EUROBAT

ASSOCIATION OF EUROPEAN AUTOMOTIVE AND INDUSTRIAL BATTERY MANUFACTURERS

BATTERIES REGULATION

EUROBAT position paper on the proposal for a regulation 2020/353 concerning batteries and waste batteries

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Position paper on the proposal for a new Batteries Regulation

Our suggestions to policy-makers

1. **Streamline administrative processes** for industry and national authorities
2. Similar sustainability requirements should also be developed for **products directly competing with electrochemical batteries**, to correctly inform the user and support them in making the most sustainable choice
3. Adjust the **number of secondary acts** to where it is really impactful and propose **adequate timelines** to develop robust methodologies (e.g. on carbon footprint)
4. **Re-assess the numerical targets** once the methodologies have been developed
5. Clarify how the market access criteria on batteries will be tested and enforced, especially for those **batteries imported into the EU**
6. **Make use of the well-established REACH and OSH Regulations** when regulating hazardous substances in batteries and **refrain from creating a new parallel process** in the Batteries Regulation
7. Focus the **scope** of sustainability criteria on "electric vehicle batteries" and "stationary energy storage batteries"
8. Consider the **specificities of each battery technology and application** when developing these sustainability methodologies
9. **Standards should be developed by Standardisation Committees**, not by the Commission; hence, we strongly recommend removing Article 16
10. Adopt a **careful approach on recycled content**, assessing the possibility of establishing targets only after a detailed methodology has been adopted
11. **Avoid duplication of labelling and information systems,** and clarify the purpose and audience of the information and information systems
12. EUROBAT supports the **obligation to establish supply chain due diligence policies**
13. Clarify unequivocally which actor must be considered as the producer in view of the application of the **extended producer responsibility**
14. Include a **grandfather clause** to avoid the retroactive application of the regulation

Structure and Transparency

1. The proposal has a **good general approach**. it considers all stages of a battery's lifetime, from production to use phase and end of life management, and it does so having in mind the interactions between chemicals management, environmental protection and industrial competitiveness. Turning the Batteries Directive into a Regulation is also welcomed by the battery industry, since it can be a step towards a level-playing field at EU level, reducing differences among national markets. However, definitions and scoping should be carefully assessed in relation to the obligations mandated, having in mind the specificities of each application and technology. Furthermore, some provisions risk creating a **very high administrative burden for the industry**. For example, the provisions on Labelling (Art. 13), Conformity of Batteries (Chapter IV), End-of-life management (Chapter VII) and

Electronic exchange of information (Chapter VIII) are quite burdensome for the industry and also for national authorities, so should be streamlined.

2. The Batteries Regulation is the first example of the "**new generation" of environmental legislation** related to specific products. Indeed, several measures have almost no precedent, while other ones are completely new. Considering the strategic importance of the battery industry, we believe that a cautious approach on these measures is preferable, to avoid imposing excessive requirements on the industry. At the same time, we should acknowledge the fact that products which incorporate batteries compete with other products, including for instance internal combustion engine vehicles and other forms of stationary energy storage. It would therefore make sense that **similar requirements should also be developed for products directly competing with batteries**, to correctly inform the user and support them in making the most sustainable choice.

3. Another reason for concern is the **high number of delegated and implementing acts** included in the proposal. We wonder if the timeline proposed by the Commission will allow time to develop a solid methodology for the calculation of the carbon footprint. For instance, Product Environmental Footprint Category Rules are currently available only for lithium batteries for mobile applications, but not for lead or nickel batteries, or for stationary storage batteries. We would therefore recommend developing **a more reasonable timeline for the establishment of the methodology to calculate the total carbon footprint**, with different applicability to each technology and application once the respective methodology will be available. Besides, the carbon footprint methodology should ensure that GHG impacts from all actors in the supply chain of batteries are captured on the basis of their real and true emissions, and that the use of sectoral averages is limited to components that have marginal impacts relative to the complete battery footprint.

4. Numerical targets (e.g. on recycled content) are already established in the proposal, but the methodologies to calculate them are not. This makes it extremely complicated to assess the impact of the proposed measures, with negative consequences for business certainty. It will be paramount to **re-assess the targets once the methodologies have been developed.**

5. Finally, it is not clear **how the Commission plans to test, verify and enforce the criteria included in the Regulation for batteries imported into the EU**. This should be clarified as a priority, to protect the EU battery industry from unfair competition and EU citizens from non-compliant products.

Hazardous substance management

6. Multiplying competing processes to regulate hazardous substances[1] does not enhance the effectiveness of worker and environmental protections, but creates instability that is detrimental to the sustainable growth of a new industry needed for the energy transition. EUROBAT therefore urges the co-legislators to **make use of the well-**

[1] The use of substances in batteries is already regulated under REACH, OSH, ELV and the Batteries Directive. Simplification on the basis of horizontal legislation is of the essence.

established REACH and OSH Regulations when regulating hazardous substances in batteries and **refrain from creating a new parallel process** in the Batteries Regulation.

Carbon footprint, state of health reporting, performance and durability criteria

7. We welcome the Commission proposal to promote green batteries made in Europe by providing information and in some cases restricting market access to non-sustainable batteries. However, the original target of these measures[2] was only batteries for on-road electric vehicles and batteries for grid-connected stationary energy storage because of their relevance in the coming years and their potential for CO_2 and energy savings. Indeed, the industrial battery segment includes a huge variety of technologies and hundreds of real-life applications, from forklift trucks and batteries for telecommunications to elevators and uninterruptable power supply in data centres and hospitals. The proposal currently targets all industrial batteries, but we would strongly recommend limiting **the scope of these measures to "electric vehicle batteries" and "stationary energy storage batteries"**, as originally intended by the Commission when the ecodesign preparatory study on batteries was developed.

8. Extensions to other technologies and segments should be considered on the basis of their size and following a structured methodology combining technology and use, including impact assessment, CO_2 and energy savings potential and cost-benefit analysis. **The specificities of each battery technology and application should be considered when developing these methodologies**. It is unacceptable to assess the performance of a battery technology using the methodology developed for another technology.

9. In this vein, we found unacceptable that the Commission is planning to task the development of standards to the Joint Research Centre if the relevant harmonised standards developed by CEN CENELEC "are not sufficient" (Art. 16.b). Standards on batteries are developed internationally, in committees consisting of experts from all national standardisation committees in Europe. It is unacceptable that the Commission wants to take the place of national technical experts on matters which are by nature extremely technical and that refer to how the products are designed, produced and operated. We therefore **strongly suggest removing Article 16 in its entirety**, and to allow national, European and international standardisation committees to do their work on standards development.

Recycled content

10. We are quite surprised by the proposal of the Commission on recycled content. The Commission did not address any of the concerns that emerged during the stakeholders meeting and that were correctly reported in the Impact Assessment. For instance, there is no clarification on how the recycled content can be calculated and verified, above all for imported batteries, with the concrete risk of damaging the EU battery industry vis-à-vis international competitors. The scope of the measure, its application and the definitions are unclear, and do not allow to really assess the feasibility of the targets proposed. Besides, the availability of the materials is really a matter of an open global market, considering also the growth of the market and the push for second life applications, which is in

[2] The scope of the "Preparatory Study on Ecodesign and Energy Labelling of rechargeable electrochemical batteries with internal storage under FWC ENER/C3/2015-619- Lot 1" was in fact "high energy rechargeable batteries of high specific energy with solid lithium cathode chemistries for e-mobility and stationary energy storage (if any)".

direct contradiction with high levels of recycled content in new batteries. Finally, the measure will apply to all industrial, automotive and electric vehicle batteries, regardless of their characteristics: in some specific cases, high levels of primary materials are needed to ensure higher performances.

