



UK Government

2026 Government Greenhouse Gas Conversion Factors For Company Reporting

Major changes to the Conversion Factors



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1. Major Changes to the Conversion Factors

The following table summarises the major changes in conversion factors for the 2026 Greenhouse Gas (GHG) Conversion Factors, compared to the equivalent factors provided in the 2025 GHG Conversion Factors, and a short explanation for the reasons for the changes. We have considered major changes to be those greater than 5% for Scope 1 and 2 emission sources (applies to most fuel and electricity sources) and greater than 10% for Scope 3 (applies to most of the other emission sources). Please refer to the Glossary section at the end of this document for any acronyms used in the table below.

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per “unit” of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
Fuels						
No major changes this year						
Bioenergy						
No major changes this year						
Refrigerants and other						
1	R-511A (Emissions including only Kyoto products)	CO ₂ e	kg	-100%	R-511A is a refrigerant blend and is therefore calculated based on the percentage blend composition. It was previously reported as emitting 6.9 kgCO ₂ e per kg and has now been corrected to 0 kgCO ₂ e per kg. This is because previously, the value was calculated based on a 95.0/5.0 mix of R-290 and HFC-152a, whereas it should have been a 95.0/5.0 mix of R-290 and E-170.	Section 4
2	R-511A (Total emissions including non-Kyoto products)	CO ₂ e	kg	-99%	This change is due to the change in the factor for Kyoto products (see previous row).	Section 4

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
Passenger Vehicles						
3	Cars (by market segment) – Lower medium, Upper Medium and Luxury, PHEV	CO ₂ e and CO ₂	km and miles	-5.2% to -5.6%	Reflects a declining trend in the weighted average (based on number of vehicle registrations) g/km for this type of vehicle	Section 5
4	Cars (by market segment) – Sports, PHEV	CO ₂ e and CO ₂	km and miles	9.5%	Sports PHEVs see an increase in the emission factor due to the relatively high number of registrations of a new models with higher direct emissions in recent years	Section 5
5	Cars (by size) - Medium car, PHEV	CO ₂ e and CO ₂	km and miles	-5.6% to -5.7%	Reflects a declining trend in the weighted average (based on number of vehicle registrations) g/km for this type of vehicle	Section 5
Delivery vehicles						
6	Vans - Class III (1.74 to 3.5 tonnes), PHEV	CO ₂ e and CO ₂	km and miles	16%	New models registered in 2024 have significantly higher g/km on average	Section 5
7	Vans – Average, PHEV	CO ₂ e and CO ₂	km and miles	16%	Almost all PHEV vans registered in 2024 (this is a small number in total) were Class III so the increase in g/km for vehicles registered in 2024 (see above) has a major impact	Section 5
SECR kWh pass & delivery vehs						
8	Cars (by market segment) – Lower medium, Upper Medium and Luxury, PHEV	kWh (net CV)	km and miles	-5.1% to -5.5%	Reflects a declining trend in the weighted average (based on number of vehicle registrations) g/km for this type of vehicle	Section 5
9	Cars (by market segment) – Sports, PHEV	kWh (net CV)	km and miles	9.6%	Sports PHEVs see an increase in the emission factor due to the relatively high number of registrations of a new models with higher direct emissions in recent years	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
10	Cars (by size) - Medium car, PHEV	kWh (net CV)	km and miles	-5.6%	Reflects a declining trend in the weighted average (based on number of vehicle registrations) g/km for this type of vehicle	Section 5
11	Vans – Class III (1.74 to 3.5 tonnes), PHEV	kWh (net CV)	tonne.km, km and miles	11% to 16%	New models registered in 2024 have significantly higher Wh/km on average.	Section 14
12	Vans – Average (up to 3.5 tonnes), PHEV	kWh (net CV)	tonne.km, km and miles	11% to 16%	Almost all PHEV vans registered in 2024 (this is a small number in total) were Class III so the increase in Wh/km for vehicles registered in 2024 (see above) has a major impact	Section 14
13	HGV (all diesel) - Rigid (>7.5 tonnes-17 tonnes), Average laden	kWh (net CV)	tonne.km	18%	A decrease in percentage loading/goods carried leads to an increase in emissions per tonne of goods [See Footnote 1]	Section 6
14	HGV (all diesel) - Articulated (>3.5 - 33t), 50% laden and 100% laden	kWh (net CV)	tonne.km	-6.2%	An increase in percentage loading/goods carried leads to a decrease in emissions per tonne of goods [See Footnote 1]	Section 6
15	HGV refrigerated (all diesel) - Rigid (>7.5 tonnes-17 tonnes), Average laden	kWh (net CV)	tonne.km	18%	A decrease in percentage loading/goods carried leads to an increase in emissions per tonne of goods [See Footnote 1]	Section 6
16	HGV refrigerated (all diesel) - Articulated (>3.5 - 33t), 50% laden and 100% laden	kWh (net CV)	tonne.km	-6.2%	An increase in percentage loading/goods carried leads to a decrease in emissions per tonne of goods [See Footnote 1]	Section 6

