Ref. Ares(2026)7823470 - 12/08/2026

EUROPEAN
COMMISSION

Brussels, XXX
[…](2026) XXX draft

COMMISSION DELEGATED REGULATION (EU) …/...

of XXX

supplementing Regulation (EU) 2023/1542 of the European Parliament and of the Council by establishing the methodology for the calculation and verification of cobalt, nickel, lithium and lead recycled content in certain batteries, and the format for the documentation of such recycled content

(Text with EEA relevance)

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This draft has not been adopted or endorsed by the European Commission. Any views expressed are the preliminary views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission.

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE DELEGATED ACT

Batteries are one of the key enablers for sustainable development, green transport, clean energy and climate neutrality. The Regulation on Batteries and Waste Batteries[1] (the "Regulation") creates a harmonised regulatory framework covering the entire life cycle of batteries that are placed on the market in the Union, including requirements on the life cycle carbon footprint of batteries. The Commission is tasked with developing the methodology for the calculation and verification of the recycled content of nickel, lithium, cobalt and lead in several categories of batteries.

2. CONSULTATIONS PRIOR TO THE ADOPTION OF THE ACT

This delegated act is based on a report by the Joint Research Centre (JRC) of the Commission entitled 'JRC study on harmonised rules for the calculation and verification of recycled content in batteries'[2]. The report was developed in consultation with stakeholders, including two workshops and a dedicated stakeholder consultation. Subsequently, the expert group on waste was consulted on 15 October 2025 in its formation including Member States representatives as well as representative of businesses and civil society, and on [date] in its formation including only Member States representatives on the draft delegated act.

The draft delegated act was published for public feedback on the Better Regulation Portal from [date] to [date] 2026. It was notified to the World Trade Organization Committee on Technical Barriers to Trade for feedback from [date] to [date] 2026.

3. LEGAL ELEMENTS OF THE DELEGATED ACT

The delegated act is adopted pursuant to Article 8(1), third subparagraph, of the Regulation, which empowers the Commission to adopt a delegated act establishing the methodology for the calculation and verification of the percentage share of cobalt, lithium, and nickel that is present in active materials and that has been recovered from battery manufacturing waste or post-consumer waste, and the percentage share of lead that is present in the battery and that has been recovered from waste, and the format for the documentation.

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[1] Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC (OJ L 191, 28.7.2023, p. 1.)

[2] https://publications.jrc.ec.europa.eu/repository/handle/JRC146717

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(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2023/1542 of the European Parliament and of the Council of 12 July 2023 concerning batteries and waste batteries, amending Directive 2008/98/EC and Regulation (EU) 2019/1020 and repealing Directive 2006/66/EC[3], and in particular Article 8(1), third subparagraph, thereof,

Whereas:

(1) Article 8(1) of Regulation (EU) 2023/1542 requires manufacturers to declare the recycled content of cobalt, lithium, nickel and lead in industrial batteries, electric vehicle batteries and SLI batteries. That requirement will start to apply on 18 August 2028 or 24 months after the entry into force of this Regulation, whichever is later. Article 8(2) and (3) of Regulation (EU) 2023/1542 also requires manufacturers to meet mandatory targets for the recycled content of those metals in such batteries, which will be applicable from 18 August 2031 and 18 August 2033 respectively. The corresponding requirements for LMT batteries will be applicable from 18 August 2033 (declaration of recycled content) and 18 August 2026 (mandatory targets for recycled content). The Commission is to establish the methodology for the calculation and verification of the percentage share of cobalt, lithium or nickel that is present in active materials and that has been recovered from battery manufacturing waste or post-consumer waste, and the percentage share of lead that is present in the battery and that has been recovered from waste, and the format for the documentation containing the data necessary to calculate and verify the recycled content of those metals.

(2) Batteries play a central role in the transition from fossil fuels to clean energy. Electrification across multiple sectors will drive demand for batteries over the coming years, and batteries will play an increasing role in the resilience of Europe's energy and transport systems. In this context, dependencies, or even full reliance, on third countries for the supply of raw materials or components critical to battery manufacturing pose a serious threat to the security and resilience of the Union's energy and transport systems. Global demand for batteries continues to grow and is expected to increase further, given their central role in the green transition, notably for use in electric vehicles and battery energy storage systems. The associated increase in battery production has driven up demand for critical minerals such as lithium, nickel,

[3] *OJ L 191, 28.7.2023, pp. 1–117*

cobalt and graphite[4], intensifying competition for access to those materials. At the same time, natural sources of those materials are very limited in the Union. Current extraction capacities are practically non-existent[5], leaving the Union highly dependent on imports from a small number of non-EU suppliers. This dependence has driven import reliance for critical battery raw materials to strikingly high level: 81% for cobalt, 75% for nickel and 100% for lithium[6]. Battery raw materials have been subject to export restrictions in producer countries which add uncertainty and deprive access to feedstock. In a context of geopolitical tensions, that dependency creates a significant risk of supply disruptions, thereby putting at risk the security and resilience of the Union's energy and transport systems.

