

POLICY BRIEF: EU LEGISLATION ON BATTERIES

OVERVIEW OF CURRENT EU LEGISLATION ON BATTERIES

Our partners conducted a thorough analysis of the current EU legislation for the batteries landscape. This Policy Brief will address the main elements of this analysis and highlight the compliance of BALIHT's prototype.

GOAL AND OBJECTIVES OF THE CURRENT EU LEGISLATION ON BATTERIES

As of today, the European Union drew a substantial legislative framework for batteries. First, through the *Batteries Directive (2006)*, later with two communications from the European Commission; *Strategic Action Plan for Batteries (2018)* and *Batteries 2030+ Roadmap (2020)*, and through the recent *Batteries and Waste Batteries Regulation (2020)*, the EU has provided the battery sector with clear guidelines.

Since 2006 and the *Battery Directive (2006)*, the European Union has been committed to act in favour of several areas of actions, namely the will to build a **competitive European batteries sector**, to restrict the use of hazardous substances in the manufacturing and to ensure a thorough **End-Of-Life (EOL)** management of waste batteries. Moreover, batteries are also understood as key for the electrification of the transport sector which requires supply chains and production capacities under European control. With the *Batteries2030+ Roadmap* communication, the emphasis has moved towards **high performance** and **safe batteries** to ensure affordable and sustainable power capacities. Finally, the last legislative development regarding the *Batteries and Waste Batteries Regulation (2020)* focused on the **production capacities**, **recycling targets** and the **social** and **environmental risks** linked to batteries production.

GENERAL IMPLEMENTATION AND PRACTICE OF THE LEGISLATION

The implementation is covering all types of batteries, regardless of their use. But from our perspective, the focus will be on industrial batteries, battery with external storage and stationary battery energy storage system, as BALIHT's prototype relates to them.

Now, the *Batteries and Waste Batteries Regulation (2020)* aims at reinforcing the principle of "**Extended Producer Responsibility**" (EPR) with the upcoming "Battery Passport". This principle requires from batteries producers to cover all the costs of the collection, treatment, and recycling of batteries. Not only the cost, but the whole organisation of those operations has to be conducted and prepared by the producers. The treatment phase of the recycling process requires to, at least,

remove all fluids. The fluids must be recycled and minimum recycling content targets go from 75% for nickel-cadmium batteries, to 50% for other waste batteries.

This piece of legislation establishes a **mandatory carbon footprint declaration** which would be differentiated per life-cycle stage. This new requirement will be added to battery performance classes and will constitute a precondition **before entering the market**.

Mandatory recycled content will also be required in newly manufactured batteries. This provision is specifically targeted to batteries with critical raw material components.

Moreover, the supply chain due diligence for critical and strategic raw materials is of high concern for the Commission. Not only critical raw materials but also chemicals compound based on them will be concerned by this provision. A management system to monitor the economic and social risks will have to be put in place for every economic operator with a turnover over 40 EUR million.

As for stationary battery energy storage systems, they must undergo a series of safety tests before entering the market. **Safe-and-Sustainable-by-Design** principle will be required as soon as the early stage of development of batteries.

IMPLEMENTATION AND PRACTICE OF THE LEGISLATION APPLIED TO BALIHT'S PROTOTYPE

Those legislations are designing the next European batteries framework, and as such, relate to all types of batteries, regardless of their size, use or composition. In this section, the different elements of the reviewed pieces of legislation will be detailed through the perspective of BALIHT's prototype.

To begin with, BALIHT's prototype does not meet **only one definition of batteries**. As mentioned before, provisions in the *Batteries and Waste Batteries Regulation (2020)* linked to **industrial batteries**, battery with **external storage** and **stationary** battery energy storage system can apply to BALIHT. Because of the **low maturity** of the technology, flow batteries are not yet considered specifically by legislation. As it stands, it remains a point of concern and incertitude for the future.

Regarding the Extended Producer Responsibility, the prototype will be subject to recycling requirements of 50% as it is not lead by acid nor nickel-cadmium.

The principle of "**Safe and Sustainable by Design**" (SSdB) has already been **integrated** into the BALIHT's prototype development. It will not constitute an additional requirement for the project.

Because of the composition of BALIHT's prototype, the project would not be subject to any requirement regarding critical raw materials obligations such as the mandatory recycled content targets. However, the list of the materials might evolve. Monitoring the list is consequentially important.

With the aim of reusing or recycling at least 80% of the materials of the prototype, BALIHT is well positioned to exceed the **circularity requirements** of the new piece of legislation *Batteries and Waste Batteries Regulation (2020)*.