EUROBAT
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Position paper on Recycled Content in the new Batteries Regulation[1]

Our suggestions to policy-makers

1. **Mandatory levels of recycled content will have several negative effects:**
   - The **real administrative costs are 2-3 orders of magnitude higher** than those assumed in the impact assessment, making the proposal impractical
   - **The availability of secondary raw materials** will remain low for several years
   - **The environmental and economic benefits of mandatory targets** have not been properly assessed
   - Only having mandatory targets at EU level could result in a split of materials, with **secondary materials used only in batteries sold in the EU** and zero net global effect
   - The **performance of certain batteries** will be negatively impacted if recycled materials are required to be used

2. **Compliance verification is a challenge**, above all for imported batteries: a large number of certificates would be required and it would be impossible to carry out testing

3. **Consider the possibility of setting up targets only at a later stage**: The methodology to calculate the recycled content is not available, so it is impossible to properly assess the feasibility of the targets

4. **Focus the scope on specific applications**: Electric vehicle and stationary energy storage batteries

5. **Adapt the timeline to the task and priorities**: Grant 24 months between the adoption of the implementing act and their implementation

1. Mandatory levels of recycled content will have several negative effects

The battery industry is already committed to the general objectives of the provisions on recycled content, such as promoting the increased use of recovered materials and supporting the further development of the circular economy. For some battery technologies, this is already a reality. Lead and nickel batteries are already collected and recycled in the EU, and the recycled materials are already used to manufacture new batteries. For lithium-ion batteries, the situation is of course different, and depends on the relative complexity of the battery, which generally includes low percentages of many different materials, as well as on the low volume of waste batteries available.

However, even if we can understand the rationale for setting up requirements on recycled materials, we are worried that these measures might have little environmental benefit, or even result in several unintended consequences with negative effects for the competitiveness of the European battery industry. Overall, incentives and governmental support on setting up and reinforcing the recycling

[1] With this position paper, EUROBAT would like to provide its position on the proposal to regulate recycled content in batteries, as described in article 8 of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

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supply chain would have more positive effects on recycling than mandatory targets that have a whole host of unintended consequences.

- **The real administrative costs are 2-3 orders of magnitude higher than those assumed in the impact assessment, making the proposal impractical**

The administrative burden and related costs for the industry are a key concern, above all because there is an important difference in the granularity level between the impact assessment and the proposed regulation.

The administrative cost estimated in the impact assessment is based on the "battery type", and it assumes that each battery plant produces on average five different types of batteries. Consequently, each battery plant would have to prepare five declarations. Considering an estimate of 48 battery plants in Europe, the impact assessment concludes that the total cost for the industry would be between 1 and 7 million euro.

However, the proposed regulation does not ask to provide a declaration per battery type, but mandates to create documentation for "each battery model and batch per manufacturing plant". Considering that each battery plant potentially produces several models and batches each day, the number of declarations to prepare would not be five. Instead, it would be in the range of hundreds per year, resulting in real administrative costs 2-3 orders of magnitude higher than those assumed in the impact assessment. This economic cost would clearly offset any potential benefit and make the entire proposal counterproductive, if not simply inapplicable. At the very least, the proposal should be simplified and only take into account the battery model produced in each battery plant, removing the reference to the batch. In addition, the scope of the proposal should be reassessed and refocused on some specific applications to reduce the burden for the industry.

Even considering these changes, the administrative cost would be much higher than the one estimated in the impact assessment, and it should be recalculated considering the actual impact of the regulation.

- **The availability of secondary raw materials will remain low for several years**

A key concern is also the availability of secondary raw materials. This is less of a concern for established battery technologies, for instance lead batteries, but it is a major hurdle for the materials used in lithium-ion batteries.

