Monitoring of CO_2 emissions from newly registered passenger cars and vans

Concept Name	Description
A	**Data description (metadata)**
Data description *Background, main characteristics of dataset*	*Note: This document refers to two datasets: Monitoring of CO_2 emissions from new passenger cars; Monitoring of CO_2 emissions from new light commercial vehicles (vans)* These datasets refer to the specific CO_2 emissions for newly registered cars and vans in a given calendar year, in terms of grams of CO_2 emissions per kilometre. The CO_2 emission values are based on laboratory testing on a roller bench. The current testing standard is the Worldwide harmonised Light vehicles Test Procedure (WLTP). It is a global driving cycle to determine pollutants, CO_2 emissions etc. Before September 2017, the testing standard was the New European Driving Cycle (NEDC). Monitoring of the emissions from new cars and vans is based on Article 7 of Regulation (EU) 2019/631. According to the regulation, data on new registrations of passenger cars and vans, including their CO_2 emissions, are to be collected each year by countries and submitted to the European Commission. Manufacturers can verify the data and notify the Commission of any errors identified in the dataset. The Commission/EEA assesses the manufacturers' corrections, and, where justified, takes them into account in calculating their average CO_2 emissions and specific emission targets. A related dataset collected under the same regulation is based on real-world emissions data. This dataset on real world emissions from cars and vans is also shared on the EEA's datahub.
Statistical population *Population about which information is to be sought*	Newly registered passenger cars and light commercial vehicles (vans)
Reference period	Calendar year (T)
Frequency of dissemination	Annually
Geographical reference area	All EU-27 Member States, Norway, Iceland (disaggregated and aggregated)
Unit of measure	The main unit of measure are the specific WLTP CO_2 Emissions in gCO_2/km. Further details on the units are available in the next section.
Basic statistical concepts and definitions	Detailed data per registered vehicle (excerpt) - Vehicle family identification number - Manufacturer pool - Manufacturer name (EU standard name) - Manufacturer name (OEM declaration) - Type approval number - Type - Variant - Version - Make - Commercial name - Category of the vehicle type approved - Category of the vehicle registered - Mass in running order (kg) - WLTP test mass - Specific WLTP CO2 Emissions (g/km) - Fuel type - Fuel mode - Engine capacity (cm^3) - Engine power (KW) - Electric energy consumption (Wh/km) - Innovative technology - WLTP emissions reduction through innovative technologies (g/km) - Registration year - Fuel consumption (l/100km) - Electric range (km) The complete list of data provided can be found in Annex II (cars) and Annex III (vans) of Regulation (EU) 2019/631. Aggregated data per manufacturer (see e.g. Implementation Decision for 2022) - Manufacturer name - Pool name - Derogations/Exemptions - Total number of registrations - Average mass in running order (kg) - WLTP average specific emissions of CO_2 (g/km) - WLTP specific emissions target (g/km) - Distance to target (g/km) - WLTP CO_2 savings from eco-innovations (g/km) - Error margin (g/km)