For these reasons, we suggest a **careful approach on recycled content, refraining from establishing targets at this early stage. The possibility to establish targets should be considered only at a later stage.**

Labelling

11. Article 13 refers to an exaggerated long list of information that will have to be provided together with the battery in different forms (printed or engraved on the battery, through a QR code and with a battery passport). This system would result in at least a **duplication of sources**, with consequent unnecessary administrative burden to maintain and operate several labelling systems. We would therefore suggest streamlining and unifying these processes, and limiting the information requirement to the label, the battery management system and an online database.

Supply chain due diligence policies

12. EUROBAT supports the obligation to establish supply chain due diligence policies laid down in Article 39. If Europe wants to produce the most sustainable batteries in the world, it is paramount to ensure that raw materials fundamental for the manufacturing of batteries are sourced respecting high environmental and social criteria, addressing also risks in the battery supply chain related to the protection of human rights.

Extended producer responsibility

13. The draft Battery Regulation does not really solve the problem of identifying unequivocally which actor must be considered as the producer, in view of the application of the **extended producer responsibility.** Depending on the conditions, the producer seems to be the original equipment manufacturer (for instance the carmaker), in other cases the battery manufacturer and in other cases both at the same time. This situation must be clarified by the legislator.

Avoid retroactivity on existing products

14. When this regulation will enter into force, some products will have already been sold or a purchasing agreement already signed. They will then be placed on the market when the regulation will already apply, even if those requirements were not valid when the original purchasing agreement was made. We therefore recommend including a grandfather clause for those products to avoid that the regulation is applied retroactively.

Definitions[3]

Our suggestions to policy-makers

Topic	Current definition	EUROBAT Proposal	Rationale
(1) Battery	any source of electrical energy generated by direct conversion of chemical energy and consisting of one or more non-rechargeable or rechargeable battery cells or of groups of them	any source of electrical energy generated by direct conversion of chemical energy and consisting of one or more non-rechargeable or rechargeable battery cells or of groups of them, and which is ready for use by the end-customer or in an application	Make sure that the requirements apply to the ready for use battery, and not to the components thereof, such as single modules, to avoid additional administrative costs for batteries, modules and packs produced in Europe compared with ready for use imported batteries
(6) battery with internal storage	a battery with no attached external devices to store energy	Remove the definition and delete "with internal storage" from all articles.	The case to exclude batteries with external storage is not made, thus the definition creates inconsistencies and uncertainties, the text refers sometimes to batteries, sometimes to batteries with internal storage
(7) portable battery	Means any battery that: – is sealed – weighs below 5 kg – is not designed for industrial purposes and – is neither an electric vehicle battery nor an automotive battery	Means a battery for light means of transport, or any battery that: – is sealed – weighs below 5 kg – is not designed for industrial purposes and – is neither an electric vehicle battery nor an automotive battery	This definition needs to be extended to capture batteries for light means of transport
(9) Light means of transport	wheeled vehicles that have an electric motor of less than 750 watts, on which travellers are seated when the vehicle is moving and that can be powered by the electric motor alone or by a combination of motor and human power	wheeled vehicles for road transport that have an electric motor of less than 750 watts, on which travellers are transported when the vehicle is moving and that can be powered by the electric motor alone or by a combination of motor and human power	• Exclude industrial motive applications • Cover also light means of transport where the passenger stands, but exclude drones
(9a) Battery for light means of transport	No definition in the current text	Any battery that: – provides traction for light means of transport – is sealed – weighs below 5 kg	This new definition is needed to make the extended definition of (7) 'portable batteries' easy to write and understand
(10) Automotive battery	any battery used only for automotive starter, lighting or ignition power	any battery designed for automotive auxiliary or back up	Include also auxiliary batteries

[3] Covering Article 2 of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

		purposes, starter, lighting or ignition power	
(12) Electric vehicle battery	any battery specifically designed to provide traction to hybrid and electric vehicles for road transport	any battery specifically designed to provide traction to hybrid and electric vehicles for road transport, excluding batteries for light means of transport	Explicitly exclude batteries for light means of transport from this category, which should be considered as portable
(13) stationary battery energy storage system	a rechargeable industrial battery with internal storage specifically designed to store and deliver electric energy into the grid, regardless of where and by whom this battery is being used	'stationary energy storage battery' means a rechargeable industrial battery specifically designed to store and deliver electric energy into the grid, regardless of where and by whom this battery is being used	An energy storage system is not a battery. Nor is a battery energy storage system the same as a battery. A battery energy storage system consists of one or more batteries and an electric power conversion system which converts the energy to the form which is compatible with the grid.
(17) battery model	any manufactured battery that is produced in series	any battery that is manufactured in series	"manufactured" is redundant
(21) QR code	a matrix barcode that links to information about a battery model	a matrix that links to information about a battery model	A "QR-code" is not a bar code. It does not comprise bars but only squares.
(22) Battery management system	an electronic device that controls or manages the electric and thermal functions of the battery, that manages and stores the data on the parameters for determining the state of health and expected lifetime of batteries laid down in Annex VII and that communicates with the vehicle or appliance in which the battery is incorporated;	an electronic system associated with a battery which has functions to control current in case of overcharge, overcurrent, overdischarge, and overheating and which monitors and/or manages its state, calculates secondary data, reports that data and/or controls its environment to influence the battery's safety, performance and/or service life	The main purpose of a battery management system is to ensure that all components operate safely within their specified ranges of parameters including voltage, temperature and current. Safety needs to be mentioned above function. The safety aspect must not be disregarded by picking the definition from a safety standard without mentioning safety. See IEC 62619, Secondary cells and batteries containing alkaline or other non-acid electrolytes - Safety requirements for secondary lithium cells and batteries, for use in industrial applications.
(24) state of charge	means the available capacity in a battery expressed as a percentage of rated capacity	Add: 'rated capacity' means the capacity, in ampere-hours or milliampere-hours, of a cell or battery as measured by subjecting it to a load, temperature and voltage cut-off point specified by the manufacturer	Rated capacity is used to define "state of health". However, a definition of rated capacity is missing. An acceptable definition for rated capacity can be found in the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria

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Hazardous Substance Management[4]

Our suggestions to policy-makers

Multiplying competing processes to regulate hazardous substances[5] does not enhance the effectiveness of worker and environmental protections, but creates instability that is detrimental to the sustainable growth of a new industry needed for the energy transition.
EUROBAT therefore urges the co-legislators to **make use of the well-established REACH and OSH Regulations** when regulating hazardous substances in batteries and **refrain from creating a new parallel process** in the Batteries Regulation.

All battery technologies use substances that have hazardous properties. For instance, lead, cobalt, nickel and cadmium are commonly contained in batteries. EUROBAT agrees that the risks to human health and/or the environment resulting from the use of hazardous substances need to be properly managed.

However, batteries are sealed articles without any intended release of any of the substances used in their manufacture. Hence, there is no risk of exposure for users. Moreover, automotive and industrial batteries are collected and recycled at the end of their useful life, they are neither landfilled nor incinerated or improperly disposed of. The risk of exposure for workers along the value chain is already addressed through the proper enforcement of the existing EU legislative framework (e.g. REACH and Occupational Health and Safety legislation). REACH incorporates mechanisms which allow for the creation of risk management measures targeted at the use of substances at the desired stage of the battery life.

