

## Platform recommendations on European Battery Package

Date: March 2020

Batteries will underpin Europe's efforts to achieve a climate neutral economy and transport electrification. In the European Green Deal, the European Commission stated that a '90% reduction in transport emissions is needed by 2050 (compared to 1990)' and that road transport needs to move to zero emissions beyond 2025<sup>1</sup>. In order to reach this objective, Europe will have to significantly increase the uptake of zero emission technologies, with a strong emphasis on battery electric vehicles. This will require large amounts of batteries on the European market required to power the mass expected number of zero emission vehicles.

Within this context, the Commission should therefore take stronger action and prioritise these zero emission technologies in the upcoming EU Industrial Strategy and the Circular Economy Action Plan planned for March 2020 to support the domestic production of sustainable batteries.

In preparation for the upcoming EU Battery Strategy expected for October 2020, the Commission must prioritise a circular economy approach when it comes to addressing the recycling of batteries. This includes ensuring the security of supply of raw materials, the reuse (where adequate) and recycling of batteries, as well as the high environmental and social values in the manufacturing process as ways to promote a sustainable EU battery industry. Moreover, it will be extremely important to take note of the emerging new jobs related to the dismantling and recycling sector overall, as well as the processing and the reincorporation of used active materials within new batteries (i.e. when repurposing is economically proven to be better than recycling).

This is the only path to build a strong and competitive sustainable battery industry in Europe. Success in the European EV revolution is heavily dependent on the success of Europe's up and coming battery industry. Only with clear focus and political will, can Europe fully enhance the benefits of a home-grown industry, bringing economic value, jobs and growth as a part of the energy transition.

### Sourcing of battery materials

The entire battery value chain represents a key industrial opportunity for Europe. Ensuring sustainable sourcing is key to addressing the future development of the EV sector and will help EU battery companies differentiate themselves globally. Furthermore, it will build trust between the industry and the consumers and ensure that the energy transition is not compromised with sustainability aspects in the mining and raw materials industry. Requirement for the ethical and transparent sourcing of raw

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<sup>1</sup> European Green Deal. 11 December 2019.

[https://ec.europa.eu/info/sites/info/files/european-green-deal-communication\\_en.pdf](https://ec.europa.eu/info/sites/info/files/european-green-deal-communication_en.pdf)

materials must be supported at EU level to ensure that the battery industry brings social and environmental value along the entire value chain.

To ensure a sustainable and risk-free supply chain, ethical sourcing for batteries should be based on the five-step framework described in OECD Due Diligence Guidance for Responsible Supply Chains of Minerals:

1. establish a company management system
2. identify and assess risks in the supply chain
3. design and implement a strategy to respond to identified risks
4. carry out an independent third-party audit of supply chain due diligence at identified points in the supply chain
5. report annually on supply chain due diligence

Since the OECD guidelines do not cover environmental risks, an additional requirement should be included to comply with ISO standard 14001 on environmental management.

In this vein, sustainable sourcing should also be based on overall ILO labour conditions and the ISO 14001:2015 on workers' rights. There should also be a degree of conformity to the Directive 2014/95/EU which requires extra financial reporting for battery companies over 500 employees.

At the same time informal sources of mining, often known as 'artisanal mining', must be tracked, checked and improved as much as possible as cutting them out would result in the deterioration of the overall economic situation of these persons. Some good practice on this currently includes pilots of formalising the artisanal sector. The EU should use, for instance, its development aid to scale up such schemes and allow local populations to fully benefit from the EU drive to electromobility.

In addition, acting to promote sustainable raw materials should also mean increased funding in EU projects to ensure sustainability in existing value chains, but also stimulating new ones. Further to this the EU industrial strategy should be maximised in order to target building mining and refining capacity within Europe. Stimulating European mining and refining industry will be essential to provide the growing battery industry with sustainable raw materials.

### **Carbon footprint**

Carbon footprint criteria, on the other hand, will be a key tool to increase transparency and provide the consumers with relevant information about the battery's environmental footprint. It specifically should be based on where the battery and its key components such as cathodes are produced, as well as by CO<sub>2</sub> per kWh. The method to calculate the carbon footprint, however, should be based on an agreed robust EU methodology addressing all batteries chemistries and covering all key emission hotspots/phases.

For instance, companies that directly use CO<sub>2</sub>-free sources of electricity for the manufacturing of battery cells should be rewarded, by e.g. receiving credits as this could be a strong incentive to clean up the entire value chain.

### **Other environmental impacts:**

Sustainable batteries should also be clearly incentivized within any upcoming batteries legislation and make sure batteries that are highly responsible have a higher rating. That is why it is important to use “Resource usage by material ” and “Emissions” (CO<sub>2</sub> and other indicators relevant and reliable in the years ahead) as indicators as well as consider and include the carbon impact of recycled materials in the LCA (cf. recycled metals, plastic). Successful rewards/incentives can include labels, preferential taxation or additional incentives on EU carmakers to source such sustainable batteries as a priority.

