

The New EU Legislative Framework and the Battery Regulation: Implications for Industry

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VIvisibility of VAalue networks for Circularity and Eco-efficiency

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Project aim: create a toolkit to capitalise on industrial digitalization with scalable data-supported solutions for circular and eco-efficient production at **four different levels:**



Expected outcomes:



VIVACE
framework



Practical
toolkit



Data
models

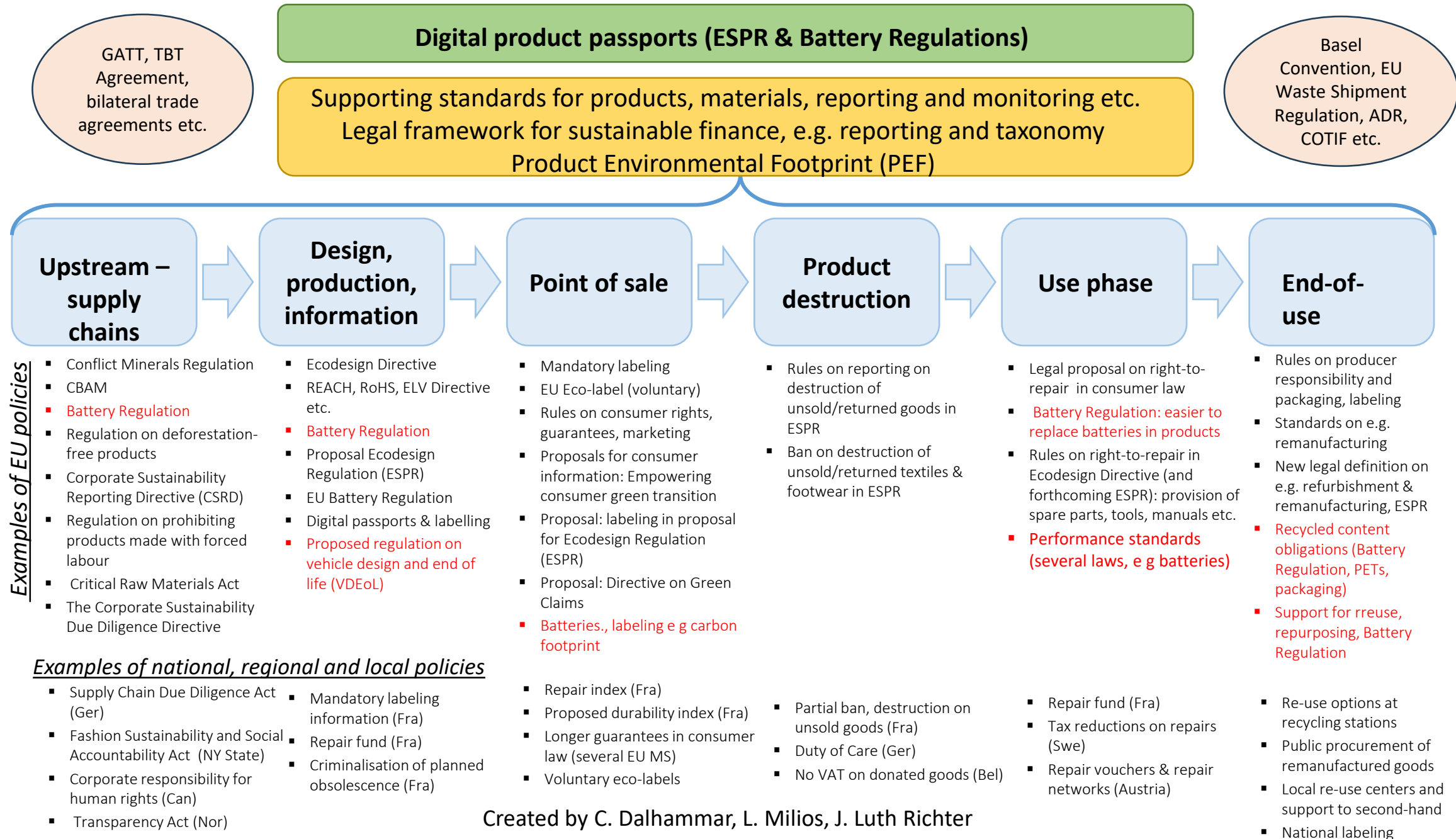


Actionable
KPIs

“Thus, I argue that a life-cycle world-view is becoming part of current, late-industrial culture in the Western world...”

“Every product casts a shadow...”