¹ This reflects trends in underlying data from the DfT Road Freight Statistics. For more information, please refer to the DfT website: <https://www.gov.uk/government/statistics/road-freight-statistics-2024/domestic-road-freight-statistics-united-kingdom-2024#trends>

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
UK Electricity						
17	UK Electricity	CO ₂ e and CO ₂	kWh	-26%	<p>Note that there has been a new methodology implemented in 2026. In previous updates, the data used in the calculations lagged the publication year by two years. In this year's update, the lag has been reduced to one year using latest Energy Trends statistics. As a result, the reported change since the 2025 publication reflects two years' worth of changes in the electricity grid mix and grid losses, rather than the usual one year.</p> <p>Other changes are due to a combination of multiple factors, including:</p> <ul style="list-style-type: none"> - Changes in the mix of different sources of fuel/primary energy used in electricity generation - Changes in grid losses - Improvements in the way that the calculation accounts for imports and exports of electricity - Correcting the previous methodology to resolve a small double-counting issue that affected autogenerators <p>Most of the decrease is attributed to grid decarbonisation between 2023-2024. Changes in the grid mix from 2023-2024 had a bigger impact (-16 percentage points) than the incorporation of an additional years' worth of data (changes in the grid mix from 2024-2025 accounted for -3pp). The remaining 6-7pp of the decrease is due to methodological changes, improvements and corrections described above.</p>	Section 3

