



For a sustainable battery value chain in Belgium/Europe

The new EU battery regulation and the Critical Raw Materials Act

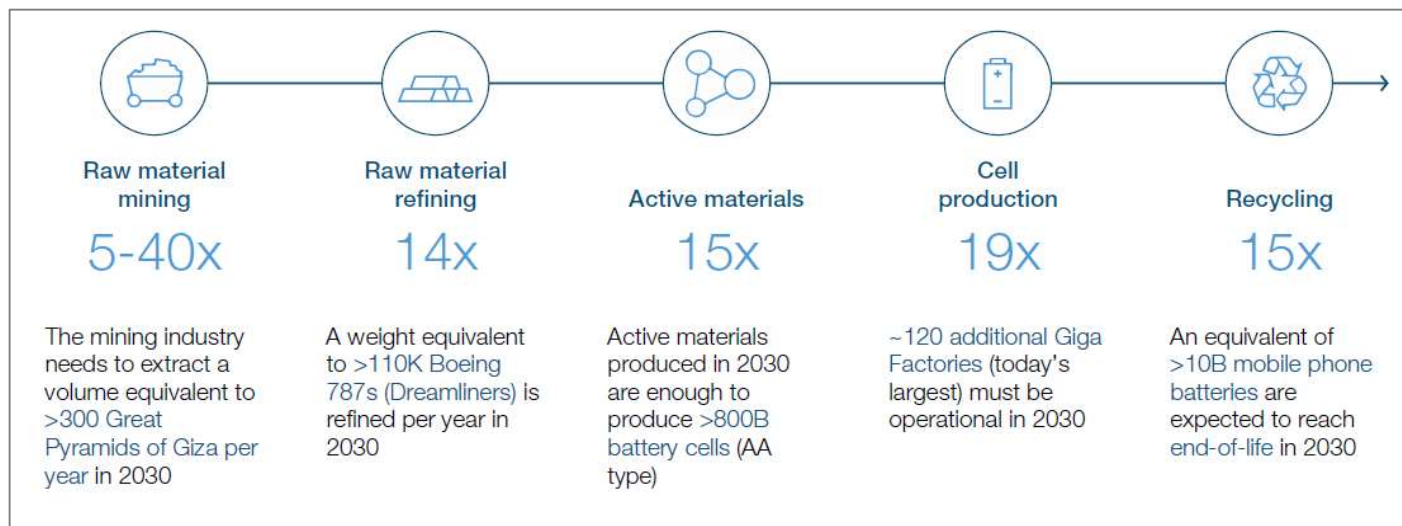
30 May 2023

#EUGreenDeal



Battery production and recycling is a strategic imperative for Europe in the context of the clean energy transition

Global need to scale up battery production by a factor of 14 across the value chain by 2030



- Transport causes roughly a quarter of greenhouse gas (GHG) emissions and is the main cause of air pollution in cities
- In the EU, from 2025 onwards, there is an opportunity to capture a market for batteries valued at up to €250 billion/year