(3) Against this background, battery recycling presents a major opportunity to increase the production of secondary raw materials and thereby reduce existing dependencies on imports from third countries and strengthen the resilience and security of supply of the Union battery value chain.

(4) Global recycling capacities for battery materials are concentrated in a limited number of third countries where recovered materials are retained and reintegrated within local integrated industrial ecosystems, thereby remaining unavailable to the Union. That concentration creates a risk of insufficient availability of recycled battery materials for the Union battery value chain and exposes the Union to external decisions, market disruptions and possible export restrictions. As noted in the ResourceEU Communication[7], supply chains for critical raw materials are fragile, and in recent years third countries have adopted a series of export control measures covering critical raw materials, including inputs vital for battery production. In such circumstances, dependence on imported primary raw materials may be compounded by dependence on imported secondary raw materials, thereby further undermining both the resilience of the Union battery value chain and the security and resilience of the Union's energy and transport systems.

(5) Recycled battery materials are of strategic importance for the Union battery value chain, which is itself essential to the Union's climate objectives, energy resilience, economic security and strategic autonomy. In the current market circumstances, the high concentration of battery production and recycling capacities at global level, creates a serious risk of insufficient availability of recycled battery materials within the Union. That risk undermines the resilience and security of supply of the Union battery value chain and poses a serious threat to the security and resilience of the Union's energy and transport systems. Insufficient availability of such materials in the Union could prevent the timely manufacture, replacement or deployment of batteries required for the functioning of essential services and adversely affect human health and safety, in particular where reliable electricity supply, heating, cooling, emergency response or access to healthcare is impaired. In order to address that risk, it is therefore appropriate to provide for a temporary correction factor for recycled materials recovered through recycling operations carried out in the Union.

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4 IEA Global EV Outlook 2026 - https://iea.blob.core.windows.net/assets/857aa690-2a43-453f-9f12-147cc8f0a1dd/GlobalEVOutlook2026.pdf

5 WWF Mining, recycling and trust – report March 2026 -https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Politik/Battery-Report-2026.pdf

6 https://op.europa.eu/en/publication-detail/-/publication/57318397-fdd4-11ed-a05c-01aa75ed71a1

7 COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS RESourceEU Action Plan Accelerating our critical raw materials strategy to adapt to a new reality COM/2025/945 final

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(6) That correction factor should be limited to what is necessary to address those risks and should therefore be temporary, targeted and proportionate. It should apply only for as long as the relevant conditions persist, namely insufficient supply of recycled content in the Union to ensure the resilience and security of supply of the Union battery value chain and the security and resilience of the Union's energy and transport systems. It should not have the effect of excluding recycled materials recovered through recycling operations carried out outside the Union from contributing to compliance with the recycled-content targets laid down in Regulation (EU) 2023/1542.

(7) Regulation (EU) 2023/1542 contains conformity assessment procedures, including general rules for requiring notified bodies to assess whether the manufacturer has complied with its obligations, including those on recycled content. It is appropriate to detail in the methodology for verification of the recycled content which assessments notified bodies are to carry out as a minimum. It is also appropriate to specify the details for the study supporting the recycled content share that manufacturers are required to provide as part of the technical documentation , as well as the data and documentation that battery manufacturers and other economic operators at different steps of the value chain are required to gather, in order to ensure that notified bodies and market surveillance authorities receive the information necessary to verify compliance with the requirement set out in Article 8 of Regulation (EU) 2023/1542.

(8) In order to ensure consistency in the information provided and to facilitate verification of compliance, this Regulation should lay down the format for the documentation that battery manufacturers and other economic operators are to draw up in order to provide the data and calculations demonstrating the percentage share of recycled cobalt, lithium, nickel and lead in batteries placed on the Union market.

HAS ADOPTED THIS REGULATION:

Article 1

The methodology for the calculation and verification of the recycled content of nickel, cobalt, lithium and lead in industrial batteries with a capacity greater than 2 kWh, except those with exclusively external storage, electric vehicle batteries, SLI batteries and LMT batteries shall be as set out in sections 1, 2 and 3 of the Annex.

