



CONEBI Position Paper “Batteries - modernizing EU rules”

CONEBI represents the European Bicycle, Pedal Assist E-Bike, Parts & Accessories Industries via its 15 national industry members. In the EU there are about 900 companies providing more than 120,000 direct/indirect jobs. Via the CONEBI’s national industry members, more than 500 small, medium and large companies are represented in CONEBI.

CONEBI welcomes the European Commission’s proposal for improved and more harmonized rules for batteries across the EU but would like to point out some key aspects that we believe are important in order to ensure the safe placing on the market and efficient recycling of e-bike batteries.

Unless otherwise specified, when referring to e-bike batteries below we are referring to batteries for EPACs (electrically pedal assisted cycles) up to 25 km/h and a maximum continuous rated power of 250W, S-EPACs that are currently categorized as L1e-B vehicles as well as powered cycles of vehicle category L1e-A according to EU Reg. 168/2013. We group these batteries together as they are essentially the same and are also handled the same by consumers.

Classification

CONEBI welcomes the re-classification of e-bike batteries as portable batteries because e-bike batteries are handled in a similar manner to other consumer batteries, e.g. consumers remove them on a regular basis to charge them and there is the possibility to replace the battery as the e-bike itself might have a longer lifetime than the battery.

However, we would like to make some comments regarding the definitions of ‘portable battery’ (Art. 2.7) and ‘light means of transport’ (Art. 2.9). Here below you will find our proposed changes and reasoning.

Portable batteries are currently defined as: “*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”*

Looking at applicable European standards and international law such as the UN ECE as well as the Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) where 12kg is used to differentiate large from small batteries¹, the chosen weight threshold appears to be an arbitrary one, which does not improve the definition of portable batteries as it stands in the Battery Regulation. We propose to remove the reference to 5kg as it might potentially split in two the category

¹ Para 38.3.2.3 of the [UN ECE Manual of Tests and Criteria \(rev. 7\)](#) + [ADR](#)

of e-bike batteries. Currently e-bike batteries weighing up to 4.7kg can be found on the market and this weight is expected to increase in the future, reflecting a trend to purchase higher capacity batteries. If the weight limit would be maintained at 5 kg this could potentially cause safety issues as manufacturers might be incentivized to sacrifice the weight of the housing to increase the number of cells, thereby reducing the protection it offers.

Instead we propose to replace 5kg with 2kWh as an energy criterion is a more sensible choice for batteries than a restrictive weight limit. In addition, 2kWh has been used as a delimitation mark within the categories of industrial and EV Batteries and batteries already need to have information on the max. kWh on their labels which will make it easier for recyclers to properly recycle waste portable batteries. For your information, e-bikes are currently equipped with different types of batteries that vary in their total energy capacity from 200Wh to 800Wh, with the average being around 600Wh right now, whereas the average was 450Wh some five years ago.

In case a weight limit is desired CONEBI would prefer to refer to current limits established in the ADR as the ADR is the relevant international legislation for the storage and transport of batteries and therefore, increase the weight to 12kg.

Moreover, we propose to add a fifth bullet point to the definition of portable batteries stating “includes batteries designed for light means of transport” to clearly highlight the link between portable batteries and batteries of light means of transport as referred to in recital 81 of the proposed regulation.

The definition for light means of transport is as follows: *“light means of transport’ means 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”*. For this definition we have three comments:

1. We would like to know why it was decided to focus on a wattage criterion for the electric motor as the proposal deals with batteries where kWh is a more suitable parameter. Therefore, CONEBI proposes to delete the reference to watt and instead include a kWh limit. If a kWh limit is accepted we propose to use 2kWh to be in line with other parts of the proposal. In case watt is considered an important parameter for the European Commission the Bicycle Industry encourages the Commission to align the watt limit with other existing regulations such as the EU Type Approval Regulation 168/2013. This regulation also includes type approved e-bikes such as S-EPACs whose maximum continuous rated power can be up to 4kW. Thus, in case a watt limit remains it should be increased to 4kW.
2. Should the legislators want to keep a wattage criterion, we suggest to clarify, whether the watt limit is measured as a total maximum or if the continuous rated power is foreseen as is currently the case in the EU Type Approval Regulation 168/2013.
3. We believe the definition of ‘light means of transport’ should not be limited to vehicles “on which travellers are seated” as this would exclude many of the new personal mobility devices that can currently be found on the market and whose batteries often end in the same collection points as e-bike batteries. Furthermore, many national producer responsibility systems already account for LEVs to be included in their solutions for waste portable batteries from LEVs. CONEBI is of the opinion that if the end-user handles the batteries in the same way and they are alike in the electrochemical composition, they should also be treated as such by the law.