As indicated by every market analysis, sales of lithium-ion batteries will grow exponentially in the coming years. However, batteries placed on the market today will reach their end of life only after 10-15 years. The raw materials recovered from those batteries will clearly be insufficient to manufacture the much higher number of batteries needed in 2030 and 2035. This was also recognised by the analysis the Öko-Institute developed in preparation for the impact assessment on the new Batteries Regulation: "Especially, for critical metals needed in rapidly growing markets, e.g. Li, Co in lithium ion batteries, not enough secondary materials will be available up to 2035 to specify relevant shares of

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recycled content in batteries placed on the market". The impact assessment concludes similarly that, in the case of nickel, "it will take several years before recovered nickel can cover a significant percentage of the nickel used for manufacturing of new batteries". Similar conclusions are valid also for cobalt and lithium.

Besides, these targets should also be reconsidered taking into account technological evolution in battery technologies and recycling processes, which could alter supply and demand, and therefore prices and availability, of key metals used in batteries.

In addition, we should also consider the impact of battery reuse and remanufacturing. If we artificially extend the lifetime of electric vehicle batteries to reuse them in stationary applications, those batteries will not enter the recycling stream until 15-20 years after their production, with negative effects on the availability of secondary raw materials.

- **The environmental and economic benefits of mandatory targets have not been properly assessed**

A key problem of the impact assessment is the comparison with the baseline. In the case of lithium, nickel and cobalt, the (low) environmental benefits are based on a direct comparison between the suggested recycled content targets and a baseline scenario where only primary materials are used in the manufacturing of new batteries. There is simply no evidence that, without mandatory targets, secondary materials will not be used in the manufacturing of new batteries. The example of the existing recycling industry of lead and nickel-cadmium batteries actually goes in the opposite direction. Secondary lead and cadmium are already reused in the manufacturing of new batteries. There is actually a strong case for the reuse of these materials, regardless of the mandatory targets. The Batteries Directive already mandates battery manufacturers to collect and recycle their batteries, and the manufacturers have a strong economic incentive to reuse materials as much as possible to decrease the costs related to the supply of raw materials. Therefore, it seems reasonable to expect that the environmental benefits are overestimated, since at least some reuse of recovered materials would happen anyway.

Specifically on lead, the impact assessment estimates a value of 67% secondary lead used in new batteries in 2020. No sources are provided for this value and we therefore do not know how it has been calculated. From the industry point of view, recycled content of lead can be higher than 80%, depending on the application. Certain batteries require higher values of primary materials for performance reasons, but in general, lead batteries already use recycled lead.

- **Only having mandatory targets at EU level could result in a split of materials, with secondary materials used only in batteries sold in the EU and zero global effect**

The impact assessment points to another potential unwanted effect of the proposal. If only the EU adopts targets for recycled content, it is likely that some manufacturers could develop different products for the EU and non-EU markets. Manufacturers might simply use their available secondary

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materials for batteries sold in the EU, and use only primary materials for those sold outside the EU. As a result, there would be no effect on the overall share of secondary materials. The impact assessment clearly says "it must be ensured that such "double" standard do not result from the introduction of minimal levels of recycled content", but it does not practically suggest how to do it. It is also quite difficult to avoid placing products without recycled materials on extra-EU markets, since the EU has no influence there.

- **The performance of certain batteries will be negatively impacted if recycled materials are required to be used**

Depending on the type of battery, higher levels of recycled content might also have an impact on performance. For instance, in the case of lead various applications require the use of a minimum amount of primary lead (e.g. certain sealed batteries designed for high performance specification require extremely pure lead as the basis for the active material). These batteries often require primary lead for the active material; some use primary in the negative and positive active materials as well as grid material depending on the application. Hence, the recycled content is limited to lower levels of the total lead content. For other electrochemical systems this concern is even bigger, as there is no experience with these amounts of recycled materials at all. Considering the potential impact on performances of high levels of recycled content, the decision on the amount of recycled materials to be used should be left to the manufacturers and their customers.