The format for the documentation demonstrating the share of recycled content of nickel, cobalt, lithium and lead in the batteries referred to in the first paragraph shall be as set out in section 4 of the Annex.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President
Ursula von der Leyen

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ANNEX

ANNEXES

to the

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 cobalt, nickel, lithium and lead recycled content in certain batteries, and the format for the documentation of such recycled content

ANNEX

Methodology for the calculation and verification of the recycled content in industrial batteries with a capacity greater than 2kWh, except those with exclusively external storage, electric vehicle batteries, SLI batteries and LMT batteries

1. DEFINITIONS

For the purposes of this Annex, the following definitions shall apply:

(1) ’recycled material’ means material obtained from battery manufacturing waste or post-consumer waste for cobalt, nickel or lithium and from waste for lead, following a recycling process, or derived materials thereof obtained after further transformation processes;

(2) ’recycled content’ means the percentage, by mass of recycled to total cobalt, lithium or nickel in active materials of a battery or recycled to total lead in a battery;

(3) ’plant’ means a location with geographical boundaries, including one or several sites, at which defined activities under the control of an organisation are carried out;

(4) ’manufacturing plant’ means a location where one or more of the following activities take place: synthesis, processing, and formulation of raw materials or intermediate components for use in battery manufacturing;

(5) ’supply chain’ means both the series of processes or activities involved in the production and distribution of a material or product from its source, as well as the organisations in which these processes or activities take place;

(6) ’supply chain actor’ means an entity or group of people and facilities that has an arrangement of responsibilities, authorities and relationships and identifiable objectives, and that forms part of the supply chain;

(7) ’input fraction’ means the mass of any material or product that enters a manufacturing plant of a supply chain actor ant that may be used at any step of the supply chain, including recycled materials;

(8) ’output fraction’ means the mass of any material or product that leaves a manufacturing plant of a supply chain actor, excluding waste and emissions and that can be created at any step of the supply chain and might include fractions that are not destined for the production of batteries.

(9) ’traceability’ means the ability to trace the history, application, location or source of a material or product throughout the supply chain;

(10) ’chain of custody’ means a process by which inputs fractions and outputs fractions and associated information are transferred, monitored and checked as they move through each step in the relevant supply chain;

(11) ’accounting period’ means a timeframe established for bookkeeping purposes, to reconcile input fractions and output fractions and to reallocate volumes of recycled material;

(12) ’volume reconciliation’ means the reconciliation of input and output fractions through the production process within the accounting period;

(13) ’conversion factor’ means a factor that describes the change in quantity of a specific material due to processing and that is calculated for each process based on actual efficiency and losses;

(14) 'toll-treatment mechanism' means a business arrangement under which the treatment of waste or recycled materials is performed as a service for specific operators or partners and under which the same entity serves as both the supplier of the input fraction and the receiver of the equivalent processed material as the output fraction.

2. CALCULATION RULES

2.1. Recycled content in batteries placed on the Union market

Battery manufacturers shall calculate the mass percentage share of cobalt, lithium or nickel that is present in active materials and that has been recovered from battery manufacturing waste or post-consumer waste, and the mass percentage share of lead that is present in the battery and that has been recovered from waste, for each battery model per year and per manufacturing plant.

Battery manufacturers and their supply chain actors shall calculate the recycled content of their output fractions. To this end, the supplier of materials shall give information of recycled content based on the calculations in Section 2.4. Calculations shall only be performed at supply steps that transform or mix materials.

2.2. Chain of custody model and system description

2.2.1 System boundary for calculation

The spatial system boundary for the calculation shall be the manufacturing plant and shall include all production lines and processes, storages of inputs and storages of outputs, including waste. Volume reconciliation shall be performed at manufacturing plant level over the accounting period pursuant to Sections 2.2.3 and 2.2.4.

2.2.2 Chain of custody - Plant-level mass balance with volume reconciliation and credit allocation for processing as a service

The calculation and verification of recycled content shall rely on a traceability system, which ensures that recycled content can be tracked from the moment waste enters a recycling plant to the moment the derived secondary material is used in a battery model. The traceability system shall be based exclusively on documentation.

Battery manufacturers shall collect the evidence and information determining the input data for the recycled content calculations of the battery. Manufacturers shall collect information from preceding supply chain actors, starting with suppliers of secondary material. Each supply chain actor shall keep traceability data in their own system, with data pursuant to Section 2.3 shared between upstream and downstream supply chain actors.

The traceability of information shall be achieved through the implementation of a pre-defined chain of custody model.