Collection Targets

CONEBI welcomes the fact that further information will be collected before a specific collection target for ‘light means of transport’, such as e-bikes will be set (Art. 55.3). CONEBI will be happy to support the European Commission in providing relevant information to calculate a collection target for ‘light means of transport’.

When calculating the collection target we strongly support to use the methodology “available for collection” as suggested in Art. 55(3). This results in more reliable collection targets for an industry whose sales figures are increasing strongly and whose batteries have long life times. We were surprised that the same is not done for portable batteries in general in Art. 48 in combination with Annex XI. Based on feedback from an important battery supplier in the Bicycle Industry, e-bike batteries are in the market for 7-10 years and after 8 years less than 10% of batteries have been returned with the remaining ones still in use. This is due to the fact that lithium ion batteries degrade slowly and only the ones with a complete failure (i.e. deep discharge...) are defective and might be returned by the end-user. Thus, e-bike batteries are limited more by calendric aging and are in the market for a long time. This is already known from rechargeable batteries used in electric vehicles. From a technical perspective lithium ion batteries have a very long life cycle. An important battery supplier in the Bicycle Industry claims that their batteries will have a life cycle of 1,000 cycles with a remaining battery capacity of at least 60%. This depends on how often you use your e-bike, but we assume that with an average of less than 50 full charges a year, lithium ion e-bike batteries could have a life cycle time of up to 20 years.

In addition, we have made the experience that many consumers prefer to keep their old batteries as a back-up when purchasing a new battery, so this also needs to be taken into consideration when calculating a collection target.

Thus, CONEBI is of the opinion that the sole responsibility for achieving the collection targets should not lay on the producers but that the responsibility should be shouldered by Member States, public authorities, collection schemes, producers, retailers and users collectively. Producers are happy to undertake relevant information campaigns and encourage their respective producer responsibility organisations to actively promote the proper handling and disposal of batteries by the end-user but they cannot force the consumers to return their batteries.

It is the end-user who is in the possession of the battery and decides whether they are keeping or supplying their battery to the appropriate collection and recycling stream. Setting collection targets on the Member States level as is currently the case in the Battery Directive and is foreseen in Art. 55 already, is the only appropriate way to set collection targets.

Extended Producer Responsibility (EPR)

According to the proposal producers are responsible for organizing collection schemes for their batteries (Art. 48). The industry accepts this responsibility but would like to point out that it is important that collection for batteries designed for ‘light means of transport’ is set up apart from other portable batteries to account for the appropriate handling, storing and transport of said batteries and ensure an effective functioning of the respective collection schemes.

As described above, e-bike batteries have a total energy capacity of more than 100Wh leading to additional requirements for the transport of dangerous goods. Most other portable batteries, however, are below this limit. Mixing batteries of ‘light means of transport’ with batteries below

100Wh would, therefore, lead to increased burdens on the existing collection schemes for portable batteries.

CONEBI believes that the collection of waste portable batteries should be organised on the principle of solidarity. We therefore advocate for uniform regulations across Europe with regard to producer responsibility and support the best practise of producer responsibility organisations, which guarantee the safe collection of waste batteries.

Design requirements

CONEBI agrees that the removability and replaceability of e-bike battery packs should be possible (Art. 11) at the end of their life to ease the use for the consumers. To avoid any misunderstanding, it should be specified that removability and replaceability requirements pertain to the battery pack as a whole and not individual parts or cells of a battery pack. Therefore, we propose to re-insert the definition of “battery pack” within the draft battery regulation. Furthermore, it should be specified in Art. 11 that the replaceability may only be targeted at battery packs not individual cells or other parts within a battery pack.

Re-usability, Repurposing, Repairability and Remanufacturing

First, of all we would like to highlight that it is important to differentiate between the terms re-usability, repurposing, repairability as well as remanufacturing and that clear definitions for the different terms need to be established as this is not currently the case. Moreover, the industry is in favour of responsibly re-using or repurposing e-bikes and their batteries to ensure a long life time with a safe and reliable product.

However, we would like to state a clear warning regarding any wording that is facilitating or supporting the repair or remanufacturing of batteries. Remanufacturing occurs when a defective (possibly discarded) Li-Ion energy carrier is reassembled, with the official authorization of and according to the specifications of and using the parts of the original manufacturer. This is currently the case in Art. 14, 47, 59 as well as Art. 60. The wording in the draft regulation clearly shows that none of the safety risks for the consumers have been taken into account when drafting said articles.