Any restriction on the use of a substance in batteries should follow a risk-based approach, also taking into consideration the results of a socio-economic impact assessment and the availability of alternatives. EUROBAT thus welcomes that fact that the Batteries Regulation proposal adopts these fundamental principles. However, EUROBAT remains concerned about the introduction of a fully new parallel process described in Articles 6, 71 and 73 of the proposal with its own procedural rules, which duplicates the existing and well-established REACH restriction process set out in Annex XVII of Regulation (EC) No 1907/2006.

Indeed, this new process would create major business uncertainty because the procedure introduced in Article 6 will not preclude a substance used in batteries from being subject to a Member State initiated REACH restriction or authorisation process. We believe that Articles 6, 71 and 73 would be better amended to make reference to already existing REACH restriction processes rather than to create additional battery specific requirements.

EUROBAT urges that the new Batteries Regulation should not be a 'test case' for a new approach breaking the existing horizontal hazardous substance management embedded in REACH and OSH.

[4] Covering Article 6, Article 71 and Annex I of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.
[5] The use of substances in batteries is already regulated under REACH, OSH, ELV and the Batteries Directive. Simplification on the basis of horizontal legislation is of the essence.

Carbon footprint[6]

Our suggestions to policy-makers

1. Support the introduction of a carbon footprint declaration, performance classes and maximum thresholds to **promote green batteries made in Europe**

2. Focus the scope on specific applications: **electric vehicle and stationary energy storage batteries**
    a. The category of industrial batteries includes hundreds of very diverse applications and several technologies – it would not be proportionate to regulate them all according to the same criteria
    b. No targeted impact assessment and cost-benefit analysis is available for these applications and technologies

3. Develop **individual methodologies to consistently and coherently calculate the carbon footprint of all battery technologies** falling under the scope of the carbon footprint requirements

4. **Adapt the timeline to the tasks and priorities**:
    a. The deadline of 1 July 2023 to adopt a methodology for all technologies does not seem compatible with the need to have a robust document
    b. Include a timeline for the adoption of specific methodologies for all technologies, prioritising those for which a dataset is already available or more advanced (e.g. PEFCR for lithium)
    c. Allow a period of at least 24 months between the adoption of the delegated acts and their implementation

5. Provide carbon footprint data for each battery model per manufacturing plant and **remove the reference to the batch** to streamline the process. Rules for setting the appropriate frequency of calculation and reporting of carbon footprint should be developed

6. Clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place to make the Regulation equally effective for batteries **manufactured in or outside of the EU**

7. **Exclude distribution, end of life and recycling phases from the carbon footprint calculation**: the battery will be recycled 10-15 years after its production, and including an imprecise assessment of carbon footprint recycling would not help when selecting the greenest battery

8. **Use of primary data** should be required for all identified hotspots within the supply chain, from mining to battery assembly

[6] Covering Article 7 of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

1. Support the introduction of a carbon footprint declaration, performance classes and maximum thresholds to promote green batteries made in Europe

EUROBAT welcomes the proposal that aims to ensure that batteries placed on the EU market are sustainable, high-performing and safe during their entire life cycle. The battery industry is an energy intensive but also an energy conscious industry, and it is therefore supportive of legislative proposals that reduce this impact. European battery producers have already started to address this problem in several ways, including the installation of solar panels in existing factories, promoting energy efficiency measures and selecting the location of new plants considering the availability of low carbon energy.

Regulating the carbon footprint in stages, starting with a declaration and then developing performance classes and thresholds, is also a good way to prepare the industry, authorities and the market to adapt to this change.

Such a revolution in the way we produce batteries should take place anyway, taking into account the complexity of the task and always considering the key target – to promote green batteries made in Europe. This means that European competitiveness and sustainability need to go hand in hand, and we should not promote one at the expense of the other. To do so, we believe that the proposal needs refining in some key aspects.

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

As defined in Article 7, the carbon footprint requirements would apply to electric vehicle batteries and rechargeable industrial batteries with an internal storage and capacity above 2 kWh. We, of course, agree on the need to include electric vehicle batteries in the scope, but we invite the regulator to more clearly specify the scope in relation to industrial batteries.

'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), batteries for motive power (forklift trucks, ground support equipment, cleaning machines, golf carts, railway applications, 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.

This complexity is not limited to the applications. A variety of battery technologies can be used for different industrial applications. These technologies can be split into five major families: lead-based batteries, lithium-based batteries, sodium-based batteries, nickel-based batteries and flow batteries. All these technologies have their own specific features that are fit for specific types of applications.

Considering this variety, and also the fact that the impact assessment prepared by the Commission targeted only electric vehicle and stationary storage batteries, we challenge the proportionality of applying this requirement to the entire category of industrial batteries. Similarly, the Preparatory Study on Ecodesign and Energy Labelling of batteries[7] included in its scope only "High energy rechargeable batteries of high specific energy with solid lithium cathode

[7] Preparatory Study on Ecodesign and Energy Labelling of rechargeable electrochemical batteries with internal storage under FWC ENER/C3/2015-619- Lot 1 TASK 1 Report Scope (Definitions, Standards and Legislation) For Ecodesign and Energy Labelling

chemistries for e-mobility and stationary energy storage (if any)". It even explained why non-lithium technologies (lead, nickel and sodium) used in industrial applications should not be taken into account.

For instance, the study states that Uninterruptable Power Supply (UPS) systems "have a complete different functional unit, i.e. provide back-up power during occasional power interrupts, which would lead to an inconsistent study", while "Industrial back-up batteries […] can have each very different requirements (duration of back-up, service life, ability to withstand temperature, shock and vibrations, ability to perform additional services). A unique functional unit would not adequately cover all these segments"[8]. Despite these considerations, the selected indicators for the functional unit and the reference flow are only relevant for some applications: Annex II includes a reference to "manufacturing CO_2 FP (in kg) / the total energy discharged by the battery throughout its useful life (in kWh)", which is relevant for batteries that are designed for cycling, but it makes no sense for back-up industrial batteries.

These back-up batteries are either stand-by (back-up power for IT) or mobile (back-up power for aircraft or trains) and are not designed to deliver energy across thousands of cycles. They stand still and discharge very infrequently (in many instances less than once a year) in case of grid failures, so it makes no sense to express their carbon footprint performance as noted above.

In the absence of an impact assessment and cost-benefit analysis for these batteries, we would strongly suggest to better clarify the scope of this proposal and focus on specific applications with higher potential for decarbonisation – that is, electric vehicle batteries and stationary energy storage batteries. Given this more targeted scope, it would also be possible to remove the 2 kWh threshold, since all electric vehicle batteries and stationary energy storage batteries are generally well above this threshold.

The inclusion of other specific applications could be considered only after the development of appropriate impact assessments. In particular, we understand that other stakeholders might also be interested in including batteries for light mobility (e.g. e-scooters) in the scope. Since they are considered as portable, they are outside of the remit of EUROBAT and therefore we will not comment on this specific point.

3. Develop individual methodologies to consistently and coherently calculate the carbon footprint of all technologies falling under the scope of the carbon footprint requirements

One limit of the proposal on carbon footprint, but also for other provisions included in the Regulation, is the almost exclusive focus on lithium-ion batteries for electric vehicles. This segment is of course strategic for Europe's climate change ambitions and of growing importance, but it does not mean that we should not consider the specificities of other technologies, above all when the measures included in the Regulation have a (disproportionate) impact on them.