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
					Please refer to the Methodology Report for more details.	
18	UK Electricity	CH ₄	kWh	-26%	As above	Section 3
19	UK Electricity	N ₂ O	kWh	-30%	As above	Section 3
UK electricity for EVs						
20	Cars (by market segment and size), PHEV and BEV	CO ₂ e	km and miles	-23% to -26%	Changes are due to a combination of (i) changes in emissions from electricity (-26% - see above) and (ii) vehicles generally becoming more efficient in most cases; however, where the percent change is lower than that of electricity, this indicates that the weighted average (based on vehicle registrations) Wh/km for this category increased rather than decreased.	Section 5
21	Cars (by market segment and size), PHEV and BEV	CO ₂	km and miles	-24% to -27%	As above	Section 5
22	Cars (by market segment and size), PHEV and BEV	CH ₄	km and miles	-7.7% to -14%	As above	Section 5
23	Cars (by market segment and size), PHEV and BEV	N ₂ O	km and miles	15% to 8.3%	As above	Section 5
24	Cars (by market segment) – MPV, PHEV and BEV	CO ₂ e and CO ₂	km and miles	-36% to -37%	Changes occur for the same reason as other cars, but are even greater. This is because, for MPVs, the average Wh/km in 2026 was much lower than 2025. The newer models are a lot more efficient and there are a lot more of them.	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
25	Vans (by market segment and size), PHEV	CO ₂ e	km and miles	-21% to -25%	Changes are due to a combination of (i) changes in emissions from electricity (-26%) and (ii) vehicles generally becoming more efficient in most cases; however, where the percent change is lower than that of electricity, this indicates that the weighted average (based on vehicle registrations) Wh/km for this category increased rather than decreased.	Section 5
26	Vans (by market segment and size), PHEV	CO ₂	km and miles	-22% to -25%	As above	Section 5
27	Vans (by market segment and size), PHEV	CH ₄	km and miles	-9.1% to -14%	As above	Section 5
28	Vans (by market segment and size), PHEV	N ₂ O	km and miles	11 to 13%	As above	Section 5
29	Vans (by market segment and size), BEV	CO ₂ e	km and miles	-22% to -35%	Changes are due to a combination of (i) changes in emissions from electricity (-26%) and (ii) vehicles generally becoming more efficient in most cases; however, where the % change is lower than that of electricity, this indicates that the weighted average (based on vehicle registrations) Wh/km for this category increased rather than decreased.	Section 5
30	Vans (by market segment and size), BEV	CO ₂	km and miles	-22% to 36%	As above	Section 5
31	Vans (by market segment and size), BEV	CH ₄	km and miles	-9.5% to -13%	As above	Section 5
32	Vans (by market segment and size), BEV	N ₂ O	km and miles	15% to 12%	As above	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
SECR kWh UK electricity for EVs						
33	Cars (by market segment) – MPV, BEV	kWh (net)	km and miles	-15%	For MPVs, the average Wh/km in 2026 was much lower than 2025. The newer models are a lot more efficient and there are a lot more of them.	Section 5
34	Vans - Class III (1.74 to 3.5 tonnes), PHEV	kWh (net)	km and miles	6.0%	New models registered in 2024 have significantly higher Wh/km on average.	Section 5
35	Vans - Average (up to 3.5 tonnes), PHEV	kWh (net)	km and miles	5.9%	Almost all PHEV vans registered in 2024 (this is a small number in total) were Class III so the increase in Wh/km for vehicles registered in 2024 (see above) has a major impact	Section 5
36	Vans - Class I (up to 1.305 tonnes), BEV	kWh (net)	km and miles	5.1%	Wh/km for newly registered vehicles is higher than last year, on average	Section 5
37	Vans - Class III (1.74 to 3.5 tonnes), BEV	kWh (net)	km and miles	-12% to -13%	Wh/km for newly registered vehicles is lower than last year, on average	Section 5
38	Vans - Average (up to 3.5 tonnes), BEV	kWh (net)	km and miles	-9.2%	Reflects weighted average change in Wh/km across the fleet; highest number of registrations is seen in Class III vans which has reduced the most (see above)	Section 5
Heat and Steam						
No major changes this year						
WTT – fuels						
No major changes this year						
WTT – bioenergy						
No major changes this year						

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
Transmission and distribution (T&D)						
39	T&D Losses	CO ₂ e	kWh	-30%	The decrease is due to the use of a new methodology implemented in 2026. Changes are due to a combination of multiple factors, including: - Changes in the mix of different sources of fuel/primary energy used in electricity generation - Use of more recent data on the electricity mix - Changes in grid losses - Changes in the way that the calculation accounts for imports and exports of electricity Please refer to the Methodology Report for more details.	Section 3
40	T&D Losses	CO ₂	kWh	-30%	As above	Section 3
41	T&D Losses	CH ₄	kWh	-13%	As above	Section 3
42	T&D Losses	N ₂ O	kWh	-18%	As above	Section 3
UK electricity T&D for EVs						
43	Cars and Vans	CO ₂ e and CO ₂	All factors	-25% to -40%	Changes are due to a combination of (i) changes in emissions from electricity, including a methodology change and grid losses (see above) and (ii) vehicles generally becoming more efficient in most cases. Where the percent change is lower than that of electricity, this indicates that the weighted average Wh/km for this category increased rather than decreased.	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
44	Vans	CH ₄	Vans: tonne.km and miles	-13% to -14%	Changes are associated with the update to electricity factors. Changes in CH ₄ values are due to these being small numbers that get rounded to 5 decimal places, so a small change can appear to have a large proportionate impact.	Section 5
45	Cars and Vans	N ₂ O	Cars: miles Vans: tonne.km and miles	11% to 25%	Changes are associated with the update to electricity factors. Changes in N ₂ O values are due to these being small numbers that get rounded to 5 decimal places, so a small change can appear to have a large proportionate impact.	Section 5
WTT- UK electricity						
46	WTT – UK electricity (generation)	CO ₂ e	kWh	-20%	These factors had not been updated since the 2023 publication. The changes therefore reflect differences in the mix of fuels used to generate UK electricity over that time period. Note that the underlying WTT values for fuels, which are used to produce a weighted average based on the grid mix, have not been updated in this cycle.	Section 3
47	WTT – UK electricity (T&D)	CO ₂ e	kWh	-10%	Reasons for changes are as for the main WTT – UK electricity factor, but also due to changes in grid losses.	Section 3
WTT- heat and steam						
No major changes this year						
Water supply						
No major changes this year						
Water treatment						
No major changes this year						