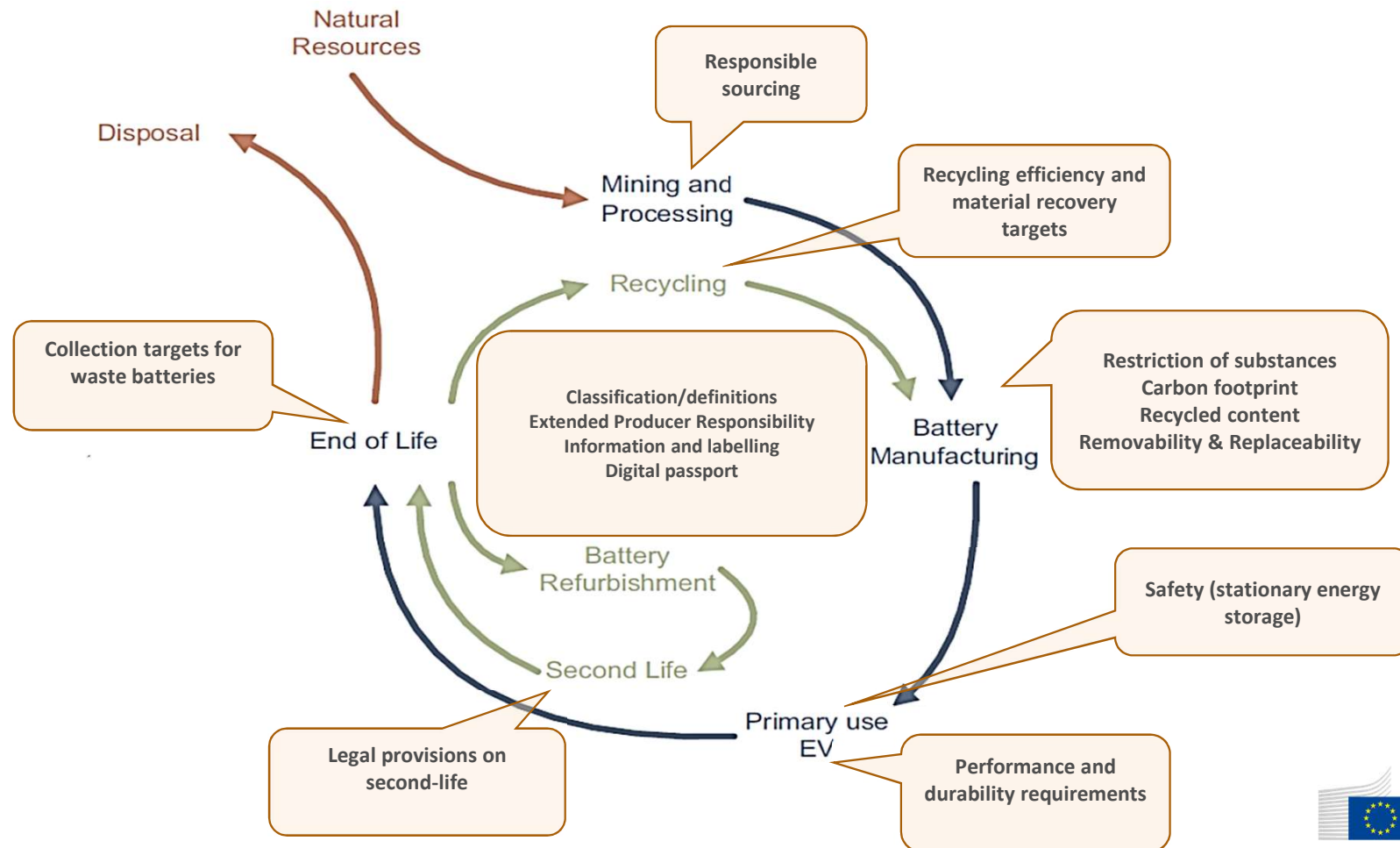
Source: World Economic Forum and Global Batteries Alliance, *A vision for a sustainable battery value chain in 2030: Unlocking the potential to power sustainable development and climate change mitigation*, 2019



Objectives of the new regulatory framework

- Leverage the EU's internal market to foster the production of sustainable high-quality batteries
- Ensure appropriate collection and recycling of waste batteries
- Ensure better functioning markets for secondary raw materials and related industrial processes
- Reduce the environmental and social impact throughout all stages of the battery life cycle
- Reduce the EU's dependence on imports of materials of strategic importance

The EU batteries regulation covers the entire life cycle



Main elements of the new regulation 1/2

CHAPTER II – SUSTAINABILITY AND SAFETY REQUIREMENTS

- Restrictions of substances
- Carbon footprint
- Recycled content
- Performance and durability
- Removability and replaceability
- Safety (only for SBESS)

CHAPTER VII – MANAGEMENT OF WASTE BATTERIES

- EPR obligations for producers/PROs
- Collection of waste portable/LMT batteries
- Recycling efficiency targets
- Material recovery targets
- Shipment of waste batteries outside the EU
- Reporting obligations



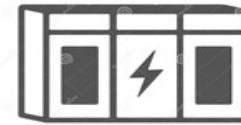
Main elements of the new regulation 2/2

CHAPTERS III & VIII – LABELLING AND INFORMATION REQUIREMENTS

- Labelling and marking
- Information via QR code
- Battery passport

CHAPTER VIa – DUE DILIGENCE

- Due diligence policy
- Management system
- Risk management plan
- Third-party verification
- Disclosure of information