2. **Compliance verification is a challenge: a large number of certificates would be required and it would be impossible to carry out testing**

A direct consequence of the complexity of reporting is also the difficulty for market surveillance authorities to check the compliance of products placed on the EU market. It would be almost impossible to carefully and properly check the compliance of hundreds of thousands of declarations for "each battery model and batch per manufacturing plant".

However, even if the system is streamlined and the administrative burden reduced, there are serious doubts about the effectiveness of the verification system. Secondary materials cannot be reliably distinguished from primary materials, so the entire system would have to rely on certification and third party auditing, since testing is not possible. It is unclear how such a system could ensure that batteries imported into the EU respect the same rules as those produced in the EU. The impact assessment and the proposed regulation do not really address this key point.

3. **Consider the possibility of setting up targets only at a later stage**

The points expressed above on the unwanted effects of mandatory levels of recycled content already call for a very cautious approach. In addition, it should be considered that the proposal is already calling for setting up mandatory targets on recycled content, but no methodology is available on how

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to calculate that content. Today, we simply have no agreed methods to do it, and the result can change substantially depending on the scope of the proposal, its definitions and measurement system. Therefore, it is very difficult to assess the feasibility of the proposed targets, also considering that it is extremely difficult to predict the availability of recycled materials in 10-15 years. Furthermore, the possible development of battery reuse and repurposing, which will result in a decrease of waste volumes going into recycling, creates an additional level of uncertainty. Any targets will almost inevitably be suboptimal – if too high, they will limit the production of batteries, and if too low, they will have no impact.

Besides, these targets do not really take into account technological evolution and the interaction with other markets: for instance, recycled materials recovered from batteries could be used also in other applications. In this situation the targets would artificially increase the price of raw materials and distort the market, making it difficult for battery manufacturers to comply with the requirement.

For these reasons, it would be preferable to avoid setting up targets. First steps should be the development of a methodology, the collection of data on the current use of recycled and primary materials and the technical aspects that required the use of these materials. The establishment of a mandatory declaration and targets should be discussed later on, once more data is available, in line with the approach retained for the establishment of CO_2 footprint classes.

4. Focus the scope on specific applications: electric vehicle and stationary energy storage batteries

The carbon footprint requirements in the proposal would apply to electric vehicle batteries, rechargeable industrial batteries and automotive batteries with an internal storage and capacity above 2 kWh. As already explained in the above section on carbon footprint, 'industrial batteries' is a very broad and diverse category, including hundreds of very different products and several battery technologies. A non-exhaustive list of batteries falling under this category includes batteries for stationary storage at different grid-levels (large power plants and solar parks, ancillary services at grid-level, residential storage), off-grid applications, telecom towers, uninterruptable power supply (UPS), back-up power batteries for aircraft and railways, batteries for motive power (forklift trucks, ground support equipment, cleaning machines, golf carts, construction and agricultural machines) and so on. In some cases, tailor-made industrial batteries are manufactured in very low volumes to answer the needs of individual customers. Considering this variety, we challenge the proportionality of applying this requirement to the entire category of industrial batteries. In addition, only a very limited number of automotive batteries have a capacity above 2 kWh. The actual benefit of including them in the scope is, therefore, extremely questionable.

For this reason, and for consistency, if the declaration on recycled content will be deemed necessary after the methodology has been developed, we would suggest that the scope of this proposal should be clarified and focused on specific applications – that is, electric vehicle batteries and grid connected stationary energy storage batteries. Given this more targeted scope, it would also be possible to

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remove the 2 kWh threshold, since all electric vehicle batteries and grid connected stationary energy storage batteries are generally well above this threshold.

5. **Adapt the timeline to the task and the priorities**

A last point to consider is related to the timeline of this proposal, particularly in relation to the implementation. The proposal currently foresees only one year between the adoption of the implementing act and the obligation to declare the recycled content of batteries. This is clearly not enough to adapt to a completely new requirement. If a declaration will be deemed necessary, at least 24 months should be granted between the adoption of the implementing act and the obligation to declare the recycled content.