



To: European Commission DG Environment

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Object: Battery Recycling Regulation – draft Delegated Regulation on calculation methodologies.

Dear Mr Ciobanu-Dordeau,

The European Sustainable Phosphorus Platform ([ESPP](#)), is a membership-funded association bringing together a wide range of companies, research organisations and public bodies, engaged in stewardship of phosphorus, a non-renewable resource and EU Critical Raw Material.

Our attention has been called by the recycling industry concerning phosphorus in the EU Battery Recycling Regulation 2023/1542 and the draft daughter Regulation on methodology for calculation and verification of rates for recycling efficiency and recovery of materials in battery recycling. We are aware that we have missed the [public consultation](#) on this daughter Regulation but we hope that the following input will be useful for you.

Phosphorus is included in the EU Critical Raw Materials Act [2024/1252](#), both as the element P in any form (the EU CRM “Phosphate Rock”) and also specifically for P₄ (= the specific form white phosphorus and its derivatives, the EU CRM “Phosphorus”). Both purified phosphoric acid and P /derivatives are essential for different battery components, including fire safety of plastics and composites (battery casings, structures, electrical insulation, cables and connectors, cell separator membranes), cathode materials (Lithium Iron Phosphate and Lithium Manganese Iron Phosphate = LFP and LMFP batteries), organic electrolytes of lithium ion batteries (lithium fluoro phosphate). The phosphorus content of batteries is expected to considerably increase with roll-out of LFP batteries (see ESPP’s [SCOPE Newsletter n°151](#)) because these offer important safety and length-of-lifetime (durability) benefits compared to current lithium ion batteries, as well as potentially lower overall cost. LFP is today the dominant technology overall for electric vehicle and grid storage batteries: <https://www.renaysys.energy/news/the-dominance-of-lfp-in-the-global-battery-market> and demand for phosphorus for batteries is expected to multiply by a factor of 7 to around 2.3 million tonnes P/year in the coming decade (note: 2.3 MtP = 5.3 MtP₂O₅ - this considers use in cathodes only, not in electrolytes, fire safety, etc). This is nearly 15% of current total world phosphate rock P extraction (CRU analysis in ESPP’s [SCOPE Newsletter n°151](#)).

The EU Battery Recycling Regulation 2023/1542 does not refer specifically to phosphorus, but includes in Annex VI the obligation that labelling must indicate all EU Critical Raw Materials (CRMs) present at > 0.1% by weight. ESPP notes that this concerns both

phosphorus (the element in any form = the EU CRM “Phosphate Rock”) and P₄/derivates (the EU CRM “Phosphorus”). This 2023/1542 Battery Recycling Directive refers in Annex XII to overall recycling targets by % total weight of the battery (“rate of recycling efficiency”, Annex XII part B) and to specific material recovery targets for five elements (Annex XII part C): cobalt, copper, lithium, nickel and lead.

Because phosphorus is an EU Critical Raw Material, with EU imports from Russia today a significant issue, and given that LFP is the dominant battery technology, **ESPP suggests that a delegated Regulation be considered (as specified in art. 71(6)) to add phosphorus to the list of five elements with specific recycling targets in Annex XII-C of the EU Battery Recycling Regulation 2023/1542.**

The proposed [draft](#) ‘daughter’ Delegated Regulation, as published for the public consultation, required (in point 3) calculation for the five specific materials (Annex XII part C of 2023/1542) and (in point 2) calculation for the % recycling of total battery weight (Annex XII part B of 2023/1542). For this calculation under point 2, the draft text (point 2-5) indicates that *“Oxygen, carbon from carbon sources at cell level, iron from iron sources at cell level, phosphorus, chlorine, and sulphur may be taken into account ...”*.

ESPP suggests that this wording of point 2 should be revised to improve clarity and to ensure coherence with the EU CRM Act, with Annex VI of 2023/1542 (labelling) and with the tables in points 7 and 9 of the proposed daughter Regulation.

- The current text, using the word “may”, suggests that recyclers can choose whatever combination they wish of some or all of the elements cited in point 2. A recycler could thus, for example, calculate the recycling efficiency based solely on the % of sulphur recycled. This seems undesirable.
- It is surprising that the five elements indicated in Annex XII-C of 2023/1542 are not included in this list.
- The list of elements which “may” be taken into account in point 2 is different from the lists in tables in points 7 and 9: these tables include both the five 2023/1542 Annex XII-C elements and also additionally manganese (a CRM) and aluminium (a Strategic CRM). This seems incoherent.
- The wording of point 2 (“may be”) seems contradictory to the wording of points 7 and 9 (“shall be”).
- 2023/1542 requires declaration (labelling, Annex VI) of any CRM present at > 0.1% of total weight, but the proposed daughter Regulation does not then take into account recycling of such declared CRMs.
- The CRM Act 2024/1252 requires Member States to implement programmes to incentivise technological progress and improvement of resource efficiency to increase the use of secondary critical raw materials (Art. 26(1)) and that the Commission adopt implementing acts to specify products and waste streams with relevant critical raw materials recovery potential (Art. 26(7)). The proposed daughter Regulation text seems to miss an opportunity to contribute to implementation of this CRM Act requirement.

ESPP suggests to modify point 2 to specify:

- “must” be taken into account: any Critical Raw Material (as listed in in 2024/1252) present at >0.1% (the level specified in Annex VI of 2023/1542), plus add a list of other elements considered significant in the context of batteries (could be the current list: oxygen, carbon from carbon sources at cell level, iron from iron sources at cell level, sulphur – plus aluminium)
- “may also” be taken into account: possible list of other optional elements
- Modify wording of tables under points 7 and 9 to ensure listing of all elements included in point 2 and to indicate “optional” for elements specified “may also” in point 2 and for any other elements not listed in point 2.

We hope that you will consider these proposals and would be happy to provide any further information or to try to answer any questions you have, in consultation with our network of stakeholders and industry.

Yours sincerely



Robert Van Spingelen, President, European Sustainable Phosphorus Platform