Battery categorisation

- The new regulation is introducing two new battery categories, to a total of five, plus two battery sub-categories.
- **Portable battery** means any battery that is sealed, weights less than 5 kgs, is not designed specifically for industrial uses, and is not an SLI nor a LMT battery.
- **Portable battery of general use** means a rechargeable or non-rechargeable portable battery specifically designed to be interoperable and with the following common formats: 4,5 Volts (3R12), button cell, D, C, AA, AAA, AAAA, A23, 9 Volts (PP3);
- **SLI battery** means any battery designed to supply electric power for starter, lighting, or ignition, and that may also be used for auxiliary or backup purposes in vehicles, other means of transport or machinery.
- **Light Means of Transport (LMT)** battery means any battery that is sealed and weighs below or equal to 25 kg, designed to provide electric power for the traction to wheeled vehicles that can be powered by the electric motor alone or by a combination of motor and human power, including type-approved vehicle of category L in the meaning of Regulation (EU) No 168/2013, and that is not an electric vehicle battery.
- **Electric Vehicle (EV)** battery means any battery specifically designed to provide electric power for the traction of hybrid or electric vehicles of L category as provided for in Regulation (EU) No 168/2013, and with a weight above 25 kg, or designed to provide electric power for the traction to hybrid or electric vehicles of M, N or O categories (as in Regulation (EU) 2018/858).
- **Industrial battery** means any battery designed specifically for industrial uses, or intended for industrial uses after being subject to preparing for repurpose or repurposing, or any other battery with a weight above 5 kg that is not a LMT battery, an electric vehicle battery or a SLI battery.
- **Stationary battery energy storage system (SBESS)** means a rechargeable industrial battery with internal storage specifically designed to store and deliver electric energy from and into the grid or store and deliver electric energy to end-users.
- Any battery does not fit in any of the four first definitions is, as a residual category, an industrial battery. In case a battery conforms to more than one battery category, where different requirements are applicable, the most restrictive requirements shall apply.





Provisions on carbon footprint 1/2

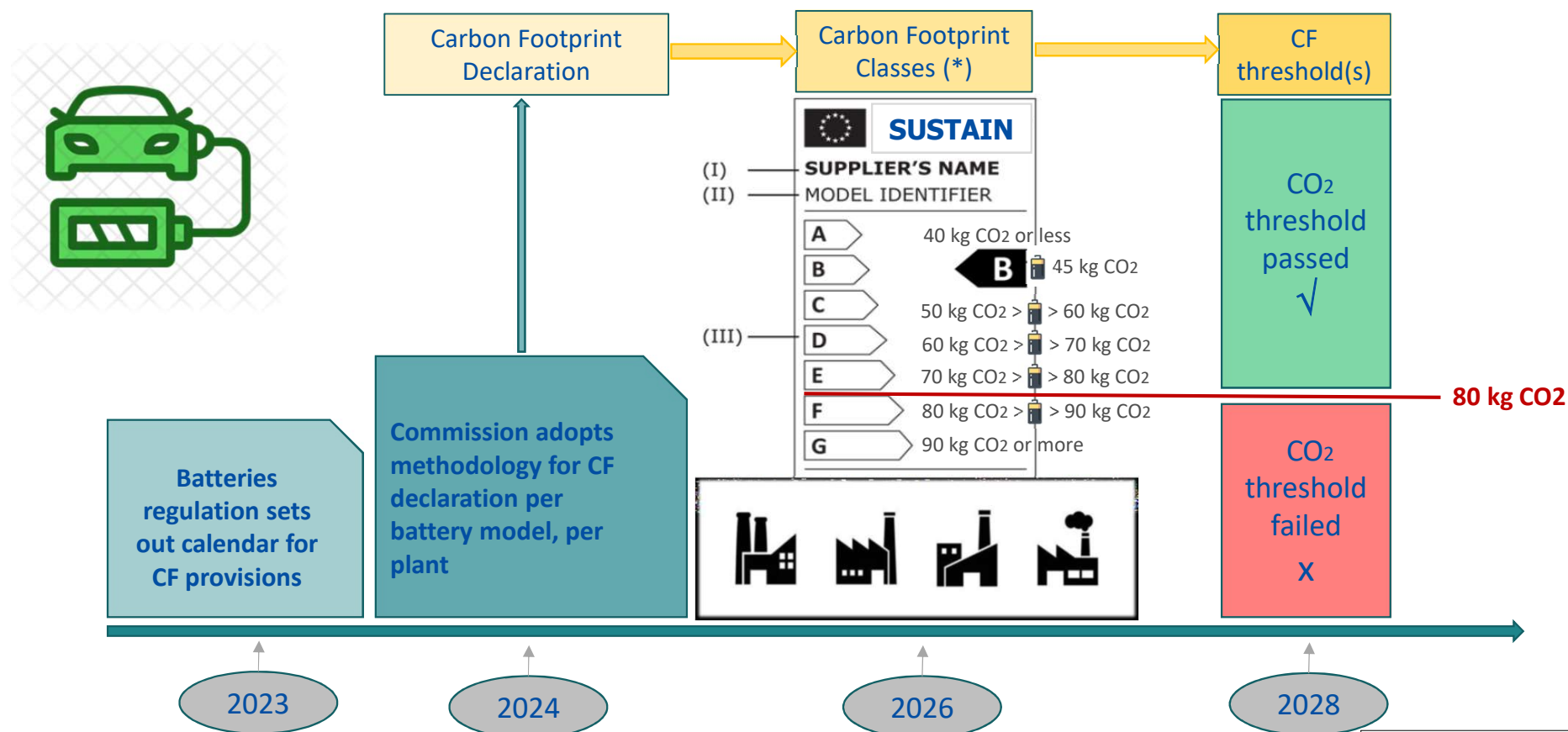
- Applicable to industrial batteries (above 2 kWh), EV and LMT batteries, with different timelines
- Staged approach: first declaration of the carbon footprint (CF), then performance classes, and lastly maximum thresholds
- CF declaration is calculated as kgs of CO2 equivalent per one kWh of the total energy provided by the battery over its expected service life, per battery model, per manufacturing plant.
- Methodology to be detailed by the Commission in a separate delegated act in 2024
- Feasibility study to extend to all batteries before the end of 2030.

