

EUROBAT feedback on the draft Commission Delegated Regulation supplementing Regulation (EU) 2023/1542 of the European Parliament and of the Council by establishing the methodology for the calculation and verification of the carbon footprint of electric vehicle batteries (28 May 2024)

EUROBAT recommendations for the finalisation of the delegated act:

- The “years of operation” variable of the functional unit should be determined according to the battery’s technical specifications and actual service life, instead of being based on the commercial warranty.
- Should the Commission nonetheless proceed with basing the “years of operation” with the commercial warranty, then it should supplement the delegated act with a definition of “commercial warranty”, and clarify that it should correspond to the warranty delivered from the battery manufacturer to the OEM.
- The Commission should clarify the definition of “directly connected electricity”
- The Commission should clarify the timeframe/point in time over which/at which the manufacturer must verify if a 10% increase in the total amount of CO₂-equivalent emitted has happened, and if, in turn, a new carbon footprint declaration should be drafted.
- A resolution expressed in grams of CO₂-equivalent/kWh is not defined, and no information is available on how it should be calculated and verified, neither in the 2023 draft JRC Report nor in other official documents.
- The Commission should introduce clarifications on the conditions under which the use of a particular LCA tool can be considered compliant with the calculation methodology.
- Notified bodies shall remain the only entity with the right to access confidential data
- The end-of-life modelling should adapt a cut-off approach or increase the A_{Mat} factor (Section 2.6)

EUROBAT, the Association of Manufacturers of Automotive and Industrial Batteries, welcomes the upcoming adoption of a methodology for determining the carbon footprint of electric vehicle batteries. EUROBAT maintains its support for the introduction of a carbon footprint declaration, performance classes and maximum thresholds to promote green batteries made in Europe.

Nonetheless, several elements of the proposed draft methodology need to be amended to ensure that the final methodology can be applied in practice and its enforcement efficiently monitored by notified bodies, and that it properly reflects the climate impact and benefits of the battery value chain.

1) Functional Unit (Section 2.1) – for a proper definition of “years of operation”

The draft delegated act would base the calculation of the functional unit on the commercial warranty, as the total amount of energy would be a function of the years of operation of a battery, among other variables. In turn, the “years of operation” variable would be determined according to the “duration of the warranty of the battery in years”.

2.1. Functional unit

The total amount of energy provided by the battery over the battery's service life (' E_{total} '), expressed in kWh, shall be calculated as follows:

$$E_{total} = \text{energy capacity} \cdot \text{FEqC per year} \cdot \text{years of operation}$$

(c) *years of operation* is determined by the commercial warranty according to the following rules:

(i) **the duration of the warranty on the battery in years applies;**

This approach departs from that of the Joint Research Centre (JRC) in its [draft Report](#) of June 2023, where the functional unit is defined as the total amount of energy provided by the battery over its "service life". For example, in the case of light-duty vehicles (Section 3.1.1), the JRC defines the "service life" as the number of km driven until the battery reaches a State of Certified Energy (SOCE) equal to 70% for category M1 vehicles and equal to 65% for category N1 vehicles (as specified in the Annex II of the Commission's Proposal for Euro 710).

There is no mention of the commercial warranty in the JRC's draft Report.

EUROBAT calls on the Commission to re-align Section 2.1 of the draft methodology with the approach taken by the JRC.

Indeed, the warranty is a marketing instrument, marking the timeframe during which the customer can leverage legal rights for replacement against the supplier. It is not an appropriate metric for the service life of the battery. The commercial warranty is often much shorter than the actual service life of a battery and would vary from one company to the other all this being equal regarding the technical specifications of the battery model.

The Commission should redraft the "years of operation" variable to base it on the technical specifications or the durability of the battery (Article 10 of Batteries Regulation), in line with the JRC draft Report. References to the commercial warranty should be removed.

Any reference to a warranty period should correspond to the warranty delivered from the manufacturer to the original equipment manufacturer (OEM)

Should the Commission nonetheless wish to proceed with basing the "years of operation" variable on the commercial warranty, then it should supplement the delegated act with a definition of "commercial warranty".

In this latter respect, there are two types of commercial warranties on batteries when a business operation is taking place:

1) From the battery manufacturer to OEM (B to B) and 2) From the OEM to consumer (B to C). The warranty that the OEM provides to the consumer is an aftermarket service guarantee representing a certain period during which the OEM commits to provide repairment and replacement services (where the battery could be replaced multiple times), which does not reflect the real life span of one battery product.

Therefore, and following point 2.1 - paragraph C (i), the warranty that refers to the years of operation of the battery needs to prioritize the warranty delivered from the battery manufacturer to the OEM, should the Commission wish

to proceed with basing the “years of operation” variable on the warranty. Only in cases where the battery manufacturer does not provide a commitment to the OEM should the warranty commitment from the OEM to the consumer be considered.

2) The definition of “directly connected electricity” should be clarified (Section 2.4)

In reference to point 2.4 on directly connected electricity, we are seeking clarification regarding the mention of Directive 2019/944 when defining the concept of “direct line”. The Commission should clarify whether this definition is restricted to a single-point connection or if it also encompasses scenarios involving dedicated electricity networks, which may include multiple generation and consumption ends sharing an isolated network from the grid.

