	2%	96%	2%	100%	0%	100%	0%	94%	6%		
2024	54%	37%	9%	2%	95%	3%	100%	0%	100%	0%	92%	8%		
2025	54%	35%	11%	2%	93%	5%	100%	0%	100%	0%	90%	10%		
2026	54%	32%	14%	2%	91%	7%	100%	0%	100%	0%	88%	12%		
2027	54%	29%	17%	2%	88%	10%	100%	0%	100%	0%	87%	13%		
2028	53%	26%	22%	2%	84%	14%	100%	0%	100%	0%	86%	14%		
2029	50%	22%	27%	2%	79%	19%	100%	0%	100%	0%	86%	14%		
2030	47%	19%	34%	2%	73%	26%	100%	0%	100%	0%	85%	15%		
2031	44%	17%	40%	1%	67%	31%	100%	0%	100%	0%	85%	15%		
2032	41%	14%	45%	1%	63%	36%	100%	0%	100%	0%	84%	16%		
2033	38%	12%	50%	1%	59%	40%	100%	0%	100%	0%	84%	16%		
2034	35%	10%	55%	1%	55%	44%	100%	0%	100%	0%	84%	16%		
2035	32%	9%	59%	1%	52%	47%	100%	0%	100%	0%	84%	16%		
2036	30%	8%	62%	1%	49%	50%	100%	0%	100%	0%	84%	16%		
2037	28%	7%	65%	1%	46%	53%	100%	0%	100%	0%	84%	16%		
2038	26%	6%	68%	1%	44%	55%	100%	0%	100%	0%	84%	16%		
2039	24%	5%	71%	1%	42%	57%	100%	0%	100%	0%	84%	16%		
2040	22%	5%	73%	1%	40%	59%	100%	0%	100%	0%	85%	15%		
2041	20%	4%	75%	1%	39%	60%	100%	0%	100%	0%	85%	15%		
2042	19%	4%	77%	1%	38%	61%	100%	0%	100%	0%	85%	15%		
2043	18%	4%	78%	1%	37%	62%	100%	0%	100%	0%	85%	15%		
2044	17%	4%	79%	1%	36%	63%	100%	0%	100%	0%	86%	14%		
2045	16%	3%	80%	1%	35%	64%	100%	0%	100%	0%	86%	14%		
2046	16%	3%	81%	1%	35%	64%	100%	0%	100%	0%	86%	14%		
2047	16%	3%	81%	1%	35%	65%	100%	0%	100%	0%	86%	14%		
2048	15%	3%	82%	1%	34%	65%	100%	0%	100%	0%	86%	14%		
2049	15%	3%	82%	1%	34%	65%	100%	0%	100%	0%	86%	14%		
2050	15%	3%	82%	1%	34%	66%	100%	0%	100%	0%	86%	14%		

APPENDIX E

Written Statement to Parliament – Phasing out the sale of new petrol and diesel cars from 2030 and support for zero emission vehicle (ZEV) transition

Published 6 January 2025

Written statement to Parliament

Phasing out the sale of new petrol and diesel cars from 2030 and support for zero emission vehicle (ZEV) transition

Our transition plans promise cleaner air and quieter streets, enhancing the quality of life in our communities.

From: **Department for Transport** (</government/organisations/department-for-transport>) and **The Rt Hon Heidi Alexander MP** (</government/people/heidi-alexander>)

Published 6 January 2025

Location: House of Commons

Delivered on: 6 January 2025



Government has commenced a consultation on [phasing out the sale of new petrol and diesel cars from 2030](https://www.gov.uk/government/consultations/phasing-out-sales-of-new-petrol-and-diesel-cars-from-2030-and-supporting-the-zev-transition) (<https://www.gov.uk/government/consultations/phasing-out-sales-of-new-petrol-and-diesel-cars-from-2030-and-supporting-the-zev-transition>), driving forward the

commitment made in our manifesto, supporting delivery of both our clean energy mission and our economic growth mission.

The previous government caused significant harm to the industry by moving goalposts on phase out dates, creating doubt in the minds of investors and boardrooms and putting at risk the billions of pounds of committed investment in the automotive sector and in the chargepoint sector. Our plans will restore clarity for manufacturers, provide renewed confidence for charging infrastructure investors and give confidence to consumers considering making the switch. No new petrol or diesel cars will be sold after 2030. All new cars and vans will need to be 100% zero emission by 2035.

The need to transition away from a reliance on fossil fuels has never been clearer, and the transition to zero emission vehicles will play a critical role in quickly reducing carbon emissions and improving our energy security. It is not just an environmental necessity but an opportunity for the UK to lead in cutting edge technologies, representing a significant industrial opportunity for the UK. This shift promises cleaner air and quieter streets, enhancing the quality of life in our communities. British people and businesses are already embracing electric vehicles because they are cheaper to run, great to drive and simpler to maintain.

This consultation marks a new phase of collaboration between the government and the automotive and charging sectors as we support and work together with industry to grasp the opportunities of this ambitious and transformative shift – ensuring the prosperity and security of our nation, with higher growth, better jobs, and cheaper bills. This transformation is a challenge we can meet by working together.

The consultation is an opportunity to consider stakeholders' preferences on technology choices and the types of vehicles permitted between 2030 and 2035 alongside ZEVs. It commits to maintaining the trajectories in the ZEV mandate while considering how the current arrangements and flexibilities are working and what steps can be taken to support domestic manufacturing and cement the UK's position as one of the major European markets for ZEVs.

In order to support the transition, we need to continue to accelerate the rollout of charging infrastructure right across the country, building on significant deployment to date. I have, therefore, also announced a broad package of measures that will make charging infrastructure quicker and easier to install, supporting £6 billion of private investment out to 2030. This includes simplifying planning rules, publishing our review to speed up grid connections, and continuing to provide resource funding for local councils up and down the country.

These new policies build on over £2.3 billion of government support to UK manufacturers and consumers to transition to zero emission vehicles.

We will work in partnership with the sector to harness the opportunity this transition represents to support thriving automotive and charging sectors, achieve our clean energy superpower mission and build a prosperous, sustainable future.

Published 6 January 2025



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