Currently there is no sound technical framework for repair and remanufacturing which is aligned with well-defined intermediate product quality, product responsibility and certification, production process control, functional safety and transport safety aspects as well as safety testing of batteries. Even if such a technical framework would be established it would be difficult to put into practice as product testing and quality processes have to be established for a series of products but remanufacturing or repairing would be about individual products. In addition, there are specific certified sub-units that should not be touched and changed when the battery is being repaired or remanufactured. In the end it should be up to battery producers to decide who is authorized to repair their batteries. Furthermore, it should be forbidden for independent operators that are not authorized by the respective battery producer to remanufacture batteries to ensure products that are safe for the consumer.

When it comes to re-use and repurposing it needs to be ensured that the repurposed batteries meet the same stringent requirements be it regulations, directives or standards in terms of product certification, product design, performance, safety tests and transportation as new batteries that are being placed on the market. This is important to ensure a safe product for the consumer. To account for this, the definition of “repurposing” should include the word “certified”. Moreover, repurposed

batteries should be clearly labelled as such and the liability for repurposed batteries needs to transfer with the battery, i.e. the original battery manufacture is no longer responsible for the battery.

Labelling requirements (Article 13 and Annex VI)

The European Commission proposes a label containing information specified in Annex VI. One of the information, which is supposed to be included on the label is “placing on the market”. CONEBI would like to inquire when a battery is placed on the market, especially in the case of e-bikes. Will it be when the battery is sold to the OEM manufacturer to be placed in the e-bike, when the full e-bike is sold to the retailer or to the consumer? In case no added value but only administrative burdens result in such a label we propose to delete this requirement.

CONEBI sees the benefit of the label “date of manufacture” for consumers but would like to keep the possibility of coding this information as is the current practice (EN 61960-3:2017).

Part C of Annex VI stipulates that the QR code shall be 100% black. Here, CONEBI would like to stress the point that the QR code should be clearly readable, with a high contrast between background and symbol to support legibility and leave design freedom to the individual producers i.e. enable engraving. The requirements should refrain from stipulating colours in any way.

Moreover, CONEBI is interested to know what type of information should be included on the battery pack directly and what additional information can be found behind the QR code.

Standardisation (Art. 16)

The European Bicycle Industry actively promotes the usage of standards and is actively involved in the respective European standardisation organisations. Elements of Art. 16 in the draft regulation suggest a shift from the so-called “New Approach” to standardisation by the EU Commission, which is worrying in regards to the possible bypassing of the necessary technical input of standardisation organisations when drawing up standards for batteries.

While we understand that the speedy adoption of standards for batteries is politically desirable, the speed in which standardisation organisations adopt standards or the assumption that standards are not sufficiently formulated may not be used as reasons to delegate standardisation work on the policy level of the EU Commission. Standards are carefully drawn up by technical and industry experts within the national and European standardisation organisations for a reason. Especially when it comes to a safety critical issue such as batteries, standardisation through the well-established channels is the means to fulfil the policy objectives of the Battery Regulation with tangible and technically feasible requirements.

Hazardous content (Art. 6)

With a view to the EU Commission’s dedication to better regulation in recent years, it is striking that the proposal introduces a double legislation in Art. 6 on restriction of hazardous substances. All chemical related requirements on batteries are and should continue to be covered in the REACH regulation (EC) No 1907/2006 as well as the RoHS Directive 2011/65/EU. Therefore, the new competence for the EU Commission to regulate hazardous substances outside the REACH and RoHS frameworks is worrisome. The draft regulation needs to be consistent with other regulatory frameworks.

Access to data

The requirements pertaining to the access to data, especially the Battery Management System (BMS), in order to encourage remanufacturing is questionable from three angles: firstly, as has been explained earlier in the document, remanufacturing of batteries is a safety concern. No measures should be introduced, which facilitate the repair or remanufacturing of batteries in general. Secondly, even if remanufacturing were not of crucial safety concern, we wonder for which processes access to the BMS would even be necessary. The data stored on the BMS and the analysis of such data is essential for the functioning, durability and quality of the battery storage system, if the system were to be tampered with, the data of the BMS would no longer be of value. In conclusion, demanding access to the BMS for un-authorized third parties or so-called “independent operators” only promotes the unsafe re-use of batteries.

Finally, blanket access to data, especially access to safety and composition pertinent data, would harm the right to trade secrets of the manufacturers. The provision to make this type of data public in an undifferentiated manner will represent a serious interference with competition and cannot be of interest to the legislators whose main aim is to strengthen the European battery industry.

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