The chain of custody model shall correspond to plant-level mass balance with volume reconciliation and credit allocation for processing as a service under eligible contractual agreements. Recycled content shall be distributed proportionally across all plant output fractions during an accounting period, unless a toll-treatment mechanism, or another contractual agreement that demonstrates recycled material supply and take-back agreements, applies. Such contractual agreements shall allow the possibility for credit allocation meaning that supply chain actors can allocate a higher recycled content to specific outputs intended for battery manufacturing. Eligible contractual agreements shall be the following:

(a) toll-treatment mechanisms, where the supplier of the recycled material (containing lithium, cobalt, nickel, or lead) also purchases an equivalent quantity of processed material from the plant, for example through take-back agreements or strategic partnerships;

(b) multi-party agreements, where the supplier of the recycled material also purchases an equivalent quantity of secondary material downstream in the supply chain, for example through multi-party take-back agreements or directed buy;

(c) other contractual agreements, where the receiver of the material demonstrates that another supply chain actor delivered a contractually agreed amount or share of recycled material on their behalf.

Where producers are fulfilling their extended producer responsibility obligations through producer responsibility organisations, those organisations may conclude the contractual agreements on behalf of one or more of their producers.

When toll-treatment mechanisms, or other contractual agreements that demonstrate recycled material supply and take-back agreements, have not been established, a recycled content higher than the average across all output fractions shall not be assigned to any specific batch or production line.

The below specific requirements shall apply at each step of the value chain and for all supply chain actors, including the battery manufacturer:

(a) **Input-output reconciliation**: The quantities received and supplied to customers shall be reconciled within a defined accounting period, to verify that recycled content in output fractions relate to the input fractions.

(b) **Volume reconciliation**: Volume reconciliation within an accounting period allows to redistribute recycled content from input fractions processed at a manufacturing plant to output fractions produced during that same period. Such redistribution shall be reconciled to ensure that the recycled content allocated to output fractions is supported by the corresponding recycled content in input fractions over the accounting period.

(c) **Proportional allocation of recycled content**: Recycled content from all output fractions generated during an accounting period shall be proportionally distributed across all plant-level process output fractions for materials outside the eligible contractual agreements.

(d) **Credit allocation under eligible contractual agreements**: When an eligible contractual agreement applies, the recycled content in input fractions—adjusted for process losses—may be treated as a recycled content credit that is directly allocated to the output fractions delivered to fulfil that agreement.

(e) **No credit carryover**: Recycled content credits shall not be carried over to the next accounting period.

(f) Recycled content credits shall not be transferred between different facilities of a company or between different companies.

2.2.3. Accounting period

The battery manufacturer and the other supply chain actors shall choose the length of the accounting period. It shall not exceed the documentation period of 12 months. The accounting

period shall be longer than the maximum possible residence time of metals in the production system.

Where input fractions have started to be processed during an accounting period but output fractions are only produced in a subsequent accounting period, data relating to input fractions consumption and output fractions production shall be recorded in the accounting period where output fractions are produced.

For made-to-order production in a non-serial production process, the accounting period shall be determined by the total production time for the specific order. For new production lines where the chosen accounting period has not yet been completed at the time of calculation, the accounting period shall be set to the time elapsed since the production line started operating.

Accounting periods shall be structured so that each accounting period's start and end dates fall within the year of documentation, allowing for multiple periods to be included as required.

2.2.4. Volume reconciliation in the accounting period

Volume reconciliation for recycled content allocation within an accounting period shall involve budgeting, distributing, and allocating recycled content to distinct output fractions produced during that timeframe. Recycled content shall be proportionally allocated to output fractions outside the eligible contractual agreements. All input fractions under the agreements shall then be assigned an equivalent recycled content after processing, adjusted for process losses and according to eligibility conditions.

For assigning the recycled content of output fractions, a rolling average shall be used. The recycled content of each output fraction shall be based on the recycled content in output fractions produced over a time period equal to the length of the accounting period, including the batch to be assigned a documented recycled content. A rolling average is a dynamic method that calculates the average recycled content over a fixed-length timeframe, for example 90 days, which shifts forward as new data are added. As new outputs are produced, the oldest data from the timeframe are dropped, and the newest data are included, creating a continuously updated average.

When calculating the recycled content for each battery model per year and per manufacturing plant, battery manufacturers may take into consideration calculation results from different accounting periods spanning a total time of 12 months as required pursuant to Section 2.5.

2.2.5 Accounting of recycled content originating from recycling in the Union

When value chain actors are further processing recycled material obtained from waste recycled in an installation operating in the Union, they shall, until 31 December 2036, be allowed to attribute a correction factor of 1,3 to the related input fraction when calculating the recycled content in the output material of the process.

