Methodology changes for reporting electricity used by road vehicles

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Key headlines

This article explains methodology changes for reporting electricity used by road vehicles. Data on road vehicles use are reported quarterly in Energy Trends 5.2 and annually in the Digest of UK Energy Statistics (DUKES) Tables 5.1 and 5.2 as well as informing other statistics and publications within the department. These changes affect the data in all these publications.

The key changes are:

- Updated sector level assumptions which are used to avoid double counting transport use.
- Updated all data used in calculations to the latest information published by the Department for Transport.
- Added in consumption by electric buses and potential to include electric HGVs.
- Separating quarterly transport into road and rail, to give more visibility of the growth in electric vehicle consumption.
- Updating road consumption on a quarterly basis rather than relying on annual estimates.

Background

This article reports on changes to our calculations of electricity road vehicles. These changes have been made to ensure that the modelled data is as accurate as possible, particularly in this fast-growing sector.

While most electricity consumption data in our statistics comes from electricity suppliers' segmentation of their customers, we cannot report on electric vehicle consumption in this way. An electricity supplier can tell us their monthly sales to the domestic market, but not (in most cases) how much of the electricity went into an electric vehicle. As a result, electric vehicle consumption is modelled and then deducted from the suppliers' sectoral data.

Electricity used for electric road vehicles is based on data and models from the Department for Transport (DfT). The total vehicle miles for cars and light commercial vehicles are taken from table TRA0101 and multiplied by assumptions from DfT's TAG data book for the proportion of vehicle miles that were electric and the consumption of electricity per vehicle mile. We report the estimated electricity consumption from electric vehicles in the transport rows of Energy Trends and DUKES tables and deduct the same amount from the domestic and commercial rows to avoid double counting.

What has changed

Updated sectoral assumptions

As detailed above, it is necessary to deduct the modelled electric road vehicles data from domestic and commercial consumption as reported by electricity suppliers. This is done to avoid double counting of electricity consumption based on an assumption about where electric vehicles are charged. The previous split was 90 per cent domestic, 10 per cent commercial, which was taken from internal department. With the addition of electric buses (detailed below) and the changing usage of electric road vehicles it was necessary to review this assumption.

The new split assumes that 66 per cent of electric vehicle consumption is domestic and 34 per cent commercial. This is consistent with assumptions used in department models including UK TIMES and is supported by external research including the National Energy Systems Operator Future Energy Scenarios.

Updated Department for Transport (DfT) assumptions

The modelled consumption by electric road vehicles comes from assumptions published in the DfT's TAG data book (TAG data book - GOV.UK). As part of the regular DUKES publication cycle, we have updated these to the latest published version.

As part of the latest updates, DfT reduced the proportion of car kilometres that are electric, which is a key component of our consumption model. This was due to updated assumptions about the role of Plug In Hybrid Vehicles (PHEV) and the proportion of PHEV journeys in hybrid mode, as detailed in this publication by DfT.

Electric buses and Heavy Goods Vehicles (HGVs)

Electric buses have been added to the total electricity by road vehicles. We have used the same methodology to model the data for consumption by electric buses and coaches, based on the assumptions for 'Public Service Vehicles' in the TAG data book. As with cars and LGVs, the average annual kilometres travelled from table TRA0101 is multiplied by the proportion of kilometres that are electric and the average consumption per kilometre. Electric bus consumption will add around 300 GWh to the 2024 road vehicle consumption, less than the amount it has reduced by because of the updates to the TAG data book assumptions.

The TAG data book currently does not include any assumptions for electric HGVs, so to maintain consistency they are also excluded from our reporting. Our modelling is set up so that if or when the TAG data book assumptions change, we would start to include these vehicles in our road consumption data. Vehicle licensing statistics (VEH 1103) show 1,500 electric HGVs registered as at the end of 2025 so their consumption is assumed to be a small fraction of the overall electricity balance.

Separate quarterly reporting of road and rail and quarterly road updates

Prior to these updates, Energy Trends Table 5.2 reported quarterly transport data as a single combined category for road and rail use. It was also only updated annually as part of the DUKES update process, with quarterly data assumed to be the annual total divided by 4 and set to match the previous year until DUKES was published. With the growth in electric vehicles, this was no longer detailed enough to show the changes.

As of the June 2026 publication, Energy Trends Table 5.2 includes a separate row for road and rail consumption. We will also model the road consumption data on a quarterly basis to give more timely information about electric vehicle use. The modelling process will be the same as for the annual value, but with quarterly estimates for average distance travelled taken from table TRA 2501 (Quarterly traffic estimates (TRA25) - GOV.UK). This table does not split buses/coaches from other vehicles, so the annual proportion is used to estimate the split.

Feedback

We welcome any comments on these methodology changes. Please send these to electricitystatistics@energysecurity.gov.uk.

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