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Technical Assistance for Assessment of Turkey's Potential on Transition to Circular Economy

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New EU rules for more sustainable and ethical batteries

Piotr Barczak – European Environmental Bureau

Activity 1.2.1. Circular Economy Training
12th May 2022 - Antalya, Türkiye

REPUBLIC OF TURKEY
MINISTRY OF ENVIRONMENT, URBANIZATION AND CLIMATE CHANGE

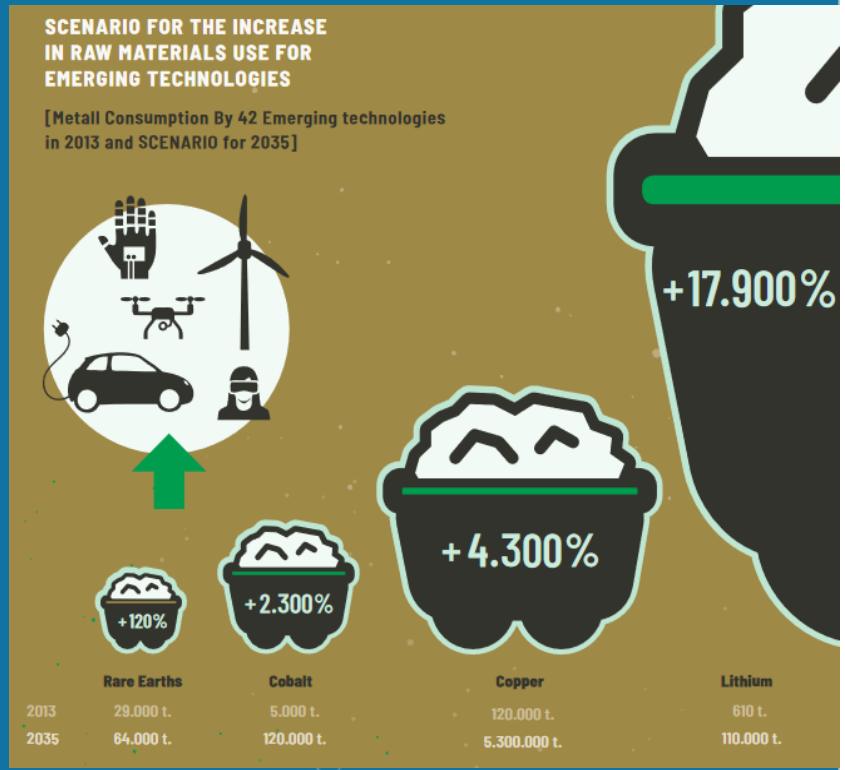
Environment and Climate Action Sector Operational Programme

deep
Circular Economy Action Plan

DAI

EU Batteries Regulation

12 May 2022



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Increase in materials demand

- For electric vehicle energy storage batteries the EU would need 18 times more lithium and 5 times more cobalt in 2030, and almost 60 times more lithium and 15 times more cobalt in 2050.

- Demand for rare earths used in magnets for e.g. electric vehicles, digital technologies or wind generators could increase tenfold by 2050.

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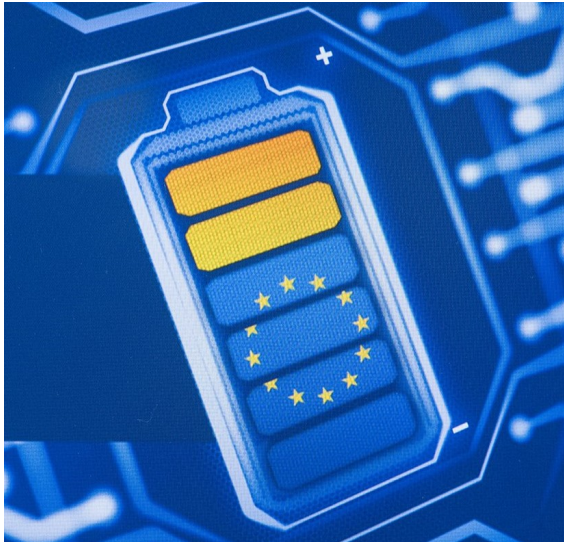
TURNING THE GROWING BATTERY MARKET CIRCULAR

- Making sure batteries placed on the market will act as cost effective reservoir of critical materials for the future generations of batteries and mitigating the environmental harms linked to material extraction
- Bridging the climate, transport and circular economy communities around a holistic vision for decarbonization EU economy.
- Creating business opportunities around batteries life extension, reuse and recovery in Europe
- Substitution of most toxic technologies by clean alternatives enhancing further the circularity of battery market



Wider context

- Batteries Strategic Action Plan - 2018

- Revision of the EU Batteries Directive (2006/66/EC)
  → Publication of Staff Working Document – April 2019

- Batteries **NOT INCLUDED** in the Ecodesign Working plan 2016-2018

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Scope

Ecodesign ? → Framework Directive excludes means of transport

Study focuses on: **Rechargeable electrochemical batteries with internal storage**
= industrial batteries i.e. any battery designed for exclusively industrial or professional uses or used in any type of electric vehicle.