Provisions on carbon footprint 2/2 – Timelines for economic operators

(assuming entry into force on 01.07.2023)

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
EV Batteries		DECL	CLASS		THRS						
Industrial batteries			DECL	CLASS		THRS					
LMT batteries					DECL		CLASS	THRS			
Industrial batteries with external storage (i.e. redox flow)							DECL		CLASS	THRS	

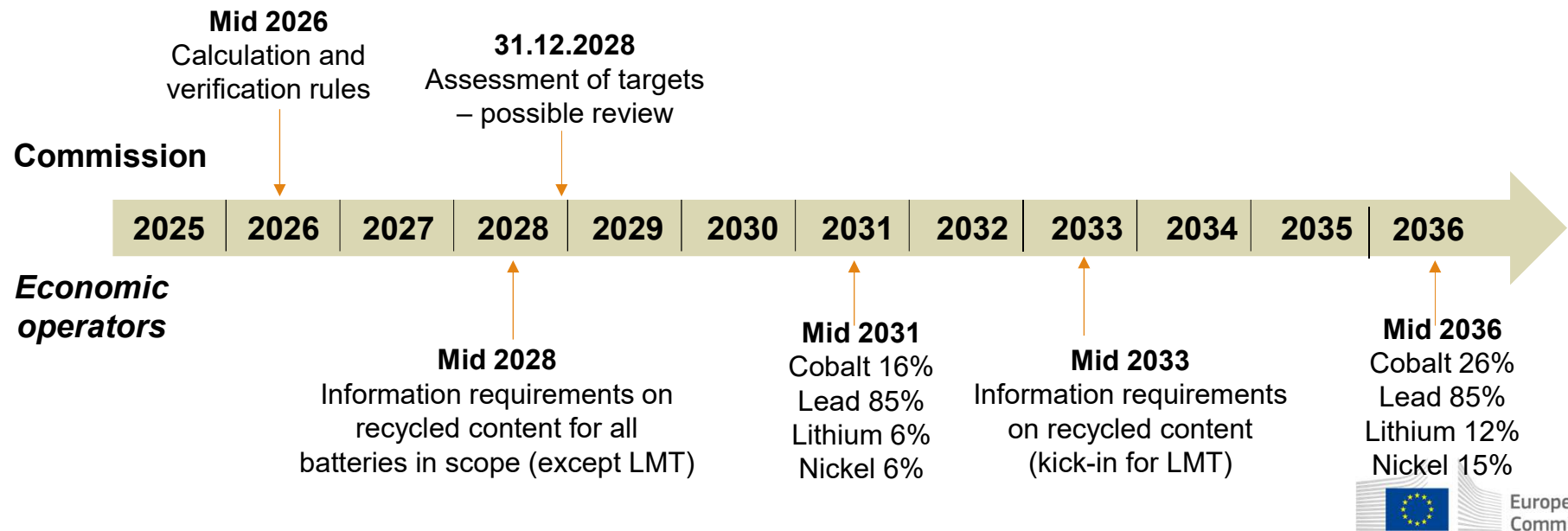
Carbon footprint requirements for batteries: declaration, performance classes and maximum thresholds