The correction factor shall only apply for the calculation of recycled content for lithium, nickel and cobalt, and not for lead.

The correction factor only applies to material directly stemming from the recycling of battery manufacturing waste or post-consumer waste in an installation established and operating in the territory of a Member State provided that that installation complies in full with all applicable requirements laid down in Union law.

Where recycling operations are carried out in several steps at more than one facility, the correction only applies if all recycling steps are being carried out in installations operating in

the Union. The sole production of black mass from waste batteries in the Union shall not qualify for the application of the correction factor, if its further processing is not also carried out in the Union.

The correction factor shall only be attributed once for material going through subsequent steps throughout the value chain. The attribution shall be made at the value chain step immediately following the recycling step and shall not be repeated when calculating recycled content in output fractions of the subsequent processing steps.

Where recycling operations are carried out at more than one facility operating in the Union, the correction factor shall be attributed at the value chain step immediately following the last recycling step.

The correction factor shall only apply to the mass of recycled content present in the concerned input fractions pursuant to Section 2.4.2.

Where an installation is using as input fractions both materials recycled in the Union and materials recycled in third countries during the same accounting period, the correction factor shall only apply to the share of material recycled in the Union that is present in the input fractions.

Where the application of the correction factor would result in a calculated recycled content in output fractions superior to 100 %, the recycled content of the considered output fractions shall be set at 100 %.

2.3. Data collection and processing

2.3.1. Data collection from upstream supply chain actors

Battery manufacturers shall collect the evidence and information determining the input data for the recycled content calculations of the battery by setting up a traceability system that spans the entire supply chain. To this end, battery manufacturers shall ensure that all supply chain actors involved:

- choose an accounting period pursuant to Section 2.2.3;
- collect and store dated certificates or proof of buying input fractions and selling output fractions and certificates of proof that inputs originate from battery manufacturing waste or post-consumer waste;
- collect the data to perform the calculations pursuant to Section 2.3.2.
- collect and store for a period of at least 10 years digital records for a contiguous series of accounting periods that encompass a minimum total duration of one year prior to the date where outputs leave the plant;
- calculate correctly the recycled content pursuant to Section 2.4;
- pass on the data pursuant to Section 2.3.2, including the recycled content, to their direct downstream actor;
- provide the notified body access to the documentation that supports the data used for the calculation of the recycled content, in an unrestrained manner and free of charge.

2.3.2 Data for the calculations

The below information and data shall be recorded for all transactions taking place at the manufacturing plant over the accounting period:

(a) a description of the materials, including:

(i) input / output fraction identifier;

(ii) trade name and type;

(iii) quantity of material received / shipped;

(iv) mass of cobalt, nickel, lead and lithium present;

(v) recycled content of the cobalt, nickel, lead and lithium.

(b) Transaction information:

(i) date of shipment / receipt;

(ii) name and address of the supplier / customer;

(iii) information on the existence of an eligible contractual agreement, if applicable

(iv) information on the Union origin of the recycled material, if applicable.

2.3.3 Digital calculation tool

Calculations shall be done in a digital calculation tool, for example one or more spreadsheets or an accounting software. The digital calculation tool shall contain, in a digital database, identifiers for all inputs and outputs fractions of the manufacturing plants. The digital database shall at least include the data referred to in Section 2.3.2.

2.4. Calculations for output fractions produced during the accounting period

2.4.1 General

In the calculations, material X is cobalt, lithium, nickel or lead:

(a) Recycled material X refers to cobalt, lithium or nickel that is destined for or present in active materials of industrial batteries with a capacity greater than 2 kWh, except those with exclusively external storage, electric vehicle batteries, SLI batteries or LMT batteries, and that has been recovered from battery manufacturing waste or post-consumer waste, and the lead that is destined for or present in industrial batteries, electric vehicle batteries, LMT batteries or SLI batteries and that has been recovered from waste, for each battery model per year and per manufacturing plant.

(b) Primary material X refers to cobalt, lead, lithium or nickel that is destined for or present in active materials of industrial batteries, electric vehicle batteries, SLI batteries or LMT batteries, derived from primary raw materials or waste materials not listed under point (a).

The recycled content of a material X is expressed in mass percentage, [mass %]. That parameter shall be available and calculated for all input fractions, output fractions, and materials that are stored at the production plant. The mass of recycled material X used as an input to a production process at the production plant shall be recorded.

