May 2020 Policy brief

Powering the European Green Deal:

Key policy trends on lithium ion batteries

BATMAN

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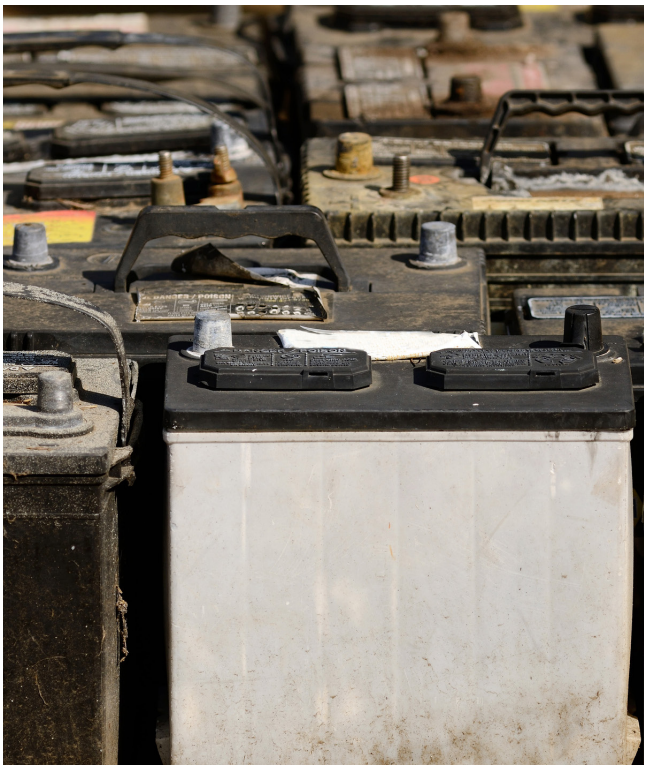
A decade ago, the regulation of batteries in Europe was primarily concerned with managing safety hazards stemming from chemical components. As we enter the 2020s, batteries have become central to the EU's ambition to strengthen European competitiveness, achieve climate neutrality and protect the environment.

The EU envisions the emergence of a new battery industry. Batteries will allow for electrification of the car-fleet and are seen as key to the reduction of greenhouse gas emissions in Europe. The aspiration is that batteries and their components should be reused or recycled indefinitely, thereby securing that critical raw materials remain in Europe and enable a more circular economy.

Major new regulation in the making

The battery industry is at a critical junction where a number of new policy measures are either in the making or are being substantially revised. We will likely see significant regulatory development in the period 2020-2022. Key initiatives include:

- The long-anticipated revision of the Battery Directive is evolving into the formation of a broader regulatory framework for batteries in the EU. A regulation, rather than a directive, will entail more unified legislation on batteries across the EU.
- The Waste Shipment Regulation is under review in 2020. If battery components are labelled toxic, then exporting across borders become difficult. A balance will need to be struck between managing toxic hazards and enabling large scale market exchange and transport of batteries and battery components across the Single Market. The latter is crucial if the nascent and circular battery industry is to grow further.
- The End-of-Life Vehicle (ELV) directive aims to reduce waste from End-of-Life vehicles. The ELV directive is expected to be revised soon, most likely in the course of 2021, or shortly after the new comprehensive battery regulation is in place.



Battery waste: new classification and targets

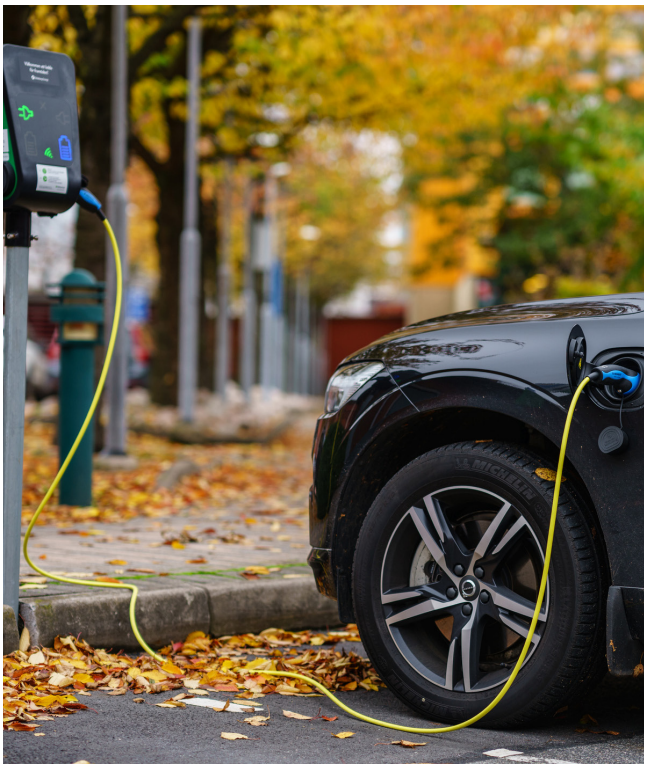
Lithium ion (LIB) batteries for electric vehicles have sorted under the category Industrial Batteries in the EU battery directive from 2006. This classification might be revised in order to better capture the importance and actual use of these batteries.

