



Development of the EU methodology for determining the life-cycle CO₂ emissions of light-duty vehicles

Stakeholder consultation workshop

Welcome and introduction

11 December 2024, Brussels

DG CLIMA.B.3 – Mobility (I): Road

Workshop 1: Agenda and Schedule

- 9:30 – 10:00 Welcome and Introduction, followed by Q&A [DG CLIMA]
- 10:00 – 11:15 Presentation of study findings to date, followed by Q&A [Ricardo]
- 11:15 - 11:30 Break
- 11:30 – 12:45 Discussion session 1: Primary Data Collection
- 12:45 - 14:00 Lunch break
- 14:00 – 15:15 Discussion session 2: End of Life Modelling
- 15:15 – 15:30 Break
- 15:30 – 16:45 Discussion session 3: Interpretation – Sensitivity Analysis
- 16:45 - 17:00 Feedback, next steps and close

Legal context

Light-duty vehicles (LDVs): Regulation (EU) 2019/631

- Article 7a:
 - By 31 December 2025, the Commission shall publish a report for the EP and the Council, and to adopt a delegated act, **setting out a methodology for the assessment and the consistent data reporting of the full life-cycle CO₂ emissions of passenger cars and vans.**
 - As of 1 June 2026, vehicle **manufacturers may voluntarily report** to the Commission **life-cycle CO₂ emissions data** for their new cars or vans, using that methodology.
- Article 14a:
 - The reported life-cycle CO₂ emissions shall be considered by the Commission as one of the elements for the **bi-annual progress report** to the EP and the Council.
Deadline for second report is 31 December 2027. *[there will be no data for first one]*

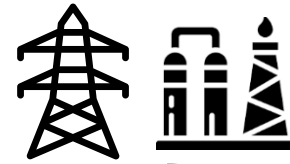
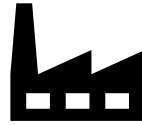
For heavy-duty vehicles (HDVs), Regulation (EU) 2019/1242 requires the Commission to **evaluate the possibility** of developing a common methodology for the assessment and reporting of the full life-cycle CO₂ emissions of HDV by 31 December 2027.

Vehicle life-cycle stages

Raw material acquisition
and processing



Manufacturing
and transport



Fuel and
energy cycle

Use



End-of-life



- **'Life cycle' (LC)** means the consecutive and interlinked stages of a product system, from raw material acquisition or generation from natural resources to final disposal (ISO 14040:2006)
- **The LC CO₂ methodology** will cover all the stages of a vehicle's life, including fuel and energy cycle

References for the EU methodology

ISO standards

- ISO 14040/14044: 2006 on life-cycle assessment (LCA)
- ISO 14067:2018 on carbon footprint of products
- ISO 14083:2023 on WTW GHG emissions for transport

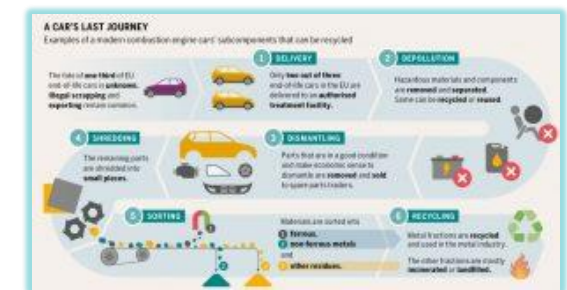
Environmental Footprint (EF) method

- Developed by the Commission in 2013, building on standard LCA methodology (ISO)
- Contains detailed rules to guide the implementation
- Updated in 2021, covering **16 impact categories**, including **climate change** (*the present methodology focuses on GHGs*).
- Commission Recommendation (EU) 2021/2279 recommends to use the EF method also in **EU legislation**



Other relevant EU legislation

- **Batteries Regulation (EU) 2023/1542** – regulates the entire life cycle of batteries (incl. EV batteries) and sets requirements to determine and declare the **carbon footprint (CF)** of batteries using the EF methodology.
- **Renewable Energy Directive** – rules for calculating the life cycle GHG impact of biofuels and biogases. Default GHG emission intensity values for different fuels and their production pathways.
- **Circularity and End of Life Vehicle Regulation (proposal)** – rules covering the entire life cycle of a vehicle (from its design to final treatment at the end-of-life stage), aims to improve circularity and use of recycled material.



Development of EU LC CO₂ methodology

- Key principles:
 - Build on **existing EU rules and requirements**
 - Take into account work in progress at EU and international level, in particular the **UNECE A-LCA IWG**, aiming for consistency and synergies
 - Aim for an **implementable, robust, and verifiable** methodology, striking the balance between obtaining an **accurate result** and **limiting administrative burden** (Better Regulation)
- Resources:
 - Commission in-house expertise, including from JRC
 - DG CLIMA launched a consultant contract (started Q3 2024)
 - Stakeholder consultations (2 stakeholder workshops: 11 Dec 2024, with focus on LDVs – June/July 2025)

Assessment framework – screening criteria reflecting the overarching principles

C1. Practicality and feasibility

Overall ease of implementation, striving for reduced administrative burden: e.g. simplicity of data collection and analysis, availability of resources, time and effort needed to complete the assessment.

C2. Level of accuracy and representativeness

Evaluates reliability, robustness and peer-reviewed validity of the outcomes, representativeness of data, rigour of the analysis methods, (real-world) accuracy, reproducibility and comparability.

C3. Coherence with EU policies and other LCA frameworks

Alignment with and support to EU policies. Coherence with other frameworks (e.g. UNECE A-LCA IWG) to the extent possible.

C4. Social and economic impact on operators

Implications on economic operators. Level playing field across supply chain. Broader social consequences, e.g. on employment and consumer choice.

Thank you!