(*) All figures are merely indicative, until a proper techno-economic analysis is carried out.

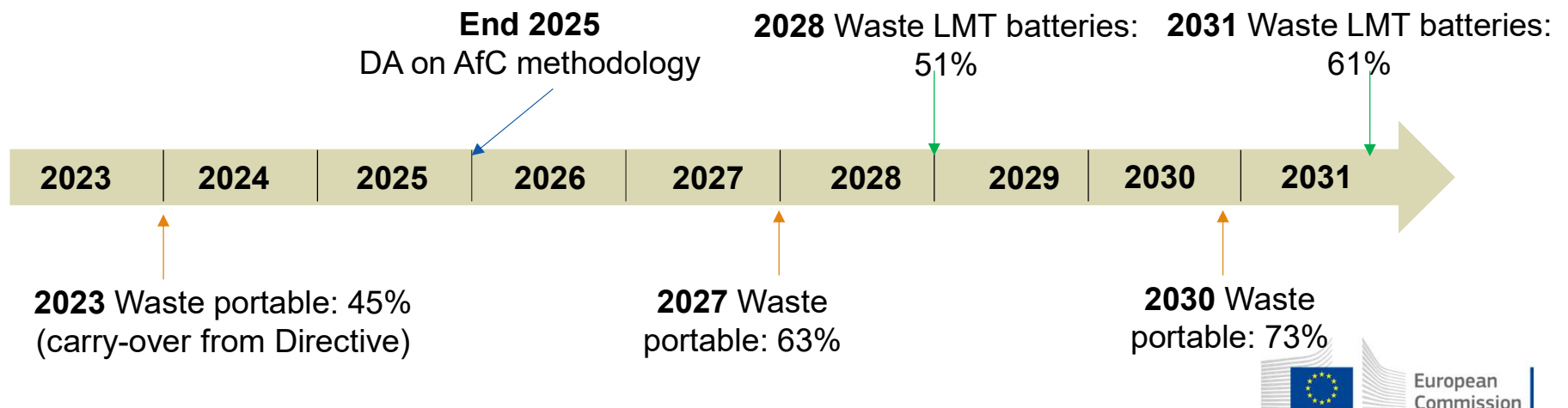
Provisions on recycled content

- Applicable to industrial, SLI (former automotive), EV batteries (and LMT from 2036)
- Valid sources of recovered material include **battery manufacturing waste** and **post-consumer waste**
- Staged approach: calculation methodology first, then declaration of recycled content, then minimum targets for recycled content (cobalt, lead, lithium, nickel)
- Possibility to review minimum targets in 2028-2029



Collection targets for waste batteries

- Obligation on producers to have batteries placed in the EU internal market collected, once they become waste.
- For waste industrial, SLI and EV batteries, an implicit 100% collection target remains.
- For waste portable and LMT batteries, a new methodology based on “Available for Collection” (AfC) will be developed with the aim to replace the existing methodology based on the volume of batteries placed on the market (PoM).
- The Commission is empowered to adopt rules for the calculation of the collection rates based on the AfC methodology and converting the targets in the regulation based on PoM to AfC, while maintaining the timing and level of ambition.
- By 01.01.2025 and every five years thereafter, Member States shall carry out a compositional survey of collected mixed municipal waste and WEEE streams to determine the share of waste portable and LMT batteries therein.