In the recycling targets that the battery directive stipulates, LIBs are considered as ‘other batteries’. However, a separate target for the recycling of LIB waste will probably be formulated. This will likely be more ambitious than current provisions and include a combination of material and weight-based targets.

The digital transformation of batteries

The European Commission wants to spur further digitalization in the battery value chain. The European Product Database for Energy Labeling (EPREL) may offer a template for future arrangements in the battery sector. EPREL requires the suppliers of some products to register information related to energy, technical documentation and compliance in a database.

A QR code system for batteries that can enable information sharing among actors in the value chain is being discussed. A QR code system may allow for different levels of access to information about batteries, thereby facilitating commercial actors’ differing needs to protect, access or share information. Increasing the availability of detailed information about content and state of individual batteries will likely enable more reuse or recycling of batteries and battery components. It may also be an opportunity to share information about the environmental footprint of the battery, including levels of CO2-emissions in the extraction and production of key components.



Europe goes green

The battery policies are formulated in the context of The European Green Deal. This was launched in December 2019 and is intended to serve as an overarching policy framework and reference point for much of the EU's economic, industrial, and environmental initiatives. The deal is remarkably ambitious. It aims to make Europe the first climate-neutral continent by 2050 and radically reshape the way Europeans produce, consume and use resources. It includes the possible adoption of an EU climate law and upgrades to the Emissions Trading System. The Energy Taxation Directive will likely be revised in further efforts to ensure effective carbon pricing throughout the economy. There is also an explicit ambition to avoid carbon leakage through a potential Carbon Border Adjustment Mechanism. The EU will reform public and private finance through the comprehensive Sustainable Finance Initiative and a strategy on Sustainable and Smart Mobility will come in the course of 2020.

The EU Green Deal stresses the need to change from a linear to a circular economy and signals, as does the March 2020 Circular Economy Action Plan, the importance of some critical sectors becoming, what the commission terms, climate and resource frontrunners. The Commission wants to see breakthrough technologies in areas such as clean hydrogen, fuel cells and energy storage. The European Battery Alliance receives particular mention as a useful way to collaborate when delivering on the green and digital transformations. At least two major funding initiatives (Important Projects of Common European Interest, IPCEI) related to batteries are being implemented or planned.

Not derailed by Covid-19?

Managing and mitigating the negative impact of the Covid-19 crisis will be the main task of the EU's political and bureaucratic entities in the months ahead. However, this might not necessarily derail efforts to strengthen and make battery value chains more sustainable. Indeed, such measures could become integral to the EU's Covid-19 recovery policies, and thereby further bolstered.

This policy brief is a deliverable in the Research Council of Norway funded project ‘Lithium ion BATteries - Norwegian opportunities within sustainable end-of-life MANagement, reuse and new material streams’ (BATMAN). The brief presents findings from a first and preliminary round of data collection on battery regulation in early 2020 when 19 interviews were conducted in Brussels. A more extensive report has also been issued to research consortium members. The overall target of BATMAN is to develop a comprehensive material flow analysis (MFA) that can enable companies to understand the business opportunities in the emerging European lithium ion battery (LIB) value chain. This is a multifaceted research project, which involves around 15 researchers and companies related to the process and energy industries. It assesses issues such as technological developments, regulatory context, potential new business models and the wider production and use of batteries and associated materials.