



Economic Commission for Europe**Inland Transport Committee****Working Party on Transport Statistics****Seventy-fourth session**

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Data collection, methodological development and harmonization of transport statistics: Vehicle statistics and data gaps**Statistics on vehicles by fuel type****Note by the secretariat***Summary*

This document highlights data availability of road vehicles by fuel type, for both vehicle fleets and new registrations. Not all countries can provide these data, which are the principal way to track decarbonisation of road transport. It therefore discusses potential additional sources to consider that may complement information from a vehicle register. Delegates are invited to reflect on data availability and share their own views on how to improve international data availability on this topic.

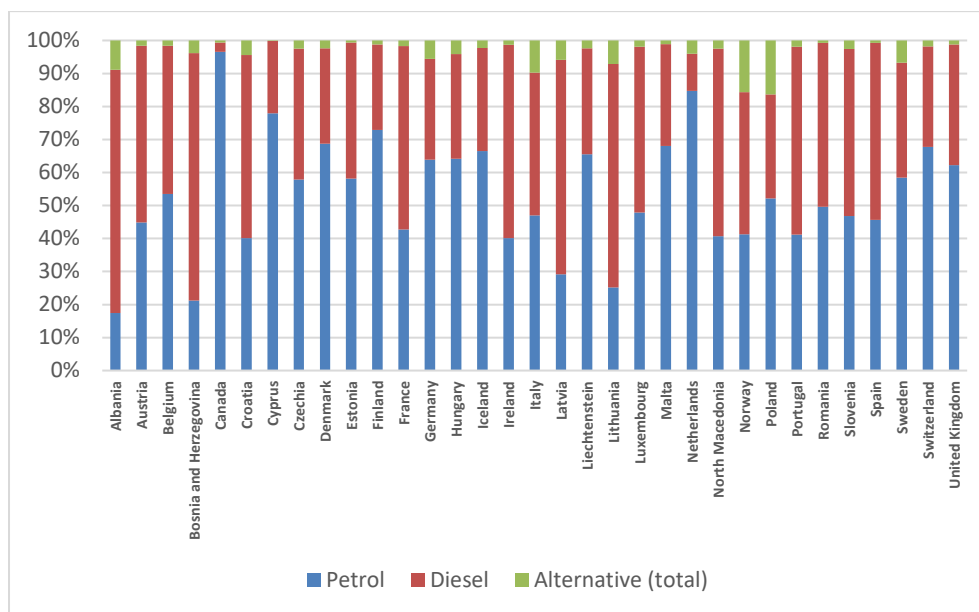
I. Background

1. Knowing the proportions of vehicle fleets that are reliant on different fuel types is important for infrastructure planning and understanding current and future greenhouse gas and pollution outlooks, among other reasons. This is why the Common Questionnaire (CQ) collects detailed information on vehicle fleets and new registration of vehicle by fuel type, covering not only passenger cars but motor coaches, buses and trolleybuses, light goods vehicles, lorries, and road tractors.
2. This document briefly describes data availability for UNECE countries through the CQ, and discusses possible additional sources that statistics offices could use if the vehicle registry data do not provide them sufficient detail.

II. Data availability

3. In 2021, the UNECE statistics database shows data for total number of passenger cars for 40 member States (by contrast data are available for 46 countries in 2010 for a variety of reasons). Of these 40 countries, 33 of them have at least some breakdown by type of fuel (Figure).

Figure
Passenger car fleets by main fuel type, 2021



4. Going into more detail, the breakdown of petrol between hybrids, plug-in hybrids and fully petrol shows lesser data availability. Of the 33 countries with a figure for total petrol, two countries do not report any breakdown; four countries indicate that all petrol passenger cars are 100% petrol; nine countries give a figure for both 100% petrol and hybrids; and eighteen countries provide a complete breakdown of 100% petrol hybrids and plug-in hybrids (two countries included here report zero for plug-in hybrids). Some of the countries that do not report plug-in hybrids indicate in footnotes that hybrids include plug-in hybrids.

5. A similar pattern is seen for new registrations. 39 countries have passenger car new registration figures in 2021, and of these 34 have the basic breakdown between the main three fuel types, with nineteen countries showing the complete breakdown of petrol cars.

6. For other types of vehicle, different patterns emerge. For motor coaches, buses and trolleybuses, 40 countries also provide a figure in 2021. In addition, 32 countries give a figure for diesel vehicles for this category, with 25 countries providing hybrid-diesel numbers and 16 with plug-in hybrid diesel figures.

II. Challenges with detailed vehicle registry data

7. While some member States have reported complete or near-complete information on the breakdown of vehicles by fuel type, this is not the case for others. While the reporting burden of the CQ may play a part in the lack of granularity, vehicle registration agencies do not always have breakdowns by every fuel type. In some circumstances this may be related to granular data only being distinguished when there are different tax implications for different vehicle types. For example, when a petrol hybrid and petrol plug-in hybrid passenger car are treated the same in terms of vehicle tax, some registration agencies will not distinguish between them, despite these vehicles having potentially significantly different environmental impacts.

8. This difference seems to be shown in the common questionnaire data. While 27 countries provided a value for hybrid-electric petrol passenger cars in 2021, only eighteen provided a figure for plug-in hybrid petrol-electric cars. A similar split is seen in the diesel hybrid and plug-in hybrid vehicle data availability. The lack of breakdown between these two categories may be due to plug-in hybrid models not yet entering in the respective market in significant quantities; but also, may be because the hybrid and plug-in hybrid models are taxed identically and thus not distinguished.

9. If a registration agency does not have these data available, are there methods that a statistics office can employ to try to impute this type of split?

III. Possible additional sources

10. If the registration data are insufficiently detailed as described above, statistical agencies have a number of options to try to ascertain this breakdown differently. If the vehicles are manufactured in the country, there may be the possibility that the split can be estimated based on production statistics and/or industry association data.

11. Similarly, if the vehicles are imported, it is sometimes possible to distinguish hybrid from plug-in hybrid vehicles based on customs or trade data. The HS2017¹ classification, for example, has the following items covering petrol-powered motor cars:

- **8703.40** Other vehicles, with both spark-ignition internal combustion reciprocating piston engine and electric motor as motors for propulsion, other than those capable of being charged by plugging to external source of electric power
- **8703.60** Other vehicles, with both spark-ignition internal combustion reciprocating piston engine and electric motor as motors for propulsion, capable of being charged by plugging to external source of electric power.

12. In the above example, 8703.40 covers petrol-electric hybrids and 8703.60 would refer to plug-in petrol-electric hybrids. While not every country produces trade data at this detail, it may be relevant for some statistical offices.

13. Delegates are invited to share their views and experiences around providing detailed fuel breakdowns for vehicle type and discuss how data availability may be improved in the future.

¹ https://www.wcoomd.org/-/media/wco/public/global/pdf/topics/nomenclature/instruments-and-tools/hs-nomenclature-2017/2017/1787_2017e.pdf?la=en.