The carbon footprint proposal is a good example in this sense. The proposed scope includes "rechargeable industrial batteries with internal storage and a capacity above 2 kWh", but the methodology described in Annex II was developed for and is applicable only to lithium batteries, even if several segments of the industrial battery market are dominated by other technologies.

[8] Preparatory Study on Ecodesign and Energy Labelling of rechargeable electrochemical batteries with internal storage under FWC ENER/C3/2015-619- Lot 1 TASK 1 Report Scope (Definitions, Standards and Legislation) For Ecodesign and Energy Labelling, page 39.

Therefore, we think that it is essential to develop specific methodologies to allow the calculation of the carbon footprint of each technology, which can be used for the applications that will be covered by this proposal. Of course, these methodologies need to be as consistent and coherent as possible. Lithium, lead, nickel and sodium batteries can all be used as stationary energy storage batteries, and dedicated methodologies should therefore be developed for each chemistry. Similarly, specific performance classes and maximum carbon thresholds should be developed for each battery technology/chemistry.

4. **Adapt the timeline to the tasks and priorities**

The development of these battery chemistry specific methodologies will require an appropriate amount of time, above all for those technologies where the existing Product Environmental Footprint Category Rules (PEFCRs) are not available. Currently, a PEFCR is available only for lithium-ion and nickel metal hydride batteries for mobile applications[9]. Similar exercises should be developed for other technologies and applications within the scope of the carbon footprint proposal. However, the existing PEFCR was the result of a four-year long process. Of course, the PEFCR is only the basis for the methodology, not the methodology itself.

Therefore, we believe that it will be impossible for the Commission to meet the deadline of 1 July 2023 to adopt the delegated act establishing the methodologies for all technologies included in the scope of the proposal. EUROBAT would instead suggest a more reasonable timeline to make sure that the methodologies are robust and comply with the most recent requirements in terms of life-cycle assessment analysis. However, we believe that the Commission should prioritise its work. The methodology for the calculation of the carbon footprint of lithium-ion is more advanced and should, therefore, be developed and adopted as a priority. The methodologies for other technologies could then be published at a later stage, and it will be important to already have a detailed timeline for the development and adoption of these delegated acts.

Finally, the impact assessment mentions that economic operators should be given sufficient time to adjust their production facilities and generate supply chain information, in view of the requirements for a carbon footprint declaration, performance classes and maximum threshold. The regulation grants only one year between the adoption of the delegated act and its implementation, which is clearly not sufficient. The opinion of the industry is that a minimum of 24 months will be needed to adapt production facilities. Moreover, we expect that a similar amount of time will also be needed for Member States to train and prepare their market surveillance authorities for the task.

5. **Provide carbon footprint data for each battery model per manufacturing plant and remove the reference to the batch to streamline the process; rules for setting the appropriate frequency of calculation and reporting of carbon footprint should be developed**

Another concern of the industry is the granularity of the data to be provided, and the consequent administrative burden. The regulation currently requires data to be provided on the carbon footprint "for each battery model and batch per manufacturing plant". While we understand the reason to provide information for models and manufacturing plants, we do not see the need to provide information on single batches of batteries. Differences in

[9] PEFCR - Product Environmental Footprint Category Rules for High Specific Energy Rechargeable Batteries for Mobile Applications

carbon footprint among batches of the same model of batteries produced in the same plant are actually negligible, and including such level of detail would unnecessarily complicate the reporting and verification process for both industry and national authorities. Also, the administrative costs need to be considered, and the impact assessment prepared by the Commission seriously underestimated them. The calculation in the impact assessment is based on the "battery type" not on "battery model and batch". The practical consequence is that the impact assessment only foresees five declarations per plant per year, while the real number is 2-3 orders of magnitude higher, so the real administrative costs will be considerably higher than those estimated in the impact assessment.

We would therefore suggest to streamline the certification process by reporting carbon footprint data "for each battery model per manufacturing plant", removing the reference to "batch".

Additionally, it might be appropriate to insert rules for the setting of carbon footprint reporting frequency. These should assist in striking the right balance between the meaningless effort of trying to identify the carbon footprint of each item that leaves the manufacturing line and an inadequate single value per model, whether it came from the first production run or the last.

6. **Clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place to make the Regulation equally effective for batteries manufactured in or outside of the EU**

The European battery industry has a serious concern regarding the enforcement of the proposal, above all in relation to imported batteries. The entire carbon footprint concept relies on independent third-party verification statements and on the surveillance of national market surveillance authorities. We wonder if these authorities will have enough resources and technical knowledge to check this remarkable amount of certifications, also considering that similar provisions are included for performance and durability requirements and for recycled content.

This is a cornerstone of the proposal and lack of consideration of the practicalities of implementing and enforcing such requirements risks damaging the European battery industry vis-à-vis international competitors. The European battery industry is concerned about the possibility of having non-compliant batteries placed on the EU market due to inherent weaknesses in the certification and enforcement process, which would negatively impact the trust of consumers and the compliant industry. Of course, this problem is amplified in the case of batteries manufactured outside of the European Union, where testing and enforcement becomes quite complicated. We believe that the current proposal does not sufficiently address this problem. Therefore, we would suggest to better clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place, above all for batteries produced outside of the EU.

7. **Exclude distribution, end of life and recycling phases from the carbon footprint calculation**

Annex II includes the following life cycle stages among those to be included in the calculation:

- Raw material acquisition and pre-processing
- Main product production

- Distribution
- End of life and recycling

As reported in the Commission's impact assessment, "the production phase is the main contributor to life cycle GHG emissions of lithium-ion batteries, while the use phase and end-of-life treatment hold much smaller contribution". This is a view shared by the industry. The production phase is the key hotspot and we should focus on it. We therefore agree on the exclusion of the use phase, which will be anyway regulated as part of the performance and durability requirements.

However, we are quite sceptical of the inclusion of the distribution, end of life and recycling phases, for two key reasons: their contribution is quite small and it is extremely difficult to assess them when the battery is produced and placed on the market. The battery will be recycled 10-15 years after its production, and any estimation of the amount of energy needed to recycle is by nature a wild guess, and it would not help customers to select the greenest battery on the market. Besides, it cannot take into account the technical improvements in the recycling processes: we cannot use today's carbon footprint recycling values to assess those available in 10-15 years' time. Finally, the efficiency of the recycling process depends on the individual recycling plant, and manufacturers do not have control over it – above all for batteries that will be recycled in the future.

We would therefore suggest removing the distribution, end of life and recycling phases from the calculation of the total carbon footprint.

8. **<u>Use of primary data should be required all for identified hotspots within the supply chain, from mining to battery assembly</u>**

The definition for primary data should be more visible since, in the draft, it is hidden in the definition of company specific data. It needs to be clarified that the essential elements of defining the carbon footprint (raw material acquisition and pre-processing, main product production) have to be based on primary data only. Section 5 of Annex II seems to restrict the use of company specific data to process and component analysis that relate to battery-specific parts. However, materials or components that are produced and used beyond the battery sector are both a significant source of impact as well as differentiation due the large spread of CO_2 footprint performance for identical substances or chemicals.

Examples are:

- Base metals in cathode active materials represent over 20% of the battery footprint. For some of these minerals, the range between best and worst exceeds 1:10.
- The manufacturing of cathode active materials shows similar impact levels. These vary significantly across sources and efforts to reduce these impacts are progressing fast.
- Graphite in anodes represents 10% of the total battery CO_2 footprint and is believed to demonstrate a high level of variability across sources.