2.4.2. Mass of recycled material of output fractions produced during an accounting period

The mass of recycled material at the output of production processes shall be calculated from the mass of recycled material at input as follows:

$$m(X)_{rec,output,no-toll} = m(X)_{rec,input,no-toll} * cf \quad \textbf{(1a)}$$

$$m(X)_{rec,output,toll} = m(X)_{rec,input,toll} * cf \quad \textbf{(1b)}$$

Under the conditions described in Section 2.2.5 for the calculation of lithium, nickel and cobalt recycled content at the step of the value chain following the last recycling step, the calculation shall be modified as follows:

$$m(X)_{rec,output,no-toll} = (m(X)_{recEU,input,no-toll} * 1.3 m(X)_{recTC,input,no-toll}) * cf \quad \textbf{(1a')}$$

$$m(X)_{rec,output,toll} = (m(X)_{recEU,input,toll} * 1.3\ m(X)_{recTC,input,toll}) * cf \quad \textbf{(1b')}$$

Where:

- **m(X)rec,output,no-toll** is the mass of recycled material X, not covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in tonnes]
- **m(X)rec,output,toll** is the mass of recycled material X, covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in tonnes]
- **m(X)rec,input,no-toll** is the mass of recycled material X, not covered under the toll-treatment mechanism or other eligible contractual agreements, serving as inputs for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]
- **m(X)rec,input,toll** is the mass of recycled material X, covered under the toll-treatment mechanism or other eligible contractual agreements, serving as input for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]
- **cf** is the conversion factor for the material X at the plant level over the accounting period. The conversion factor shall be established by subtracting from the mass of the input fraction losses in the system due to leakage, processing efficiency, conversion efficiencies or any other factors that reduce the total pool of material available for accounting to plant outputs, and dividing the resulting amount by the mass of the input material. It may also be calculated based on the product yields and metal contents of the inputs and outputs. The conversion factor shall be 1 if no process losses occur.
- **m(X)recEU,input,no-toll** is the mass of recycled material X obtained from the recycling of battery manufacturing waste or post-consumer waste in the Union, not covered under the toll-treatment mechanism or other eligible contractual agreements, serving as inputs for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]
- **m(X)recEU,input,toll** is the mass of recycled material X obtained from the recycling of battery manufacturing waste or post-consumer waste in the Union, covered under the toll-treatment mechanism or other eligible contractual agreements, serving as input for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]
- **m(X)recTC,input,no-toll** is the mass of recycled material X obtained from the recycling of battery manufacturing waste or post-consumer waste in third countries, not covered under the toll-treatment mechanism or other eligible

contractual agreements, serving as inputs for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]

– **m(X)recTC,input,toll** is the mass of recycled material X obtained from the recycling of battery manufacturing waste or post-consumer waste in third countries, covered under the toll-treatment mechanism or other eligible contractual agreements, serving as input for the production processes within the manufacturing plant during the rolling accounting period [in tonnes]

2.4.3. Recycled content of output fractions produced during the accounting period

The recycled content shall be calculated for output fractions covered by the toll-treatment mechanism or other eligible contractual agreements and remaining output fractions, as follows:

$$ReCo(X)_{o,no\text{-}toll} = \frac{\Sigma m(X)\ rec,output,no-toll}{\Sigma m(X)output,no-toll} * 100 \qquad \textbf{(2a)}$$

$$ReCo(X)_{o,toll} = \frac{\Sigma m(X)\ rec,output,toll}{\Sigma m(X)output,toll} * 100 \qquad \textbf{(2b)}$$

Where:

– **ReCo(X)o,no-toll** is the recycled content of the material X of an output fraction, not covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in mass %]

– **Σm(X)rec,output,no-toll** is the mass of recycled material X, not covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in tonnes]

– **Σm(X)output,no-toll** is the total mass of, primary and recycled, material X of the output fraction, not covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in tonnes]

– **ReCo(X)o,toll** is the recycled content of the material X of an output fraction, covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in mass %]

– **Σm(X)rec,output,toll** is the mass of recycled material X, covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during an accounting period [in tonnes]

– **Σm(X)output,toll** is the total mass of, primary and recycled, material X of the output fraction, covered under the toll-treatment mechanism or other eligible contractual agreements, produced at the manufacturing plant during the rolling accounting period [in tonnes]

2.5. Calculation of the documented recycled content provided by the battery manufacturer

Based on the calculations for the accounting periods, the battery manufacturer shall calculate the recycled content for each battery model per year and per manufacturing plant.

The battery manufacturer shall determine the year of documentation, which may correspond to a calendar year or a bookkeeping year. The calculation of the documented recycled content shall be part of the technical documentation referred to in Annex VIII to Regulation (EU) 2023/1542. The calculation shall be repeated for each subsequent 12 months documentation period.

