



Average CO2 emissions per km from new passenger cars (2000-2023)

The Regulation (EU) No 2019/631 requires Countries to record information for each new passenger car registered in its territory. The indicator is defined as the average carbon dioxide (CO2) emissions per km by new passenger cars in a given year. The reported emissions are based on type-approval and can deviate from the actual CO2 emissions of new cars. Since 2021, the emissions are measured with a new test procedure (Worldwide harmonized Light vehicles Test Procedure WLTP), compared to the New European Driving Cycle (NEDC) procedure used until 2020. The WLTP aims to reflect better real driving conditions and WLTP values are systematically higher than NEDC values. This change leads to a break in time series between 2020 and 2021.

Simple

Identification info

Date (Creation)	2025-01-21
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Identifier

Code	10.2909/e886c8ea-3137-4208-be9d-f6250f5ee16e
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Point of contact	Organisation	Individual	Electronic mail address	Website	Role
	European Environment Agency		sdi@eea.europa.eu	http://www.eea.europa.eu	Point of contact
Topic category	<ul style="list-style-type: none">EnvironmentTransportation				

Extent

Temporal extent

Time period	2000-01-01 2023-12-31
Maintenance and update frequency	Annually
Date	2025
Date type	update
GEMET	<ul style="list-style-type: none">carbon dioxidepassenger transportroad transportemissionstatistical data
Continents, countries, sea regions of the world.	<ul style="list-style-type: none">IcelandEU27 (from 2020)Norway

Reporting obligations	<ul style="list-style-type: none"> CO2 emissions from new passenger cars
EEA Management Plan	<ul style="list-style-type: none"> 2024 2.1.5
EEA topics	<ul style="list-style-type: none"> Transport and mobility Road transport Climate mitigation Sustainability
Unit of measure	<ul style="list-style-type: none"> g CO2 per km
Available breakdowns	<ul style="list-style-type: none"> Country
Reference period	<ul style="list-style-type: none"> Calendar year

Resource constraints

Use constraints	Other restrictions
Other constraints	License CC-BY 4.0 (https://creativecommons.org/licenses/by/4.0/). Copyright holder: European Environment Agency (EEA).
Language	English

Distribution Information

Distribution format	<ul style="list-style-type: none"> Microsoft Excel (.xls, .xlsx) ascii (.csv, .txt, .sql)
OnLine resource	https://sdi.eea.europa.eu/webdav/datastore/public/eea_s_eu-sdg-13-31_p_2000-2023_v01_r00
OnLine resource	Direct download
OnLine resource	EEA Indicator:CO2 performance of new passenger cars in Europe
OnLine resource	List of CO2 Monitoring Decisions
OnLine resource	CO2 passenger cars (Elastic Data Viewer)
OnLine resource	Eurostat indicator: Average CO2 emissions per km from new passenger cars
OnLine resource	

Data quality info

Hierarchy level	Dataset
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Report

Name of measure	Frequency of dissemination
Measure description	The indicator is updated annually.

Result

Value	Every year
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Report

Name of measure	Timeliness
Measure description	New data points are disseminated within one year after the reference year.

Result

Value	T+1 year
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Report

Name of measure	Reference area
Measure description	Data are presented for all EU Member States plus Iceland and Norway.

Result

Value	All EU MS
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Report

Name of measure	Comparability - geographical
Measure description	Data are comparable between all EU Member States and with Iceland and Norway.

Result

Value	All EU MS
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Report

Name of measure	Time coverage
Measure description	Presented time series (including EU aggregates) starts in 2000.

Result

Value	> 10 years
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Report

Name of measure	Comparability - over time
Measure description	Since 2021, the emissions are measured with a new test procedure (Worldwide harmonized Light vehicles Test Procedure WLTP), compared to the New European Driving Cycle (NEDC) procedure used until 2020. The WLTP aims to reflect better real driving conditions and WLTP values are systematically higher than NEDC values. This change leads to a break in time series between 2020 and 2021.

Result

Value	> 4 data points
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Resource lineage

Statement	
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EU average specific CO2 emissions are calculated as the average emissions (as recorded in the certificates of conformity, based on type approval values) of all new passenger cars first registered in the EU in a particular year. For calculating manufacturers/pools' average emissions, eco-innovation savings and super-credits (for 2020-2022) are also taken into account.

For the purpose of EU SDG statistics, the NEDC emissions values for the years 2017, 2018 and 2019 have been converted into equivalent WLTP ones, using the 2020 dataset, which contains both values (NEDC and WLTP) for all individual vehicles. From 2021 only WLTP values are reported.

In the monitoring for cars and vans, emissions data are reported using NEDC protocol until 2019, using both protocols NEDC and WLTP in 2020 and only WLTP protocol from 2021. In this table, from 2020, WLTP data are shown; for the period 2017-2019 a conversion factor, calculated using 2020 data in NEDC and WLTP, is used to show data in WLTP; before 2017, NEDC data are shown.

Hierarchy level	Dataset
Source	<ul style="list-style-type: none"> Monitoring of CO2 emissions from passenger cars Regulation (EU) 2019/631

Metadata

Metadata identifier	e886c8ea-3137-4208-be9d-f6250f5ee16e										
Language	English										
Character encoding	UTF8										
Contact	<table><tr><th>Organisation</th><th>Individual</th><th>Electronic mail address</th><th>Website Role</th></tr><tr><td>European Environment Agency</td><td></td><td>sdi@eea.europa.eu</td><td>Point of contact</td></tr></table>	Organisation	Individual	Electronic mail address	Website Role	European Environment Agency		sdi@eea.europa.eu	Point of contact		
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European Environment Agency		sdi@eea.europa.eu	Point of contact								

Type of resource

Resource type	Non geographic dataset
Name	Tabular dataset

Metadata linkage	https://sdi.eea.europa.eu/geonetwork/srv/api/records/e886c8ea-3137-4208-be9d-f6250f5ee16e
Date info (Creation)	2025-01-13T11:07:44.285302Z
Date info (Revision)	2025-10-09T11:20:39.211304Z

Metadata standard

Title	ISO 19115/19139
Edition	1.0

Overviews

Provided by