### **Collection/recycling & traceability**

As part of the revised legislation on batteries, the Commission should ensure that all lithium ion batteries are treated equally and depend upon the same regulation. However, it is important to take the applications of the various technologies into account when revising relevant legislation, e.g. on performance.

Subsequently, any future batteries legislation must ensure that there are as ambitious recycling targets as technically and economically feasible, taking into account the environmental impacts of the recycling processes and the economic value of the materials contained in the batteries. This should include the creation of a separate category of lithium-ion chemistries within the Battery Directive, specific recovery targets for recycling active and raw materials (e.g. cobalt & lithium), and incentives to reuse recycled metals in new batteries.

As recycling could lead to new economy and jobs in the EU, it is important to distinguish the recycling of the whole battery pack and its critical components. Dismantling and the recycling can be two separate business models. Dismantling might be handled at local level, creating new businesses, while the active materials would be shipped for recycling by high-tech industries. To support these new business models, it is important to value the amount of recycled metals in new lithium-ion batteries and include the carbon impact of recycled materials in the LCA.

Consequently, when it comes to tracing of the batteries, it is key that there is one single identification system managed at EU level as this would ease the sorting for recycling. Moreover, such a code would help authorised recyclers automate battery dismantling and have a better understanding of the detailed bill of materials to increase the recovery rates. Therefore, making the recycling process more economically sustainable.

The identification system will also ensure that batteries are not lost once they hit the market. A better system of traceability could also help deter the illegal export of cars outside the EU. Since the legally required information attached to a battery is extensive, a harmonization within a simplified marking

seems necessary, by e.g. a universal battery system code across the EU single market. This is to increase user-friendliness and reduce the financial and administrative burden on battery manufacturers.

Basic dynamic and static data should be made available to relevant stakeholders in this regard such as origin, mines, production plant, and producer as this is all key information needed for both sustainability and traceability of the critical raw materials inside the battery.

### **End of life vehicles**

Another aspect that must be kept in mind is the issue of ensuring that vehicles are not lost along the value chain and so that they are properly and effectively tracked and collected. Within this vein, the Commission should endeavour to replicate current national best practices into an EU-wide mechanism, such as the domestic framework that exists in the Netherlands in order to track a high share of ELVs in the country and ensure these are properly dismantled. Indeed, in the Dutch perspective, the so-called 'holder' (or owner) of the vehicle has the responsibility for the taxation, inspection, and insurance of the car for as long as it has not been properly de-registered. Each vehicle is tracked via the register from the beginning of its life to the very end and incentivizes the owners to obtain official Certificate of Destruction (CoD) in order to stop paying vehicles usage charges.

### **Second life of batteries**

Within this context, there should also be a consistent framework put into place to unlock the potential of so-called second life EV batteries before the end of life management and according to the circular economy principles. Second and third life of batteries might offer interesting business opportunities depending on battery application and increase battery lifespan. However, reuse should be facilitated, but not mandated over recycling.

Moreover, currently, it is not clear if used batteries are considered a waste or not. This regulatory void may lead to classify batteries prematurely as waste, that could otherwise have been re-used or repurposed. Future battery legislation therefore should classify batteries as end-of-waste before they are used for second and/or third life purposes, especially for those that are to be reused for a different application. Second life batteries shall also be clearly identified and characterized when placed on the second life market and before being sold to the new users. In fact, in order to correctly apply re-use purposes, processes for the evaluation of "state of health" of end-of-life batteries that are to be re-used in second-life applications need to be adopted. Necessary battery data will be needed in this regard.

Battery warranty and lines of responsibility should be clarified and transferred between economic actors (i.e. extended producer responsibility) in order to facilitate these business models and to allow for innovative solutions for second (and third) life applications to develop.

Furthermore, when used batteries are transferred for new applications, clear safety standards and traceability must be developed where batteries are tested and evaluated based on strict safety criteria.

### **Shipment of batteries/classification of waste**

Transportation rules should similarly be simplified and harmonised across Europe to enable a market and economies of scale for battery repair, reuse and recycling.

In fact, the transport of batteries, both new and at the end of their life, is subject to the rules for the transport of dangerous goods, this implies important obligations for manufacturers and recyclers in terms of staff training, choice of packaging, and shipping procedures. The development of multimodality of transport, with a progressive increase in transport by rail, ship or inland waterways, will bring new skills for those who traditionally work in road transport and therefore new training obligations, including transport companies and shippers.

Furthermore, given that end-of-life batteries are subject to waste legislation, which may also be subject to local regulation, clarification and updating of the European Waste Codes (EWC) will also be extremely important. This is important as they will become more specific for the different types of batteries in order to make the flow of collection and recycling more traceable and homogeneous, increasing the recycling efficiencies of materials necessary for the production of new batteries.

Finally, another key important topic will be to facilitate cross-border and intra-EU, flows of batteries so that they end up at pre-consented approved recyclers and ensure that they are not lost once they reach the end of their life.