Battery pack of a Tesla model 3
https://www.freightwaves.com/news/2018/1/26/tesla-engineers-warn-model-3-batteries-could-catch-fire

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Policy framework

- **Batteries Directive from 2006 is outdated.**
  - Collection targets
  - Recycling targets
  - Substances
  - Responsibilities (EPR)

- **ELV Directive from 2000 does not consider e-vehicles**

Minimum sustainability requirements ?

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Policy options

Considering the **ethical sourcing** of raw materials, and **carbon footprint** of the battery production process.

Minimum **warranty** on battery packs

Mandatory **information requirements** (on battery content and state of health

Minimum **battery pack design requirements** to support reusability/ recyclability / recoverability?

Timeline

European Commission ordered an additional study on sourcing of raw materials and measures to limit the carbon footprint of production processes.

→ **3rd stakeholder meeting before end of 2019**

Concrete regulatory actions to be taken by new European Commission taking office 31st October 2019

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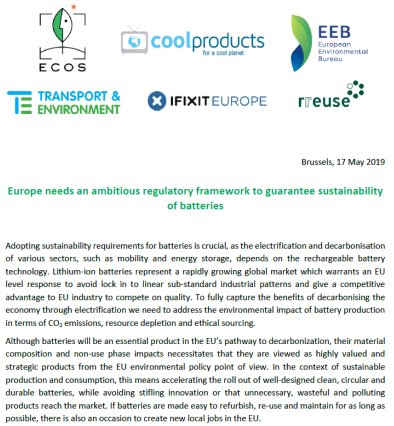
What have we done ?

- Attended **2 stakeholders meetings** (December 2018 and May 2019)
- Provided **written comments** on the preparatory study.
- Co-signed (with Transport & Environment) a **letter** to VP Sefcovic and Commissioner Bienkowska (March 2019)
- Co-signed a **position paper** on our views on the regulatory framework for batteries (May 2019)



ECOS · coolproducts for a cool planet · EEB European Environmental Bureau · TRANSPORT & ENVIRONMENT · IFIXIT EUROPE · reuse

Brussels, 17 May 2019

Europe needs an ambitious regulatory framework to guarantee sustainability of batteries

Adopting sustainability requirements for batteries is crucial, as the electrification and decarbonisation of various sectors, such as mobility and energy storage, depends on the rechargeable battery technology. Lithium-ion batteries represent a rapidly growing global market which warrants an EU level response to avoid lock in to linear sub-standard industrial patterns and give a competitive advantage to EU industry to compete on quality. To fully capture the benefits of decarbonising the economy through electrification we need to address the environmental impact of battery production in terms of CO_2 emissions, resource depletion and ethical sourcing.

Although batteries will be an essential product in the EU's pathway to decarbonization, their material composition and non-use phase impacts necessitates that they are viewed as highly valued and strategic products from the EU environmental policy point of view. In the context of sustainable production and consumption, this means accelerating the roll out of well-designed clean, circular and durable batteries, while avoiding stifling innovation or that unnecessary, wasteful and polluting products reach the market. If batteries are made easy to refurbish, re-use and maintain for as long as possible, there is also an occasion to create new local jobs in the EU.

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The Batteries Regulation aims to:

- Harmonise product requirements for batteries
- Minimise environmental impact of batteries
- "Close the loop" by encouraging reuse and improving batteries collection and recycling of materials
- Provide legal certainty to unlock investments and boost the production capacity for sustainable batteries in Europe and beyond

This will be achieved by:

- Sustainability and safety requirements for batteries
- Performance and durability requirements
- Labelling and information requirements e.g. on hazardous materials
- End-of-life management – increased separate collection, recycling and materials recovery

This will support development of circular and resource-efficient approaches, reduce dependency on virgin materials and the environmental impacts of their extraction and contribute to renewable energies achieving climate neutrality by 2050.