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
Material use						
No major changes this year						
Waste disposal						
No major changes this year						
Business travel- air						
No major changes this year						
WTT- Business travel - air						
No major changes this year						
Business travel - sea						
No major changes this year						
WTT- Business travel - sea						
No major changes this year						
Business travel - land						
48	Cars – Small and mini PHEVs and all BEVs	All factors	km and miles	-12% to -37%	These conversion factors are calculated as the sum of the conversion factors for the following categories: - UK electricity for EVs - UK electricity T&D for EVs - Passenger vehicles [Cars - PHEVs only] - Delivery vehicles [Vans - PHEVs only] The reasons for changes in these categories are listed above but generally relate to a combination of efficiency improvements and changes in the conversion factors for electricity.	Section 5
49	Coaches	CO ₂ e and CO ₂	passenger.km	42% to 43%	This reflects a change in g/pkm in new data received from a large coach operator. The updated data are in line with other buses and typical coach efficiency and occupancy and	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

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					replace data that implied unrealistically high occupancy rates.	
50	National rail	CO ₂ e and CO ₂	passenger.km	-13%	Significant changes to passenger.km and fleet composition since estimates were last updated in 2021. Those estimates were derived upon figures from before the COVID pandemic.	Section 5
51	International rail	CO ₂ e and CO ₂	passenger.km	154% to 156%	Significant differences due to large changes in service patterns and rolling stock utilisation compared to the previous factors which were derived upon figures from before the COVID pandemic.	Section 5
52	Light rail and tram	CO ₂ e and CO ₂	passenger.km	-26%	Reflecting changes in emissions in the electricity grid and large changes to passenger kilometres compared to figures which were rolled from prior to the COVID pandemic.	Section 5
53	London underground	CO ₂ e and CO ₂	passenger.km	-44 to -45%%	Reflecting changes in emissions in the electricity grid and large changes to passenger kilometres compared to figures which were rolled from prior to the COVID pandemic.	Section 5
WTT – pass vehs & travel- land						
No major changes this year						
Freighting goods						
54	Vans - PHEVs and BEVs	CO ₂ e and CO ₂	km and miles	-22% to -36%	These conversion factors are calculated as the sum of the conversion factors for the following categories: - UK electricity for EVs - UK electricity T&D for EVs - Delivery vehicles The reasons for changes in these categories are listed above.	Section 6

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
55	Vans - Class III (1.74 to 3.5 tonnes), PHEV	CO ₂ e and CO ₂	km and miles	12%	New models registered in 2024 have significantly higher g/km on average	Section 6
56	Vans - Average (up to 3.5 tonnes), PHEV	CO ₂ e and CO ₂	km and miles	12%	Almost all PHEV vans registered in 2024 (this is a small number in total) were Class III so the increase in g/km for vehicles registered in 2024 (see above) has a major impact	Section 6
57	HGVs - Rigid (>7.5 tonnes), Average laden, refrigerated and non-refrigerated	CO ₂ e and CO ₂	tonne.km	18%	A decrease in percentage loading/goods carried leads to an increase in emissions per tonne of goods [See Footnote 1]	Section 6
WTT – delivery vehs & freight						
No major changes this year						
Hotel Stay						
No major changes this year						
Managed assets - electricity						
58	Managed assets - electricity	All factors	kWh	As for UK electricity	As for UK electricity	Section 3
Managed assets- vehicles						
59	Cars and vans - PHEVs and BEVs	All factors	km and miles	-12% to -37%	<p>These conversion factors are calculated as the sum of the conversion factors for the following categories:</p> <ul style="list-style-type: none"> - UK electricity for EVs - UK electricity T&D for EVs - Passenger vehicles [Cars - PHEVs only] - Delivery vehicles [Vans - PHEVs only] <p>The reasons for changes in these categories are listed above but generally relate to a combination of efficiency improvements and changes in the conversion factors for electricity.</p>	Section 5