The documentation shall reflect the calculation results of the accounting periods in which batteries of a specific model produced over the year of documentation are produced and CE marked.

$$documented\ ReCo(X_{EU}) = \left(\frac{\sum_1^A ReCo(X)_o \times mass_{ref}}{total\ mass_{ref}}\right) \quad \textbf{(4)}$$

Where:

- **documentedReCo(XEU)** is the documented recycled content of a material X contained in the battery model per year and per manufacturing plant, placed on the Union market [in mass %];
- **A** are the accounting periods contained in the year for documentation;
- **ReCo(X)o** is the recycled content of the material X, determined using equations (2a) and (2b), for a battery model produced at a manufacturing plant during a specific accounting period [in mass %];
- **massref** is the mass of material X contained in the battery model produced at the manufacturing plant during a specific accounting period [in tonnes];
- **total massref** is the total mass of material X in the battery model produced at the manufacturing plant during the period of documentation [in tonnes].

3. VERIFICATION RULES

3.1. Recycled content study

The study supporting the recycled content share referred to in point 2, second paragraph, point (i), of part B and point 2, point 1, third paragraph, point (i), of Part C of Annex VIII to Regulation (EU) 2023/1542 shall document in a systematic, orderly and comprehensive manner all steps taken for calculating the recycled content and the evidence and information determining the input data for those calculations. Battery manufacturers shall use the format in Section 4 to document input data and calculated data and recycled content.

For each documentation year, the study shall be prepared or updated in line with the calculation of the documented recycled content pursuant to Section 2.5

All operators across the value chain shall measure and record relevant data at the level of their manufacturing plant across the value chain.

Data associated to a manufacturing plant other than the battery manufacturing plant shall relate to the recycled content of output fractions produced during the accounting period at plant level. As a result, documentation including Tables 1 to 4 shall be drawn up, stored and made available to notified bodies by operators at each step of the value chain at manufacturing plant level.

3.2. Responsibilities of notified bodies

The notified body shall assess whether the documented recycled content meets the requirements set out in this Annex. It shall verify that data and information used for the calculation of the recycled content are consistent, reliable and traceable and that the calculations performed are correct.

The assessment shall include a review of the recycled content study, including its documentation established pursuant to Section 4, provided by the battery manufacturer. The assessment shall also include a review of the documentation established by value chain operators at the different steps of the value chain, including the battery manufacturing, the cell manufacturing, the manufacturing of cathode active material and precursors for cathode active material, the metal refining and recycling.

If appropriate, the assessment shall also include an assessment visit to: (i) the manufacturer's premises; (ii) the cell production premises; (iii) the premises for the production of cathode active material; (iv) the premises for the production of precursors for cathode active material; (v) the metal refining premises; and (vi) where considered important on the basis of the recycled content study, any other manufacturing sites that are part of the value chain.

In view of completing their assessment, the notified bodies shall:

(a) verify that the battery manufacturer and its identified supply chain partners, based on the information and data required for all transactions pursuant to Section 2.3, have duly implemented digital calculation tools and correctly applied the calculation methodology pursuant to Section 2.4, as required;

(b) review and confirm that the battery manufacturer and its supply chain actors operate a time-continuous and contiguous inventory system for recycled content, that properly links recycled content in material supply, materials in storage, and output fractions resulting from production process;

(c) Verify that no double-counting of input fractions is applied;

(d) Verify that data linked to specific identifiers corresponds across the databases of consecutive supply chain actors, in order to ensure data consistency and integrity;

(e) Verify the accuracy and reliability of data used for the calculation of recycled content;

(f) review and confirm that the battery manufacturer and its supply chain actors have executed the calculation methodology pursuant to Section 2.5, with a particular emphasis on the supporting information and calculations under the toll-treatment mechanism and other eligible contractual agreements and on the allocation of recycled content credits to materials subject to the toll-treatment mechanism and other eligible contractual agreements, if applied;

(g) verify that supply chain actors store the data accordingly.

To check the reliability of data used for the calculation of the recycled content, the notified body may request data and information for review from upstream supply chain actors, including suppliers of battery modules, cells, precursor active materials, refined metals, and raw material, in line with its operational obligations pursuant to Article 33 of Regulation (EU) 2023/1542. This may include evidence that inputs originate from waste materials from recyclers that perform the first processing stage of waste materials.

Notified bodies shall not share sensitive data, such as the identity of suppliers, with other supply chain actors with whom the supply chain actor concerned does not have a direct relation, unless consent is being given by that supply chain actor.