Objectives

Strengthening the functioning of the internal market by ensuring a level playing field through a common set of rules	Fostering the production and placing on the EU market of high-quality batteries
	Ensuring functioning markets for secondary raw materials and related industrial processes
	Promoting innovation and the development and take-up of EU technological expertise
Promoting a circular economy	Increasing resilience and closing the materials loop
	Reducing the EU's dependence on imports of materials of strategic importance
	Ensuring appropriate collection and recycling of all of waste batteries
Reducing environmental and social impact throughout all stages of the battery life cycle	Contributing to responsible sourcing
	Using and sourcing resources, including raw and recycled materials, efficiently and responsibly
	Reducing GHG emissions across the entire battery life cycle
	Reducing risks to public health and to environmental quality and improve the social conditions of local communities

Enhancing the sustainability of batteries – NGO position paper

Download File

Categories:	Circular Economy, Resource Efficiency, Waste and Recycling
Types:	Joint Publication
Published:	16 March 2021
Size:	6.00 MB

From transport and energy storage to smartphones, the revision of the EU's Battery Regulation has the potential to reduce the environmental impact and downside risks of our increasingly electrified and digital economy.

For this reason, together with **Deutsche Umwelthilfe, ECOS, Transport & Environment** and 42 other NGOs, we are calling on EU governments and institutions to implement a number of specific policy measures that would make durable, repairable and low carbon batteries the norm.

https://eeb.org/library/enhancing-the-sustainability-of-batteries-ngo-position-paper/

A sustainable value chain

- Delivering sustainable batteries
  - Produced with the lowest possible environmental impact (i.e. hazardous substances, carbon footprint)
  - Using materials that have been obtained in full respect of social and ecological standards (i.e. due diligence obligations)
  - Using recycled materials (i.e. minimum levels of recycled content)
  - Long lasting and safe (i.e. minimum levels of performance and durability, safety conditions)
  - Can be repurposed
- Putting circularity at the centre
  - Increased targets for the collection of waste portable batteries (from 45 % to 65 % and 70 %)
  - Reporting mechanism for electric vehicle, industrial and automotive batteries ensuring the no-losses policy
  - New recycling efficiency for lithium batteries and increased values for the rest
  - New material recovery targets for Co, Cu, Li, Ni and Pb
  - Barriers to repurposing lifted

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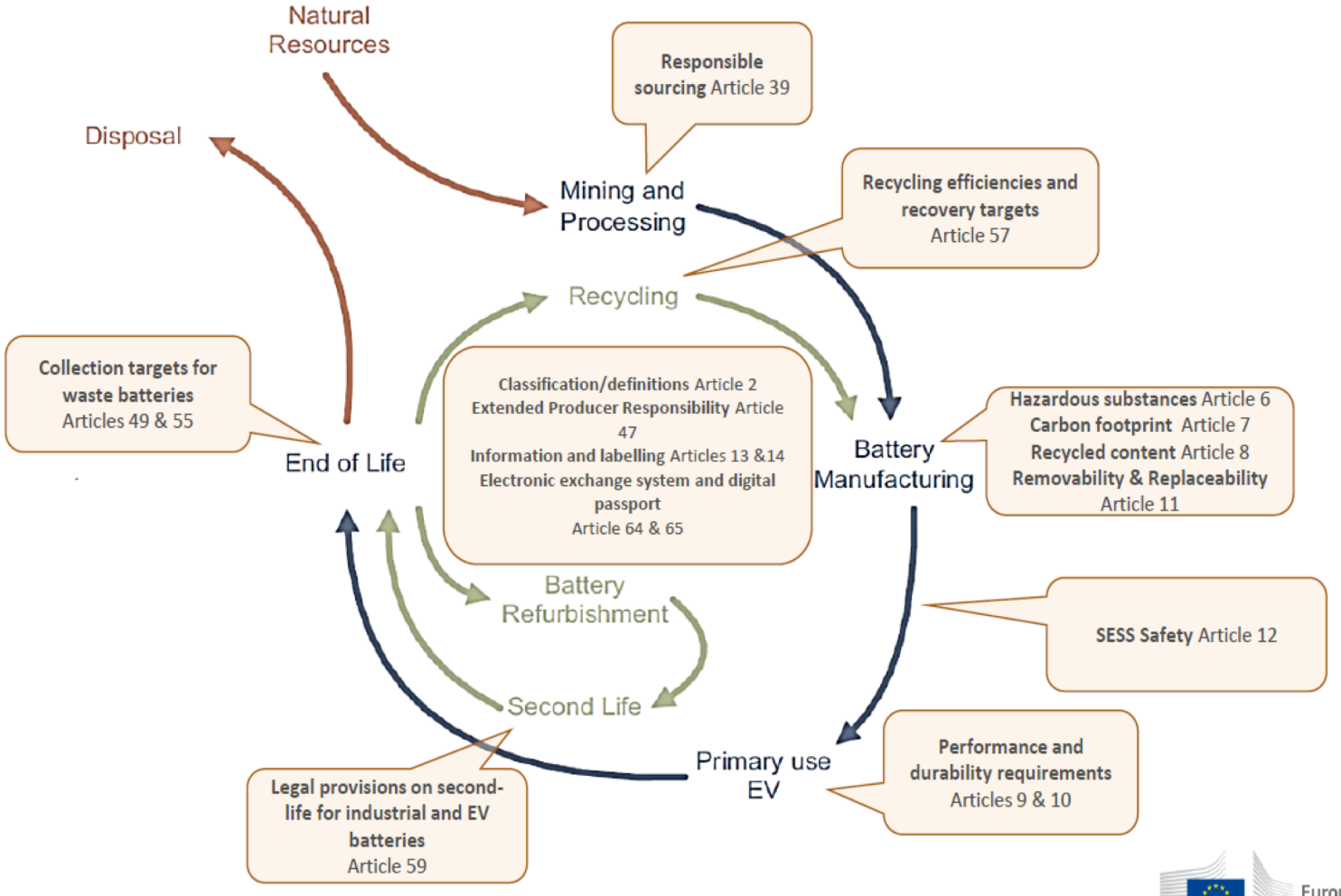
A Regulation covering the entire life-cycle