2026 Government greenhouse gas conversion factors for company reporting: Major changes to the Conversion Factors

Ref. number	Emission factor	GHG	Unit (all units are kgCO ₂ e per "unit" of activity, unless stated)	Magnitude of change vs 2025 update	Reason for change	For more information see relevant section in methodology report:
60	Managed vans - Class III and Average PHEVs	CO ₂ e and CO ₂	km	12%	As above. Essentially, this is due to an increase in g/km for Class III vans registered in 2024 which dominate the weighted average.	Section 5
Homeworking						
61	Office Equipment	CO ₂ e	per FTE Working Hour	-31%	This is due to the change in UK electricity factor. The reason why the magnitude of the change is larger than that of the main factor is that the homeworking factor had not been updated since 2022, so this represents the impact of several years' worth of decreasing grid emissions, along with the methodological update for electricity described above.	Section 15
Outside of scopes						
No major changes this year						

Glossary

Abbreviation	Definition
ANPR	Automatic Number Plate Recognition
BEV	Battery electric vehicle
CAA	Civil Aviation Authority
CBS	National Bureau for Statistics in the Netherlands
CEF	Carbon emission factor
CH ₄	Methane
CHP	Combined Heat and Power
CHPQA	Combined Heat and Power Quality Assurance
CNG	Compressed natural gas
CO ₂	Carbon dioxide
DfT	Department for Transport
DUKES	Digest of UK Energy Statistics
EEA	European Environment Agency
EF	Emission factor
ETS	Emissions Trading System
FAME	Fatty Acid Methyl Ester
GCV	Gross calorific value
GHG	Greenhouse gas
GVW	Gross vehicle weight
GWP	Global Warming Potential
HGVs	Heavy goods vehicles
IPCC	Intergovernmental Panel on Climate Change
LCA	Life cycle assessment
LGVs	Light goods vehicles
LPG	Liquefied petroleum gas
MRF	Material recovery facility
MTBE	Methyl tert-butyl ether
NAEI	National Atmospheric Emissions Inventory
NCV	Net calorific value
NEDC	New European Driving Cycle

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Abbreviation	Definition
N ₂ O	Nitrous oxide
ORR	Office of Rail and Road
PHEV	Plug-in hybrid electric vehicle
RF	Radiative forcing
RoPax	Roll on/roll off a passenger
RTE	French transmission system operator
RTFO	Renewable Transport Fuel Obligation
RW	Real-world
SEAI	Sustainable Energy Authority of Ireland
SECR	Streamlined Energy and Carbon Reporting
SMMT	Society of Motor Manufacturers and Traders
T&D	Transmission & Distribution
TfL	Transport for London
TTW	Tank-To-Wheel (i.e. direct emissions at the point of use)
UK GHGI	UK's Greenhouse Gas Inventory
UNFCCC	United Nations Framework Convention on Climate Change
WLTP	Worldwide Harmonised Light Vehicle Test Procedure
WTT	Well-To-Tank (i.e. upstream emissions from the production of fuel or electricity)
WTW	Well-To-Wheel (= Well-To-Tank + Tank-To-Wheel)
xEV	Generic term for battery electric vehicles (BEV), plug-in hybrid electric vehicles (PHEV), range-extended electric vehicles (REEV) and fuel cell electric vehicles (FCEV)

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