		Aggregated data for EU 27 + Iceland and Norway (predefined dashboard, see cars and vans) - Average WLTP Emissions (gCO_2/km) - Average Mass (kg) - Average Test Mass (kg) - Average Engine Power (kW) - Average Engine Capacity (cm^3) - Total new registrations
	Classifications used	Fuel types Diesel; Diesel/Electric; Petrol; Petrol/Electric; LPG; NG; E85; Electric; Hydrogen Fuel mode (more information can be found here) Bifuel (B); Hybrid (H); Monofuel (M); Flexfuel (F); Plug-in hybrid (P); Electric (E) Vehicle type (See the explanation here) - M1, M1G (Vehicles used for the carriage of passengers and comprising not more than eight seats in addition to the driver's seat) - N1, N1G (Vehicles used for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes) Manufacturers and Pools - see the list from 2023 here.
	Statistical Confidentiality	According to Article 7 (4) of Regulation 2019/631, the Commission shall keep a central register of the data reported by Member States. This register shall be publicly available. Personal and sensitive data relating to vehicle identification number are not made public.
B	**Data quality**	
	Relevance	The datasets inform users about the specific CO_2 emissions of cars and vans that were newly registered during the reference period in the geographical reference area (see section 'Reference Period' and 'Geographical Reference Area'). Users can find this information across different dimensions, for example across manufacturers and vehicle models. The aggregated average values of the vehicles' specific CO_2 emissions give insight about the total CO_2 emissions coming from cars and vans in the EU. They further allow an evaluation of the EU's progress towards its transport emission reduction targets.
	Timeliness *Length of time between data availability and the event or phenomenon they describe*	T + 1 year. The datasets related to cars and vans newly registered during calendar year T is published in the following year (T+1). For example, the data related to vehicles newly registered in 2023 was published in 2024.
	Accuracy and reliability	**Source data:** Data on vehicle registrations are reported by countries' national authorities. Deadline for reporting on the emissions during calendar year T is the 28th of February of the following year (T+1). The EEA quality checks and aggregates the data submitted by countries. Countries have the possibility to correct and resubmit the data. Not all of them make use of this possibility. Therefore, the provisional data published at the latest by 30th June each year (T+1) may still contain inconsistencies and errors. In a second step, manufacturers can voluntarily submit an error notification flagging errors in the provisional dataset covering their vehicles within three months after the provisional data has been published. The EEA quality checks the data notified by manufacturers as well. Not all manufacturers make use of this possibility to notify errors. Therefore, errors may still be present in the final dataset which is to be published by the 31st of October of each year (T+1). However, generally, the calculated averages differ only little between the provisional and final dataset[1]. Hence, the accuracy and reliability of the data can be considered high. **Data collection and methods used:** The data are submitted electronically to the Transport Reportnet 3 platform of the European Environment Agency (EEA). *Calculation of targets:* For each manufacturer/pool, the annual specific emissions target is calculated on the basis of the fleet-wide target and the average 'mass in running order' of the registered vehicles, using the formulas set out in ANNEX 1 of Regulation (EU) 2019/631.
	Accessibility and clarity	**Publications:** - The main dataset is accessible through the elastic data viewer for cars and vans at the EEA. Users can use it to download data and interact with it in a table or dashboard view. - An analysis of the CO_2 emission data in the context of historical data and EU climate goals, key visualizations and supporting information and metadata is available on the EEA website, both for cars and vans - Some visualizations are also available on the 'Climate and Energy in the EU website'. **Quality documentation:** Details on the quality control mechanisms performed are listed in the Excel document available for download on the Reportnet 3 website for country reporters and manufacturers. This information is not publicly available due to the sensitivity of the submitted data.
	Coherence and comparability	**Geographical:** The composition of the countries belonging to the European Union and the countries which opted-in from the European Free Trade Association (EFTA) can change over time. **Over time:** The changes in the dataset follow the regulatory changes over time in all aspects, most notably regarding scope, collected parameters and the applied calculation method. Before September 2017, CO_2 emissions were determined using the New European Driving Cycle (NEDC) testing procedure. From September 2017, the Worldwide harmonised Light vehicles Test Procedure (WLTP) was introduced for the type-approval of new models of cars and vans. This transition ended in 2020 when all newly registered cars and vans in the EU had to be WLTP type-approved. In detail, the NEDC based data

[1] https://www.eca.europa.eu/en/publications?ref=SR-2024-01, accessed 10.12.2024

		was reported exclusively until 2019, both protocols (NEDC and WLTP) were used in the 2020 dataset and only WLTP protocol data has been reported since 2021. These data allowed for comparison with the regulatory targets and obligations set out in Regulation (EU) 2019/631 and its predecessors. As a correlation exercise was undertaken between the two testing procedures, the data can be considered as being coherent and comparable over time.
C	**Contact and update**	
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