These examples demonstrate that primary data should prevail over secondary for all "hotspots", allowing for more differentiation and hence faster progress.

Recycled Content[10]

Our suggestions to policy-makers

1. **<u>Mandatory levels of recycled content will have several negative effects:</u>**
   - 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. **<u>Compliance verification is a challenge</u>**, above all for imported batteries: a large number of certificates would be required and it would be impossible to carry out testing

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

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

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

1. <u>Mandatory levels of recycled content will have several negative effects</u>

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

[10] Covering Article 8 of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

support on setting up and reinforcing the recycling 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 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 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 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 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.

Performance and durability requirements[11]

Our suggestions to policy-makers

1. **<u>Keep the declaration, remove the minimum threshold</u>**
    a. Performance and durability are competitive elements and it is unnecessary to regulate them
    b. There is a clear risk of overdimensioning and overdesign of batteries, above all if inappropriate, one-size-fits-all targets are established, with consequent waste of resources
    - Setting minimum performance requirements might interfere with other design parameters (cost, safety, lifespan, specific power and energy)
    - Durability is already accounted for with the carbon footprint criteria

2. **<u>Avoid duplications with UNECE and Ecodesign Directive</u>**
    - The informal UNECE Working Group on Electric Vehicles and the Environment is developing in-vehicle durability requirements
    - Stationary batteries potentially fall under the scope of the Ecodesign Directive

3. **<u>Focus the scope on specific applications</u>**: Electric vehicle and stationary energy storage batteries.
    a. The industrial battery sector includes hundreds of applications
    b. The same requirements cannot be applied to very different applications and technologies

4. **<u>Standards should be developed by Standardisation Committees</u>**, not by the Commission; hence we strongly recommend removing Article 16

The key objective of the provisions on performance and durability included in Article 10 is of course shared by the industry: batteries placed on the EU market should be durable and high performance. Consumers and users in general should have information on performance and durability aspects of their batteries, and we therefore welcome the requirement to disclose this information. Setting up minimum performance requirements, however, might have several unintended consequences, and we therefore call for the removal of the minimum threshold.

1. <u>Keep the declaration, remove the minimum threshold</u>

In relation to electric vehicles, we should recognise that the performance and durability of the traction battery is basically equivalent to the performance and durability of the vehicle. This is a competitive element for carmakers, and it might be unnecessary to set up minimum targets for such key competitive aspects. On the other hand, consumers should get information about the performance and durability of their vehicles. This information is often already shared

[11] Covering Article 10, 16 and Annex IV of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

for marketing reasons, but it would be positive to standardise the way this information must be accounted for and how to disclose it.

Similar considerations can be made for industrial batteries. These batteries are made for professionals, and in some cases they are even tailored-made to serve specific needs. Therefore, performance and durability are generally a key element of the selection process. In addition, industrial batteries includes hundreds of different applications and several technologies (see also point 2). Adopting one-size-fits-all requirements would be clearly impractical, since low targets would be ineffective, while higher targets might be impossible to meet for specific applications.

A single test condition does not mirror the multiple application duties batteries encounter, and the easiest way for a battery to comply with excessive minimum requirements is the overdimensioning and overdesign of batteries compared to the needs of the specific application. This would result in a waste of resources and, paradoxically, in a reduction of energy efficiency. Larger batteries require more resources to be manufactured, and in the case of electric vehicles also more energy to to be operated, since their weight is higher.

Besides, as also recognised by the impact assessment, "fixing minimum values of technical parameters related to performance (such as capacity fade or internal resistance) may have a detrimental effect on other design parameters, such as charging time or specific power"[12]. Overall, setting minimum performance requirements might indeed interfere with other design parameters (cost, safety, lifespan, specific power and energy). Manufacturers are better placed to assess the interactions of these elements and can tailor them depending on the application. This point was mentioned in the impact assessment, but it was not addressed.

Finally, durability is already accounted for with the carbon footprint criteria: the service life of the battery is considered for the calculation of the functional unit.

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

'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), batteries for motive power (forklift trucks, ground support equipment, cleaning machines, golf carts, railway applications, 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.

This complexity is not limited to the applications. A variety of battery technologies can be used for different industrial applications. These technologies can be split into five major families: lead-based batteries, lithium-based batteries, sodium-based batteries, nickel-based batteries and flow batteries. All these technologies have their own specific features that are fit for specific types of applications.

[12] Impact Assessment Report Accompanying the document Proposal for a Regulation of the European Parliament and of the Council concerning batteries and waste batteries, repealing Directive 2006/66/EC and amending Regulation (EU) 2019/1020, Page 228.

Considering this variety, the Preparatory Study on Ecodesign and Energy Labelling of batteries[13] included in its scope only "High energy rechargeable batteries of high specific energy with solid lithium cathode chemistries for e-mobility and stationary energy storage (if any)". It even explained why non-lithium technologies (lead, nickel and sodium) used in industrial applications should not be taken into account. For instance, the study states that Uninterruptable Power Supply (UPS) systems "have a complete different functional unit, i.e. provide back-up power during occasional power interrupts, which would lead to an inconsistent study", while "industrial back-up batteries […] can have each very different requirements (duration of back-up, service life, ability to withstand temperature, shock and vibrations, ability to perform additional services)."

These back-up batteries are either stand-by (back-up power for IT) or mobile (back-up power for aircraft or trains) and are not designed to deliver energy across thousands of cycles. They stand still and discharge very infrequently (in many instances less than once a year) in case of grid failures. In this case, the criteria of energy round trip efficiency included in Annex IV is simply irrelevant and should not be used to assess the performance of these batteries.

Considering these complications, we would therefore suggest to better clarify the scope of this proposal and focus on specific applications with higher potential for decarbonisation – that is, electric vehicle batteries and stationary energy storage batteries. Given this more targeted scope, it would also be possible to remove the 2 kWh threshold, since all electric vehicle batteries and stationary energy storage batteries are generally well above this threshold.

3. Avoid duplications with UNECE and Ecodesign Directive

A clear concern of the industry is also the risk of duplication, in particular in relation to the UNECE Working Group on Electric Vehicles and the Environment and with the Ecodesign Directive.

In relation to electric vehicles, as also recognised by Recital 23 of the Batteries Regulation, the informal UNECE Working Group on Electric Vehicles and the Environment is developing in-vehicle durability requirements, and therefore "this Regulation is refraining from setting additional durability requirements". However, Article 10 and Annex IV are also applicable to electric vehicles, so we do not understand how this duplication will be avoided.

At the same time, it must be recognised that stationary batteries fall potentially under the scope of the Ecodesign Directive, creating again a risk of double regulation. This is actually a very concrete possibility. The Preparatory study for the Ecodesign and Energy Labelling Working Plan 2020-2024 includes Uninterruptable Power Supply Systems (pp 18-37) and concluded that there is now a good reason to revisit the UPS as a possible topic for the Ecodesign Working Plan 2020-2024. If this will be the case, UPS systems will be regulated twice, under the Batteries Regulation and under the Ecodesign Directive. This possibility must clearly be avoided.