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Measure 1 - Classification and definition

✓ Classification based upon use of batteries (Portable, Automotive and Industrial)

- Give particular treatment to batteries for electric vehicles (EV)
- Change limits to better differentiate portable from industrial batteries

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Measure 2 - Second-life of EV batteries

✓No provisions at present

- New language, new concepts: to be waste or not to be waste
- Making possible market's choices
- In any event,
  - Transfer of EPR and other product-associated obligations
  - Technical conditions to be met
  - Safety of use for 2nd life batteries
  - Keeping track: avoiding easy exports of 'fake' non-waste batteries

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Measure 3 - Collection rate for portable waste batteries

✓ 45 % collection target

- 55 %, 65% or 75 % collection target in 2025 based in the current calculation method (PoM)
- Introduction of the concept Available For Collection (AfC) in the future

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Measure 4 - Collection rate for automotive and industrial batteries

✓ No losses of automotive and industrial batteries, i.e. 100 % collection

- Ensuring no losses: reporting system for automotive and industrial batteries
- Collection targets for some industrial batteries ?

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Measure 5 - Recycling efficiencies and **Measure 6** - Recovery of materials

✓ Recycling Efficiencies defined for lead-acid batteries (65%), nickel-cadmium batteries (75%) and other waste batteries (50%)

- Increase existing recycling efficiency values
- Define a new recycling efficiency for Li-batteries

✓'Highest degree of material recovery' obligation for lead and cadmium without quantified targets

- Setting quantified target values for some particular substances in both lithium (Co, Ni, Li) and lead batteries (Pb).

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Measure 7 – Carbon intensity (industrial batteries)

✓No provisions at present

Two possible stages considered for EVs and industrial batteries

- Information requirements on carbon footprint,
- Limit values

Based on common rules (PEF CR)

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Measure 8 – Performance and durability

✓No provisions at present

Two possible stages considered for EVs and industrial batteries

- Information requirements on battery performance and durability, in first applications as well as in second lives
- Limit values

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Measure 9 – Addressing non-rechargeable portable batteries (to progressively phasing out their use)

✓ No provisions at present

- Partial restrictions of portable non rechargeable batteries (limiting the access to the market of low performing batteries)
- Total prohibition of non-rechargeable portable batteries

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Measure 10 – Recycled content

✓No provisions at present

EVs and industrial batteries

- Information requirements for secondary Li, Co, Ni (content of secondary materials)
- Two sets of Mandatory levels of recycled content applicable from 2030 and 2035

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Measure 11 – Extended producer responsibility

✓EPR and PROs obligations reflect the provisions of the Waste Framework Directive, as amended

- Additional EPR rules for EVs' and industrial batteries' producers
- Ensuring EPR effectiveness for long-life products (as batteries)
- Additional fair practice minimum standards for Producer's organisations

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Measure 12 – Design

✓ Only obligations on removability

- Strengthening of current obligations on removability
- Set new obligations on replaceability
- Information requirements for end-users and economic operators on reparability

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Measure 13 – Provision of reliable information

✓ Specifications on information and labelling

- New information and labelling obligations are established
- New channels are included (e.g. QRs, websites)
- Battery passport for industrial batteries

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Measure 14 – Due diligence for the origin of raw materials

✓ No provisions at present

- Due diligence obligations for battery producers and manufacturers
- EVs and industrial batteries as primary targets

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