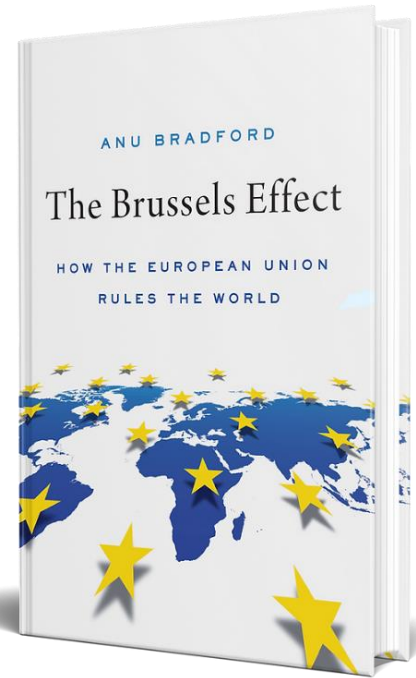
Eva Heiskanen, 2002, 1999



The direction is clear....

- Supply chain governance: from voluntary to mandatory
- We regulate more and more aspects of product design
 - Energy efficiency, toxic substances and micro plastics, product safety, product lifetime and repairability
- We establish more responsibilities for producers after a product is put on the market
 - Need to provide spare parts, longer mandatory consumer guarantees, product tracking and digital passports, responsibility for collection and recycling of used products, reporting and/or bans on destruction of unsold products/consumer returns, recycled content obligations, pass on information to repurposers and recyclers

The Brussels effect: from incidental to intentional



- **Companies comply, policymakers copy!**
- **Extending from products to production processes and supply chains, e g CBAM**
- **EU shows a clear intent to lead, also in standardization**

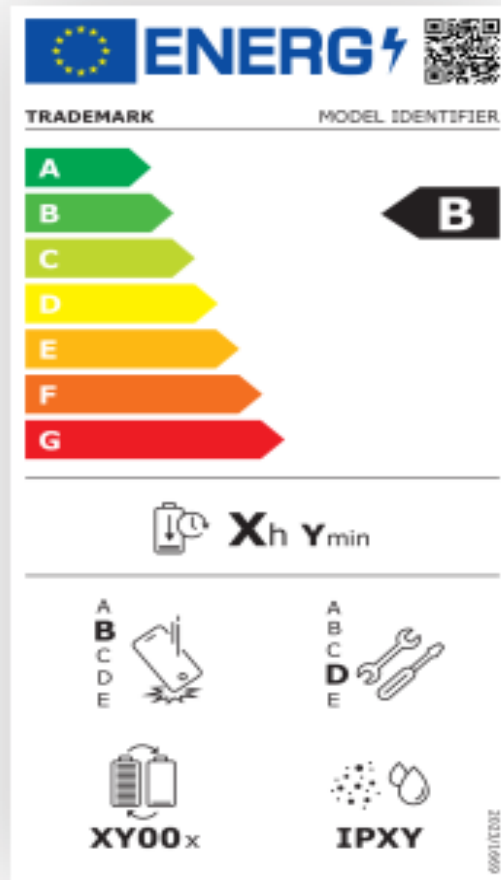
“While European standardisation has been a success story for the establishment of the EU’s single market, the strategic importance of standards has not been adequately recognised at the cost of EU leadership in standards-setting. ...this strategy ... [aims to] ...strengthen the global role of the European standardisation system.” COM(2022) 31 final, p. 1.



Benefits of Ecodesign for EU Households

2023 Update

Final Report



VERY Green



McKinsey & Company

NielsenIQ



Consumers care about sustainability—and back it up with their wallets

A joint study from McKinsey and NielsenIQ examines sales growth for products that claim to be environmentally and socially responsible.

This article is a collaborative effort by Sherry Frey of NielsenIQ and Jordan Bar Am, Vinit Doshi, Anand Malik, and Steve Noble, representing views from McKinsey's Consumer Packaged Goods Practice.

February 2023



NORDIC COUNTRIES

The Daily W

Sunday, August 30, 2025

Spare parts for electronics

Due to EU laws, spare parts are now available for a large selection of consumer electronics. This includes batteries, screens and other components that tend to break. Repairs follow the principles of the right to repair.