4. Standards should be developed by Standardisation Committees, not by the Commission

Article 16 complements the provisions of Article 10 and Annex IV laying down how common specifications for those articles will be adopted. In this vein, we found unacceptable that the Commission is planning to ignore existing battery

[13] Preparatory Study on Ecodesign and Energy Labelling of rechargeable electrochemical batteries with internal storage under FWC ENER/C3/2015-619- Lot 1 TASK 1 Report Scope (Definitions, Standards and Legislation) For Ecodesign and Energy Labelling

standards and task the development of standards to the Joint Research Centre. Standards on batteries are developed internationally, in committees composed of experts from each national standardisation committee. It is unacceptable that the Commission wants to take the place of national technical experts on matters which are by nature extremely technical, and that refer to how the products are designed, produced and operated. Besides, the criteria for the Commission to act are extremely vague, referring to "undue delays" or if it "considers that relevant harmonised standards are not sufficient".

The execution of Article 16 would have a negative impact on Europe's competitiveness and local employment and would, thus, be counter-productive in view of the goals of the European Strategic Action Plan on Batteries. As such, the promising contribution of batteries to the achievement the goals of the Clean Mobility Package as well as the decarbonisation goals of Europe's Green Deal, would be at stake.

EUROBAT welcomes the cooperation with the European Commission (DG GROW / DG ENV) to discuss the needs and resources for developing harmonised standards to support the new legislative framework of batteries. However, such harmonised standards should always be developed within the existing European CEN/CENELEC framework.

Battery standards on performance, safety and sustainability are technology specific and strongly application-oriented to serve/optimise their integration. A large variety of such original or globally-derived CEN/CENELEC standards already exists for lead, nickel and lithium based battery technologies, often specifically linked to the application. To develop an alternative common specification that would include all application-conditions through an implementation act that would bypass CEN/CENELEC is simply an unrealistic and impossible task.

CEN/CENELEC is best positioned to be the independent facilitator between industry, consumers and regulators to proactively support European competitiveness, the protection of the environment and sustainable growth for the wellbeing of all citizens. European standards are driven by business and made through a transparent, balanced and consensus-based process in which all relevant stakeholders are involved. For that reason EUROBAT requests the deletion of Article 16 from the draft regulation.

Labelling and information requirements[14]

Our suggestions to policy-makers

The duplication of information systems should be avoided to simplify the entire system and reduce the administrative burden and costs

a. The current proposal unnecessarily requires to provide similar information on the label, Battery Management System, QR code, Electronic Exchange System and Battery Passport
b. Three information systems should be developed, with different information stored in them: a physical label, the BMS and an online database

The duplication of information systems should be avoided to simplify the entire system and reduce the administrative burden and costs

The current Batteries Regulation proposal includes several systems to store and communicate information, with clear overlaps. As it is now, the proposal requires information to be communicated though a label, the Battery Management System, a QR code, the Electronic Exchange System and the Battery Passport. Often, the information to be provided is the same: for instance, the date of manufacturing of the battery needs to be included in all these information systems.

It is difficult to understand why so many systems are needed, and why these duplications are included, in particular, the development of a QR code-linked database and the Battery Passport seem to be redundant. From the point of view of the industry, three systems should be developed, with clear demarcation lines regarding the information to be provided:

- A physical label, providing fundamental information on safety to the users and the recyclers;
- A battery management system for same batteries, including information on state of health to facilitate repurposing and repair;
- An online database, including general information on the battery, testing results and information for the end of life management.

1. Information to be stored in the physical label

A physical label should of course be applied to the battery. An online database cannot replace a physical label: fundamental information on safety should be applied on the battery. However, since the space on the battery can be limited, we should carefully assess which kind of information needs to be included. In some cases, it could be preferable to move this information to the online database.

The type of information to be affixed on the physical label is listed in Article 13 and Annex VI. The following remarks should be considered:

[14] Covering Articles 13-14, 64-65, Annex VI-VII-XIII of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

- "The battery type, batch or serial number of the battery or other element allowing its unequivocal identification": the "batch" is not defined in the text and should be removed, to streamline the process. In addition, the serial number will be required only for some battery types.
- "Date of placing on the market": this type of information does not seem relevant. It is not a good indicator of the expected lifetime of the battery, since a battery can start its operations months or even years after being placed on the market. Besides, the manufacturer obviously does not know when the battery will be placed on the market if this is included in a product. Placing the label would therefore be quite challenging.
- The "chemistry" of the battery should be identified using the IEC Standard 62902 on color coding, where possible, to facilitate sorting and collection.
- "Hazardous substances contained in the battery other than mercury, cadmium or lead". This type of information is already included in the SCIP, and it would be redundant to have it also on the label and in the QR code, also considering the effort made by the industry to comply with the SCIP. In addition, Article 13.4 already requires batteries to be marked with the symbol of lead or cadmium, and additional labels seem unnecessary. The detailed list of hazardous substances should be included in the online database through a cross-reference of the SCIP database.
- "Critical raw materials contained in the battery". This type of information is only relevant for recyclers, not for consumers. It seems preferable to store it only in the online database (QR code or battery passport), not in the physical label. This would also allow updating the list.

In addition to the above and in line with the proposal, the physical label should report the manufacturer's or producer's name, registered trade name or trademark; the battery model identifier; date of manufacture; capacity label (for portable and automotive batteries); the separate collection symbol.

2. Information to be stored in the battery management system

Article 14 and Annex VII regulate the information to be stored in the battery management system. Correctly, this information is related to the state of health and lifetime of the battery, and is relevant in view of the possible repurposing of the battery. The information included in Annex VII seem to be relevant, therefore we do not have particular problems with it.

However, Article 14.1 requires all rechargeable industrial batteries and electric vehicle batteries with internal storage and a capacity above 2 kWh to have a BMS. This is a clear indication that the proposal was developed considering only the specificities of one type of battery: lithium and sodium batteries are equipped with a BMS, while lead and nickel batteries generally do not need such system to be managed. Requiring them to be equipped with a BMS is therefore totally unnecessary, also considering that generally, these batteries are not suitable for second life applications, and it would result in waste of resources and in a clear market distortion. Therefore, we strongly suggest that only batteries equipped with a BMS should store this kind of information.

For batteries equipped with a BMS, clearer rules on access to data should be formulated. This article cannot result in a blank cheque for any party to access the BMS. Granting such access would endanger safety and intellectual property. For this reason, only the information listed in Annex VII should be accessible.

3. Information to be stored in the online database

The major problem with the proposal is related to the duplication of the QR code, Electronic Exchange System and Battery Passport. In some cases, the information to be stored in the systems is repeated: points (a) to (h) of Annex XIII are exactly the same as listed in Annex VI, and there is no point in reporting the same information in two databases.

Considering that the Battery Passport could be developed internationally, the preferred solution might be to develop this system and to make it accessible through a machine-readable format, as suggested in Article 64. A completely separate QR-code system would be evidently redundant.

The type of information to be included should be based on those listed in Annex XIII, with some modifications. Points (i) to (r) of Annex XIII should be only accessible to the actor who purchased the battery. In addition, point 2.a of Annex XIII requires the disclosure of the detailed composition of the battery, including materials used in the cathode, anode and electrolyte. Providing this information would clearly go against the need to protect intellectual property. Besides, this point is already covered by point 1.e on battery composition: general information on the type of materials used is sufficient for recycling purposes.

Finally, a major limit of the system is that it does not allow tracking the information related to second life batteries. A second life battery requires a new filing into the system, which does not necessarily include its status or a link to the first life battery passport.