Targets for recycling efficiencies and material recovery

RECYCLING EFFICIENCIES BY 2025 AND 2030 (by average weight)

75 % for lead-acid batteries (80% in 2030)
65% for lithium-based batteries (70% in 2030)
80% for nickel-cadmium batteries
50% for other waste batteries

MATERIAL RECOVERY TARGETS BY 2027 AND 2031

90 % for cobalt (95% in 2031)
90 % for copper (95% in 2031)
90 % for lead (95% in 2031)
50 % for lithium (80% in 2031)
90 % for nickel (95% in 2031)

31.12.2024

Rules on calculation and verification

2023

2024

2025

2026

2027

2028

2029

2030

2031

01.07.2026

Review lithium
recovery target
(50%)

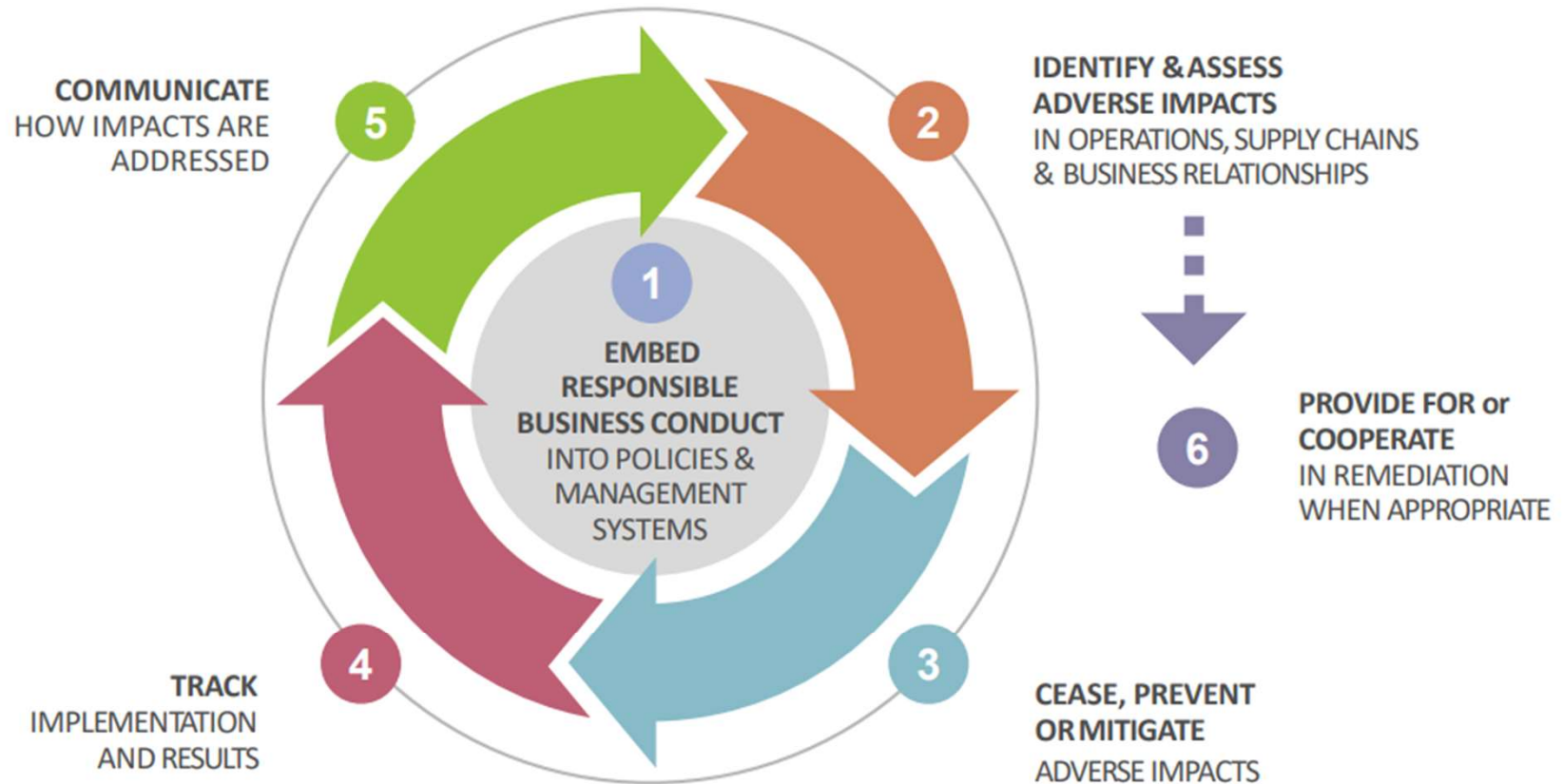
31.12.2028

Review all targets
for recycling
efficiencies and
material recovery

No fixed deadline:

Add other batteries
chemistries and
materials to the
targets

Due diligence framework



Source: adapted from OECD Due Diligence Guidance for RBC



Supply chain due diligence obligations

- Companies that place batteries on the EU market have to put in place a due diligence system for lithium, cobalt, nickel, and natural graphite contained in those batteries:
 - Adopt company due diligence policy
 - Operate a system of controls and transparency over the supply chain
 - Identify environmental and social risks (list of risk categories included in the Regulation)
 - Implement a strategy to respond to the risks
 - Be verified by a 'notified body'
- Companies with turnover of less than 40 million euro and not part of a large group are exempted
- Also applies to secondary raw materials of the minerals concerned
- Applying from mid-2025
- Commission will:
 - adopt guidelines early 2025
 - assess any due diligence schemes that are submitted to the Commission (such submission is optional)

Digital Battery Passport from 2027

- Scope → LMT, EV and industrial batteries above 2 kWh capacity
- Each passport is specific for each physical battery, accessible via a **QR code**
- System architecture will be decentralised relying on protocols developed through standardisation, jointly with architecture for the Digital Product Passport proposed in the new Ecodesign regulation
- Commission will further detail access rights to certain information of the passport

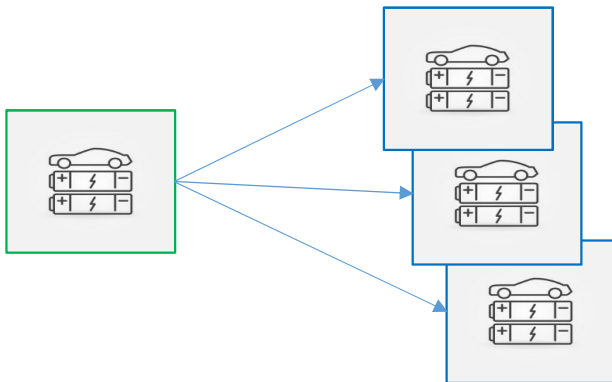
Information specific to each battery model

Information in Annex XIII Part A point 1



Information specific to each physical battery

- (a) information about the values for performance and durability parameters referred to in Article 10(1), when the battery is placed on the market and when it is subject to changes in its status;
- (b) information on the status of the battery, defined 'original', 'repurposed', 'reused', 'remanufactured' or 'waste';
- (c) information and data as a result of its use, including the number of charging and discharging cycles and negative events, such as accidents, as well as periodically recorded information on the operating environmental conditions, including temperature, and on the state of charge;
- (d) information on the state of health of the battery pursuant to Article 14



Critical Raw Materials Act 1/2

EUROPE FACES DEPENDENCIES ON KEY CRITICAL RAW MATERIALS

The EU is heavily dependent on critical raw materials from a number of third countries. Our dependency, combined with the growing global demand due to the shift towards a digital and green economy makes supply chains vulnerable.

WHAT ARE WE DOING?

The European Critical Raw Materials Act aims to strengthen EU's critical raw materials capacities along all stages of the value chain. It aims to increase our resilience by reducing dependencies, increasing preparedness and promoting supply chain sustainability and circularity.

SETTING PRIORITIES

List of Critical Raw Materials

It identifies raw materials which are important for the whole European economy and face a high risk of supply disruption

List of Strategic Raw Materials

It identifies a list of raw materials characterized by high strategic importance and projected global supply/demand imbalances



EU demand for lithium batteries powering our electric vehicles and energy storage set to increase 12 times by 2030 (21 times by 2050)

EU demand for rare earth metals, used in wind turbines and electric vehicles set to rise 5 to 6 times by 2030 (6 to 7 times by 2050)



Critical Raw Materials Act 2/2

SETTING 2030 BENCHMARKS FOR STRATEGIC RAW MATERIALS



EU EXTRACTION

At least 10% of the EU's annual consumption for extraction



EU PROCESSING

At least 40% of the EU's annual consumption for processing



EU RECYCLING

At least 15% of the EU's annual consumption for recycling



EXTERNAL SOURCES

Not more than 65% of the EU's annual consumption of each strategic raw material at any relevant stage of processing from a single third country



Thank you for your attention