3) Clarification needed on duty to draft a new carbon footprint declaration in case of an increase of 10% or more in the amount of CO₂-equivalent emitted (Introduction to Section 2).

The draft delegated act does not specify the timeframe over which the manufacturer must check if a 10% increase in the total amount of CO₂-equivalent emitted has happened, and if, in turn, a new carbon footprint declaration should be drafted.

If, over the course of time, due to changes in the bill of materials, changes in the origin of the materials, changes in processes, changes related to the use of electricity and other auxiliaries, or any other changes, the amount of CO₂-equivalent emitted increases by more than 10% compared to the carbon footprint calculated, this shall be considered a change to the battery’s technical characteristics relevant for the requirements of Regulation (EU) 2023/1542 and thus for the new battery model a new carbon footprint shall be calculated and a new carbon footprint declaration shall be drawn up.

It may be that changes in the carbon footprint need to be verified by the manufacturer at the point when the carbon footprint performance class of the battery model needs to be declared, in line with point 8 of Annex II of the Batteries Regulation. So far there is a lack of information on the exact conditions under which a new carbon footprint declaration should be drawn up.

Likewise, [the draft implementing act on the format of the carbon footprint declaration](#) fails to include a reporting period, or date of validity of the label, reflecting the duty to re-calculate the carbon footprint of a battery when it increases by more than 10% for a specific battery model.

Overall, the carbon footprint declaration should include a date of validity and the rules for the carbon footprint methodology should foresee a clear revision index, as with every quality document.

4) Resolution of the carbon footprint declaration (Introduction to Section 2)

2. CALCULATION RULES

The carbon footprint of electric vehicle batteries shall be calculated as the amount of CO₂-equivalent emitted during the life cycle stages of the battery that are within the system boundary, expressed in kilogram ('kg') CO₂-equivalent, divided by the total amount of energy provided by the battery over the battery's service life determined in accordance with section 2.1. It shall be reported in kg CO₂-equivalent/ kilowatt-hour ('kWh') **with a resolution of 0,001 kg CO₂-equivalent/kWh.**

A resolution expressed in grams of CO₂-equivalent/kWh is not defined, and no information is available on how it should be calculated and verified, neither in the 2023 draft JRC Report nor in other official documents. In addition, the draft implementing Regulation on the format of the carbon declaration expresses the resolution in kg CO₂-equivalent/kWh, which contradicts the wording of the delegated act.

5) Lack of specifications on the types of life-cycle assessment (LCA) tools to be used (Section 2)

The proposed calculation methodology does not prescribe (a) specific life-cycle assessment (LCA) tool(s) to be used for determining the amount of CO₂-equivalent emitted related to the materials and energy used and, where relevant, produced in the life cycle stages of the battery that are within the system boundary, in accordance with sections 2.2 to 2.7.

The main tools used for carbon footprinting in the battery industry are [SimaPro](#) and [Gabi](#). Yet, many other software are available, making it difficult even for LCA experts to develop knowledge of all LCA software.

Notified body tasked with verifying the conformity of the carbon footprint declaration of batteries placed on the market may lack the knowledge of LCA tools to ensure that the tool(s) used by the manufacturer, and the way such tool(s) is/are used, is/are compatible with the carbon footprint methodology, especially if a resolution as low as 0,001 kg Co₂-equivalent is expected for reporting the carbon footprint. It can be expected that notified bodies would struggle with LCA assessments performed with Gabi.

Besides, lots of battery manufacturers don't use LCA tools already, and the free software foreseen by the Commission to run product environment footprint (PEF) calculations during the PEF pilots is yet to be developed.

Considering the above issues, the Commission should introduce clarifications on the conditions under which the use of a particular LCA tool can be considered as compliant with the calculation methodology.

6) The end-of-life modelling should increase the A_Mat factor (Section 2.6)

Section 2.6 on recycled content and end-of-life modelling presents certain concerns for the industry in view of the assessment of the impact of using secondary materials. The Circular Footprint Formula (CFF) assigns 80% of end-of-life emission credits to future recycling activities, whereas the use of recycled materials can only account for 20%, resulting in a less accurate assessment of the environmental impact and disincentivize the use of recycled materials. We advocate for at least a higher *A_Mat* factor (from 0.2 to 0.8) in the CFF to recognise the effort of using battery-grade secondary materials in new batteries.

7) Notified bodies shall remain the only entity with the right to access confidential data

Recital 8 of the draft Delegated Act stipulates that market surveillance authorities will obtain the requisite information for compliance verification. Nonetheless, as mandated by the European Commission, the notified body, as trusted entity, shall remain the only entity with the right to receive such background information, to ensure the minimal distribution of confidential data. Following Article 8, paragraph g of the Batteries Regulation, all entities other than notified bodies shall only have access to the verified declaration and a public study with information of the carbon footprint of the battery.

About EUROBAT

EUROBAT is the association for the European manufacturers automotive, industrial and energy storage batteries. EUROBAT has more than 50 members from across the continent comprising more than 90% of the automotive and industrial battery industry in Europe. The members and staff work with all stakeholders, such as battery users, governmental organisations and media, to develop new battery solutions in areas of hybrid and electro-mobility as well as grid flexibility and renewable energy storage.



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