Supply chain due diligence policy[15]

Our suggestions to policy-makers

1. EUROBAT supports the **obligation to establish supply chain due diligence policies**.
2. **Adapt the timeline to the task and priorities**: grant 24 months between the entry into force of the Regulation and the obligation to comply with the due diligence obligations.
3. Clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place to make the Regulation equally effective for batteries **manufactured in or outside of the EU**.
4. Coherence with the **Sustainable corporate governance initiative** should be ensured.

1. EUROBAT supports the obligation to establish supply chain due diligence policies

EUROBAT supports the obligation to establish supply chain due diligence policies laid down in Article 39. If Europe wants to produce the most sustainable batteries in the world, it is paramount to ensure that raw materials fundamental for the manufacturing of batteries are sourced respecting high environmental and social criteria, addressing also risks in the battery supply chain related to the protection of human rights. The proposal of the Commission in Annex X takes into account the relevant international instruments, social and environment risk categories and critical raw materials.

2. Adapt the timeline to the task and priorities

Currently, the supply chain due diligence requirements would be applied 12 months after the entry into force of the Regulation. This is clearly not enough time for the industry to adapt. The development of serious due diligence policies require more time than just 12 months, since they need to be adapted to the specific situation in other countries. An absolute minimum of 24 months is required to develop serious policies and prepare the necessary reporting obligations.

3. Clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place to make the Regulation equally effective for batteries manufactured in or outside of the EU

As in the case of other provisions included in the Batteries Regulation, the European battery industry has a serious concern regarding the enforcement of the proposal, above all in relation to imported batteries. The entire carbon footprint concept relies on independent third-party verification statements and on the surveillance of national market surveillance authorities. We wonder if these authorities will have enough resources to check this remarkable amount

[15]Covering Articles 39, 72 and Annex X of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

of certifications. Besides, it is unclear how these authorities will be able to verify the compliance with due diligence policies in third countries.

We believe that the current proposal does not sufficiently address this problem. Therefore, we would suggest to better clarify how the Commission and Member States plan to ensure that appropriate enforcement will take place.

4. **Coherence with the Sustainable corporate governance initiative should be ensured**

The European Commission has also launched an initiative on Sustainable Corporate Governance to improve the EU regulatory framework on company law and corporate governance. We welcome this initiative, but at the same time we call for legislative coherence between this initiative and the supply chain due diligence policy included in the Batteries Regulation. In general, it is important to adopt a tailored approach for each industry, respecting the specificities of each industry. Business specific due diligence is the most effective process to identify industry and company specific risks and their possible remediation actions.

Extended Producer Responsibility[16]

Our suggestions to policy-makers

1. EUROBAT supports the **legal basis** based on Article 114 of the Treaty on the Functioning of the European Union since it will allow harmonisation of measures across member states.

2. We welcome the harmonisation, update and strengthening of the **Extended Producer Responsibility (EPR)**, but some provisions of Article 47 need to be changed:
   - Producers should not be forced to organise the preparation for repurposing and remanufacturing of batteries, and to cover the costs of this activity: the decision to recycle or repurpose a battery should be left to the market, and all costs should be covered by the entity repurposing the battery.
   - The financial contributions paid to producer responsibility organisations (PROs) should only be based on the cost of collection and recycling, removing the reference to rechargeability and to the level of recycled content from Article 47.4.a: these features have no effect on the activities of the PROs.
   - The guarantee included in Article 47.7 should cover the net cost of recycling, and an "accounting reserve" should also be included as a guarantee.

3. Producers should take back only waste batteries that they have made available on the market.

4. The **minimum recycling efficiencies** included in Annex XII Part B seem to be reasonable, if based on the current methodology. However, they will have to be re-assessed once the new methodology is adopted: in this vein, at least 36 months will be needed between the adoption of the methodology and the entering into force of the new efficiencies.

5. The **levels of recovered materials** included in Annex XII Part C need refining:
   a. Cobalt, copper, lithium and nickel should be grouped together in a single target, allowing recyclers to prioritise certain metals depending on the evolution of the market.
   b. A 95% level of material recovery for cadmium should be included in Annex XII Part C.
   c. The levels will have to be re-assessed once the methodology is adopted: in this vein, at least 36 months will be needed between the adoption of the methodology and the entering into force of the measure.

6. Article 58 on the **Shipment of waste batteries** should facilitate the import of spent batteries from non-EU countries. It should be developed coherently with the Waste Shipment Regulation and an ambitious timeline for the development of the criteria for equivalent conditions should be included.

7. The **legislative framework for repurposed batteries** regulated in Article 59 needs to be strengthened to avoid market distortions:

[16] Covering chapter 7, Articles 46-63 and Annex XII of the Proposal for a Regulation 2020/353 concerning batteries and waste batteries.

a. Access to the BMS[17] should be explicitly limited to the parameters of Annex VII, and conditional to a contractual agreement.
b. **Repurposed batteries should report on performance and durability information** even if the first life battery was placed on the market before the applicability of the articles to avoid market distortions.
c. "**Remanufacturing" should be removed**: it has the same meaning of "repurposing" and is not defined in the text.
d. A more robust wording on the **transfer of EPR** to the repurposer is needed.

8. The **End-of-life information** covered in Article 60 should be streamlined:
   a. In particular, the requirement of identifying hazardous substances is a duplication of **SCIP**[18].
   b. Article 60.5 requiring to show the **costs of recycling** should be removed: it is not possible to correctly assess these costs 10-15 years before the battery is actually recycled.

9. The **reporting obligations** included in Articles 61 and 62 are also a reason for concern**:**
   a. Article 61 seems to foresee a **comparison between collected batteries and batteries placed on the market in the same year**: this comparison is obviously meaningless and it should not be included.
   b. There is also a **risk of double-counting** of waste batteries from the interaction of Articles 61.2.b and 61.3, which should be avoided
   c. It is not clear **how repurposed batteries will be counted**: the system also needs to take these batteries into account.
   The **timeline** is also quite challenging since producers are required to provide data only 4 months after the end of the year.

1. EUROBAT supports the legal basis of Article 114 of the Treaty on the Functioning of the European Union since it will allow harmonisation of measures across Member States

EUROBAT believes that the legal basis of Article 114 will ensure the implementation of common rules and avoid market distortions. In this line, we have advocated for the past few years to have a regulation instead of a directive, since it would allow having common rules applied coherently across all EU Member States. In parallel, this legal basis could be seen as a step towards a level-playing field at EU level, reducing differences between national markets.

[17] BMS: Battery Management System, see Art. 2 (22) of the Proposal for a Regulation 2020/0353 concerning batteries and waste batteries.
[18] SCIP: database for information on **S**ubstances of **C**oncern **I**n articles as such or in complex objects (**P**roducts) established under the Waste Framework Directive (WFD)

2. We welcome the harmonisation, update and strengthening of the Extended Producer Responsibility, but some provisions of Article 47 need to be changed

Some provisions included in Article 47 could create administrative burdens and increase costs.
For instance, producers should not be forced to organise the preparation for repurposing and remanufacturing of batteries and cover the costs of these activities. The decision to recycle or repurpose a battery should be left to the market and to the economic actors involved once a battery has reached its end of life stage in the application they had been initially designed for.

The remanufacturer will benefit directly from this activity, and should therefore cover the cost of this activity. This could also result in a waste of resources: not all batteries will be suitable for second life, and it does not make sense to force all producers to cover unnecessary costs.

Besides, the financial contributions paid to producer responsibility organisations (PROs) should only be based on the net cost of collection and recycling: rechargeability and recycled content have no effect on these costs and should therefore be removed from Article 47.4.a. The inclusion of features not directly related to recycling would go beyond the role of PROs. It is also worth mentioning that participation in PROs is not compulsory, and this measure could have unintended consequences on the decision to participate in such schemes.