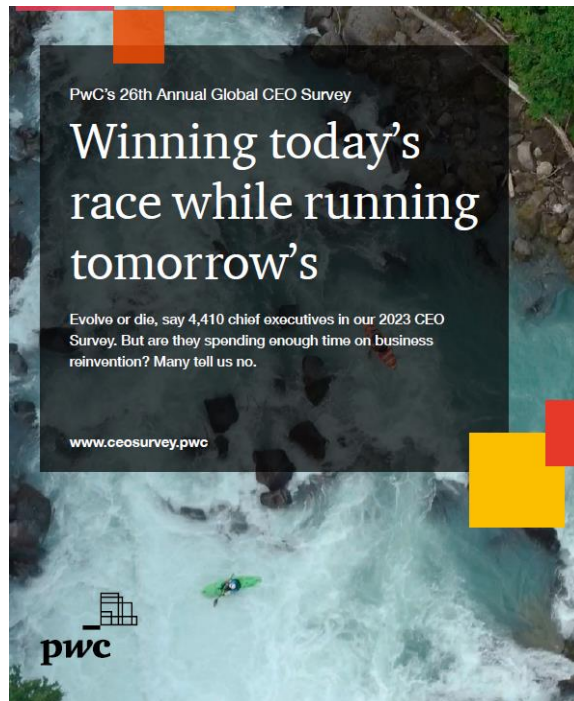


GEORG HENRIK VON WRIGHT
AT FORSTÅ SIN SAMTID



HUMMILLAR & HORNSTEDT

“There is no business to be done on a dead planet.” David Bower



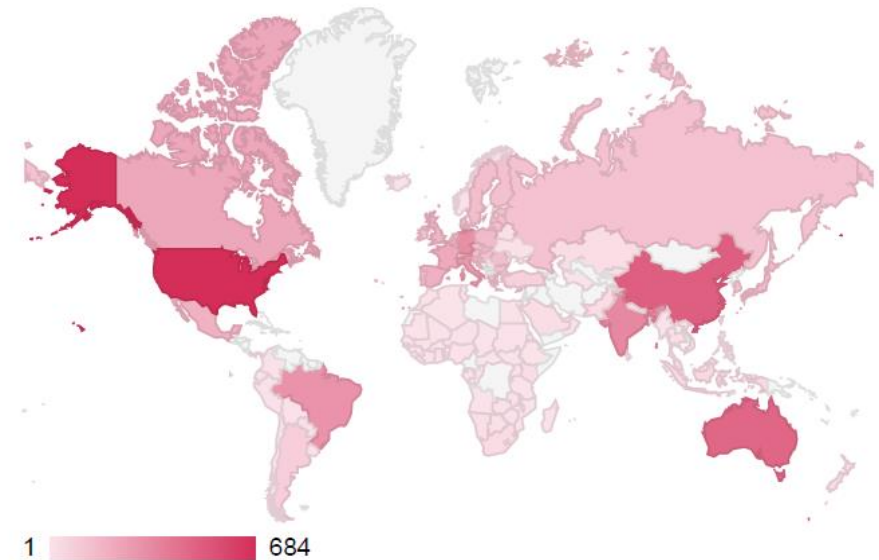
“Nearly 40% of CEOs think their company will no longer be economically viable a decade from now, if it continues on its current path...

Underlying these figures, we believe, is consciousness among today's leaders that we are living through extraordinary times, with five broad megatrend -climate change, technological disruption, demographic shifts, a fracturing world and social instability - reshaping the business environment.”

The end of the era of hyper-globalization

- Chinese leadership in EV, PVs etc., industrial policies
- Inflation Reduction Act in the US, tariffs on imported goods
- EU response
- Link to trade policy & law, protectionism
- Weakening of WTO regime
- Access to resources

MOST ACTIVE JURISDICTIONS SINCE 1 JAN 2023



Tracking selective policy intervention in response to intensifying geopolitical rivalry and perceived supply chain deficiencies. Source: Global Trade Alert

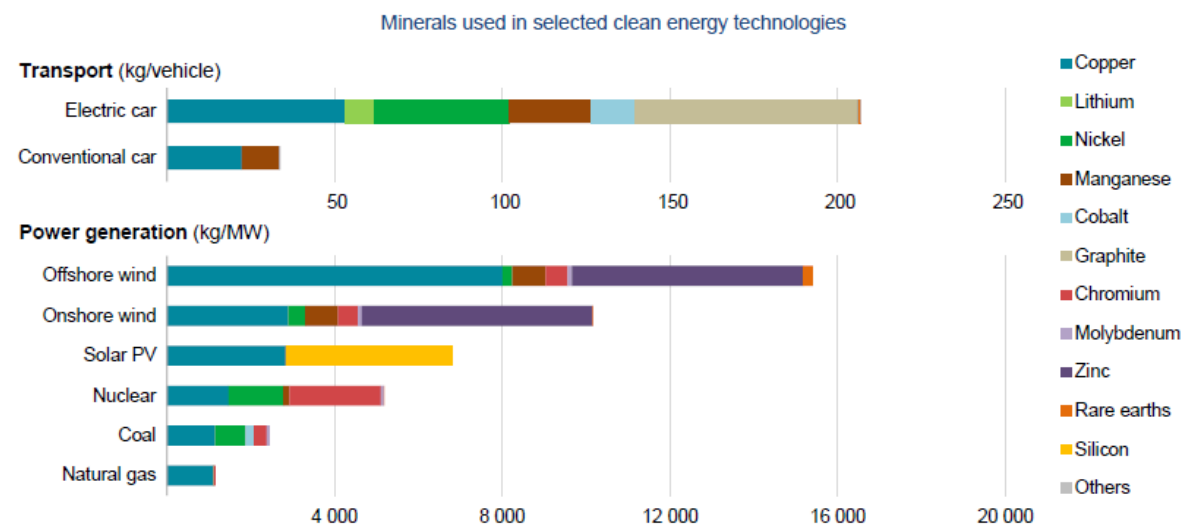
The climate and resource challenges are connected

