FLOW BATTERIES EUROPE

A united voice for flow batteries

A CASE FOR INCLUDING FLOW BATTERIES IN THE BATTERY PASSPORT

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1. THE ISSUE WITH THE BATTERIES REGULATION

The Batteries Regulation, proposed by the European Commission, is a very welcome and comprehensive piece of legislation, which will ensure the social and environmental sustainability of batteries in the coming decades. However, as it is largely focused on batteries with internal storage, it excludes some of the other key technologies, including flow batteries. As the European association representing key actors across the entire flow battery value chain, we recommend that flow batteries should be included in the Battery Passport obligations, including the carbon footprint calculation and declaration.

2. WHY FLOW BATTERIES SHOULD BE INCLUDED IN THE BATTERY PASSPORT

Excluding flow batteries from the key requirements of the Batteries Regulation, such as the Battery Passport and the carbon footprint calculation, is problematic for several reasons.

First, it raises commercial concerns. Our members note that information regarding the key requirements noted by the Batteries Regulation for batteries with internal storage, including the carbon footprint calculation, safety, supply chain due diligence, and others, are already being requested by their customers. As a result, it would be necessary to have a standardised and widely-accepted list of information that must be collected and a uniform way of how it should be reported. In contrast, providing an EU-wide classification of safety and sustainability to some but not all batteries might be seen as giving unfair advantage to certain battery technologies and indicating that they are preferred over others, thus contravening the technology-neutral approach.

For example, Article 7 of the Chapter II of the Batteries Regulation foresees awarding batteries with internal storage a carbon footprint performance class according to standardised calculations. However, if some battery technologies are awarded this performance class, while flow batteries are not, it could mean that flow batteries are seen as a less reliable technology or "not important" by other market actors.

Secondly, it raises environmental concerns. The Batteries Regulation notes that most of its requirements are aimed at the sustainability of the industrial and electric vehicle batteries with internal storage and a capacity above 2kWh, as it is the market segment which is expected to increase the most in the coming years.

However, a study "Storage in the Loop", undertaken by the Fraunhofer Institute and the Institute of Information Systems and Marketing, investigated the possibility of implementing 100% renewable energy in the German land of Baden-Württemberg. The study identified "renewable gaps", where, in a one-hour period, the total renewables production is less than 50% of the total load. The results show large peaks for not only 1- to 2-hour gaps, but also 8- and 10-hour gaps, thus indicating that long-term storage solutions are fundamental to achieving carbon-neutrality.

This shows that to achieve carbon neutrality, more and more long-term storage solutions will be needed in the future, including flow batteries. The failure to include flow batteries under the requirements of the Battery Passport, such as the carbon footprint calculation and reporting, could therefore negatively impact the aim to increase the sustainability and circularity of batteries.

In addition, flow batteries have already quite strong sustainability benefits, such as the ability to be produced without using any critical materials, the reusability, repurposing and recyclability of its parts, and long lifetime (20 years or even more). Therefore, applying carbon footprint performance rankings and supply chain due diligence checks to all batteries would allow for market actors to make the most informed decisions in choosing the most environmentally-friendly technologies.

Finally, excluding flow batteries from the Batteries Regulation raises competition concerns. Flow Batteries Europe (FBE) members have already indicated that they would be willing to collect and make available the information requested by the Battery Passport, such as the carbon footprint, safety information and others, for their customers. However, in the absence of an explicit requirement, it is not clear that all flow battery manufacturers would be willing to do so. In addition, while in the EU, the metrics for carbon footprint calculation are transparent and widely accepted, this may not be the case in non-EU countries. Therefore, failure to establish a clear standard might make it impossible to objectively compare the environmental sustainability of flow batteries, thus potentially making less sustainable technologies more competitive. A lack of carbon footprint regulations for flow batteries could also open the European door to non-EU producers from less regulated countries, potentially resulting in the large-scale market uptake of technologies suitable for long duration storage built at cheaper prices as a consequence of lower environmental standards.

However, our members also believe it may be problematic to include flow batteries under all the requirements set out for batteries for internal storage. This is because flow batteries are different from the short-term battery technologies. Therefore, some parameters set out in the Batteries Regulation to assess, for example, lithium-ion batteries (such as C-rate and rated capacity) are not relevant when evaluating flow batteries. To ensure the achievement of the EU's circularity goals, we believe that flow batteries should be included under the key sustainability requirements of the Battery Passport, such as the carbon footprint calculation, safety and supply chain due diligence.

3. SUMMARY

In summary, we believe that including flow batteries as a separate (sub)category under the Battery Passport obligations, including the carbon footprint calculation and declaration, would help:

Level the playing field between different battery technologies.
Ensure that all stationary battery storage technologies comply with the carbon footprint standard and therefore contribute in achieving decarbonisation by 2050.
Ensure that a core long-term storage technology, which is necessary for introducing 100% renewables into the energy system, is covered by the key piece of EU legislation on the safety and environmental standards of batteries.

We recommend that the Batteries Regulation is extended to include all flow batteries. FBE remains at the disposal of EU policymakers to collect and provide the data necessary to establish the maximum carbon footprint and other relevant standards.

FOR FURTHER INFORMATION:

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ABOUT FLOW BATTERIES EUROPE (FBE)

Flow Batteries Europe (FBE) represents flow battery stakeholders with a united voice to shape a long-term strategy for the flow battery sector. We aim to provide help to shape the legal framework for flow batteries at the EU level, contribute to the EU decision-making process as well as help to define R&D priorities. Flow Batteries Europe is working to create and reinforce networks between key stakeholders in the flow battery industry.

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