Finally, the guarantee included in Article 47.7 should cover the net cost of recycling, and an "accounting reserve" should also be included as a guarantee.

3. Producers should take back only waste batteries that they have made available on the market

Right now, Article 49.1 suggests that the producer will have the responsibility of taking back batteries of the "respective type" that they have made available on the market. Article 49 should instead state that producers should take back only waste batteries that they have introduced into the market. The producer cannot expand its responsibility to third actors, so should only be responsible for the product that it has made available on the market.

Besides, Article 49 does not include the provision included in Article 16.5 of the Batteries Directive, which allowed producers and users of industrial and automotive batteries to conclude agreements stipulating financing arrangements on collection, treatment and recycling. This provision granted an important element of flexibility and adaptability to specific situations, and it should be included in the new Batteries Regulation.

4. The minimum recycling efficiencies included in Annex XII Part B seem to be reasonable, if based on the current methodology

Annex XII Part B includes new recycling efficiency levels for lead-acid, lithium and other waste batteries. These levels seem to be reasonable for some batteries technologies but need to be reconsidered for those lithium batteries which have a low rare metals content. With such targets, manufacturers which place these products on the market would be penalized by a significantly more elevated recycling cost with little environmental value, if any. Moreover, the recycling of such batteries will generate a limited revenue from the resale of recycled materials. There is furthermore

an important caveat: the target levels for all waste batteries will have to be re-assessed once the new methodology is adopted. If the new methodology will include changes in how the recycling efficiency levels are calculated, then the levels included in the Annex should be reconsidered. In addition, we should foresee a reasonable amount of time to adapt. Changes to the methodology might require changes to the recycling processes, which would require serious planning and application for new permits. In this vein, at least 36 months will be needed between the adoption of the methodology and the entering into force of the new recycling efficiencies.

5. The levels of recovered materials included in Annex XII Part C need refining

EUROBAT supports a "grouped" target for cobalt, copper, lithium and nickel instead of individual targets. The target could be supplemented with a weighting system in the calculation to give more relevance to specific metals. This approach would allow the possibility to develop new recycling processes without picking a winner. Certain processes allow a higher share of a particular metal over others, and recyclers should be granted the flexibility to prioritise their targets or achieve higher specialisation. This flexibility would enable innovation and make the proposal adaptable to future evolutions in the battery chemistry, as well as in relation to market demand.

In addition, a 95% level of material recovery for cadmium should be included in Annex XII Part C. Nickel-cadmium batteries are used in several industrial applications because of their specific features that make them the preferred choice for some niche applications. It is of course paramount to collect and recycle these batteries, since cadmium has hazardous properties. Such a recovery target for cadmium would make sure that this metal is properly managed across the entire value chain.

Finally, the levels will have to be re-assessed once the methodology has been adopted, also considering that this is a completely new measure. In this vein, at least 36 months will be needed between the adoption of the methodology and the entering into force of the measure.

6. Article 58 on the Shipment of waste batteries should facilitate the import of spent batteries from non-EU countries

We believe that the Batteries Regulation and the Waste Shipment Regulation need to be better aligned to the principles of the circular economy, above all regarding the end-of-life management and recycling of spent batteries in low- and middle-income countries, which currently have sub-standard installations for these purposes.

For the recycling of automotive and industrial batteries with a 'hazardous waste' status, such as lead-based and nickel-cadmium batteries, sound management is required. Hence, importing spent batteries with a 'hazardous waste' status into the EU needs to be simplified for batteries coming from those low- and middle-income countries without proper domestic recycling infrastructure. Allowing imports of spent batteries into the EU for recycling will also reduce the potential adverse effects on the environment and public health in areas that currently have no recycling infrastructure. As manufacturers, we know that today, in certain cases, recycling of batteries outside of the EU takes place in unregulated facilities. This means that those batteries are manufactured with poor environmental, health and safety practices. Besides, it will help recyclers in improving their business case. It is paramount, therefore, to develop

coherent legislation between this proposal and the Waste Shipment Regulation to facilitate imports of waste batteries into the EU.

In addition, it will be paramount to clearly define the criteria for the assessment of equivalence. The Regulation requires the Commission to adopt a delegated act on this subject, but it does not include a deadline. This is a key point of the Regulation, and an ambitious timeline should be included.

7. The legislative framework for repurposed batteries regulated in Article 59 needs to be strengthened to avoid market distortions

In line with Article 14, Article 59 grants access to the BMS to independent operators without any clear restriction. Such unrestrained access to the BMS is problematic from several points of view, first and foremost for safety reasons and for the need to protect intellectual property. For these reasons, only the parameters listed in Annex VII should be accessible.

In addition, the exceptions listed in paragraph 4 are problematic, since they effectively create a system where certain batteries can disregard key requirements. We of course understand that a repurposed battery cannot possibly report information on carbon footprint, recycled content or due diligence, if this information is not available for the first life battery. However, the assessment of performance and durability of repurposed batteries is not related to the first battery, and can be assessed.

Not including this information could create a market distortion between these repurposed batteries and the new batteries that will be placed on the market. To avoid any disruptions of the market and to boost fair competition, we advocate that repurposed batteries should report on performance and durability information even if the first life battery was placed on the market before the applicability of the articles. Repurposed batteries shall anyway not be eligible for Green public procurement tenders as laid down in Article 70 if they don't share the same information requested to other batteries.

In addition, the entire article refers to "repurposing and remanufacturing". The two terms have a similar meaning, but "repurposing" is defined in Article 2.26, whereas remanufacturing is not defined. Therefore "remanufacturing" should be removed from the entire Regulation to avoid confusion.

Finally, the transfer of EPR in the case of repurposing is not particularly clear. It should be clarified that in the case of repurposing, the EPR is transferred to the entity repurposing the battery.

8. The End-of-life information covered in Article 60 should be streamlined

Some of the requirements risk creating a high administrative burden for the industry as it can create duplications and extra costs.

In particular, in paragraph 3, the requirement of identifying the hazardous substances in a battery is a clear duplication of the **SCIP database** to which companies already (as from 5 January 2021) have to submit the information on articles containing substances of very high concern (SVHCs).

Paragraph 5 implies the requirement to show the **costs of recycling** to the end-of-user. This part should be removed. The main reason is that from the industry side, it is simply not possible to correctly assess the costs of recycling 10-15 years before the battery is recycled.

9. The reporting obligations included in Articles 61 and 62 are also a reason for concern

The extensive reporting requirements provided in Article 61 will result in a **comparison between collected batteries and batteries placed on the market in the same year**. However, this comparison is obviously meaningless since it compares different things. Batteries collected in a given year were placed on the market up to 10-15 years before, and the number of batteries placed on the market in a given year can be very different.

Article 61.2.b mandates producers to report the number of waste batteries collected and delivered for treatment. A similar provision is included in Article 61.3 for waste management operators, but there is no clear demarcation between the two, with a consequent risk of **double counting**. Similarly, it is not clear how repurposed batteries will be counted, since these batteries will be collected but not recycled. The system also needs to take these batteries into account.

Finally, the timeline demanded to provide the data on waste batteries is extremely challenging: 4 months is not enough to collect and provide these data.

EUROBAT

ASSOCIATION OF EUROPEAN AUTOMOTIVE AND INDUSTRIAL BATTERY MANUFACTURERS

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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