4. FORMAT FOR THE DOCUMENTATION

Battery manufacturers and other operators across the value chain shall use the format in this section to document input data and calculated data and recycled content. The format for documentation includes tables for collecting and presenting the different data necessary to calculate and verify the documented recycled content for each battery model per year and per manufacturing plant.

Tables 2, 3 and 4 shall be reproduced and established for each accounting period composing the 12 months documentation period. Table 5 presents the calculation of the documented recycled content and is based on data from all the accounting periods composing the 12 months documentation period.

Data included in the tables shall be expressed in tonnes when reference is made to the mass and in mass percentages when reference is made to recycled content.

The obligation to draw up the study supporting the recycled content rests with the battery manufacturer. The battery manufacturer shall calculate the documented recycled content for each battery model per year for its manufacturing plant. To this end the documentation drawn up by the battery manufacturer shall contain Table 1 to 5

In addition, all operators across the value chain shall measure and record relevant data at the level of their manufacturing plant across the value chain. Data associated to a manufacturing plant other than the battery manufacturing plant shall relate to the recycled content of output fractions produced during the accounting period at plant level. As a result, documentation including Tables 1 to 4 shall be drawn up, stored and made available to notified bodies by operators at each step of the value chain at manufacturing plant level.

Table 1

Manufacturer		
Manufacturing plant	Street	
	Postal code	
	City	
	Country	
	Contact person	
	Tel	

	Email	

Table 2

Battery model						
Material	*[Note 1]*					
Rolling accounting period	from		to		duration	

Table 3

Data on output fractions produced during the rolling accounting period					
Conversion factor	*[Note 2]*				
For output fractions produced under an eligible contractual agreement *[Note 11]*					
		Mass in input fraction of		Mass in output fraction of	
Output fraction identifier	Input fraction obtained from waste recycled in an installation established in the Union (YES/NO)	Recycled material [t]	Total material [t]	Recycled material [t] *[Note 3]*	Total material [t]
Total under contractual agreement	Total Union				
	Total Third Countries				
	TOTAL				
For output fractions produced outside the scope of an eligible contractual agreement *[Note 11]*					
		Mass in input fraction of		Mass in output fraction of	
Output fraction identifier	Input fraction obtained from waste recycled in an installation established in the Union (YES/NO) *[Note 10]*	Recycled material [t]	Total material [t]	Recycled material [t] *[Note 4]*	Total material [t]
Total outside of a	Total Union				

contractual agreement	Total Third Countries				
	TOTAL				

Table 4

Recycled content of output fractions produced during the rolling accounting period						
For output fractions produced under an eligible contractual agreement *[Note 11]*						
Total mass of recycled material in output fractions produced under an eligible contractual agreement [t]	*[Note 5]*	Total mass of material in output fractions produced under an eligible contractual agreement [t]	*[Note 5]*	Calculated recycled content of the output fractions produced under an eligible contractual agreement [%]	*[Note 6]*	
For output fractions produced outside the scope of an eligible contractual agreement *[Note 11]*						
Total mass of recycled material in output fractions produced outside the scope of an eligible contractual agreement [t]	*[Note 5]*	Total mass of material in output fractions produced outside the scope of an eligible contractual agreement [t]	*[Note 5]*	Calculated recycled content of the output fractions produced outside the scope of an eligible contractual agreement [%]	*[Note 7]*	

Table 5

Document recycled content over a 12 months period						
Documentation period	from		to			
	Mass of reference [t]	Recycled content [%] *[Note 8]*				
Accounting period 1				Calculated recycled content [%]	*[Note 9]*	
to						
Accounting period N						
Total mass of reference						

Note 1 : lithium, nickel, cobalt or lead

Note 2: establishment of the conversion factor shall be explained and documented

Note 3: shall be derived from equation (1b), or equation (1b') where relevant

Note 4: shall be derived from equation (1a), or equation (1a') where relevant

Note 5: data shall be consistent with data presented in table 3

Note 6: shall be derived from equation (2b)

Note 7: shall be derived from equation (2a)

Note 8: data shall be consistent with recycled content calculated for each accounting period presented in table 4

Note 9: shall be derived from equation (4)

Note 10: this column in table 3 is only applicable for the process directly following recycling operations and shall not be included for any other subsequent steps in the value chain.

Note 11: eligible contractual agreement in table 3 and table 4 means toll-treatment mechanism or other eligible contractual agreement.

Rapor Adı	**AB Batarya Tüzüğü Danışma Süreci**
Görüş Veren Kurum/Birim	

Başlık	**Sayfa No**	**Görüş/Yorum**