The Role of Critical Minerals in Clean Energy Transitions



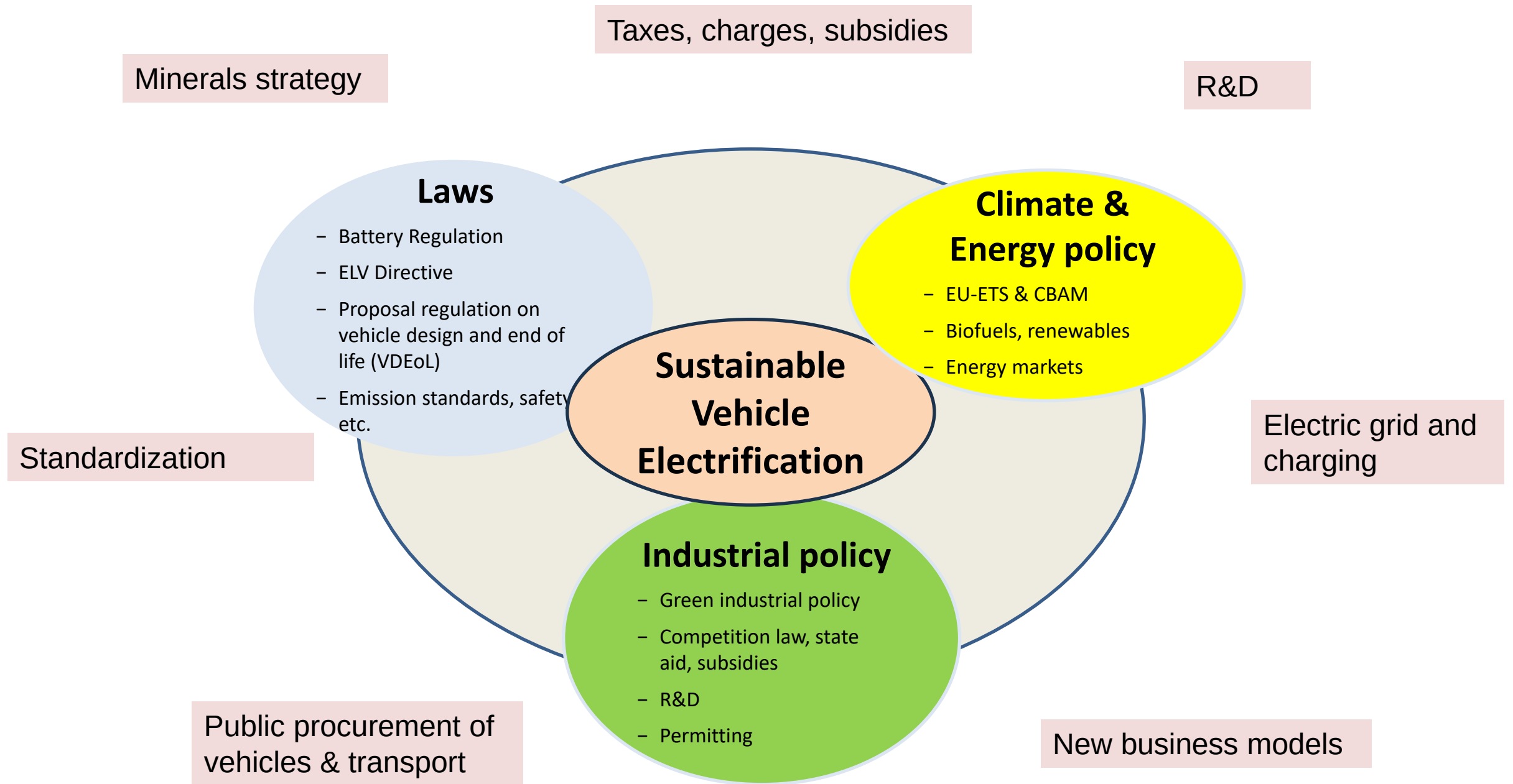
World Energy Outlook Special Report

The rapid deployment of clean energy technologies as part of energy transitions implies a significant increase in demand for minerals



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Notes: kg = kilogramme; MW = megawatt. Steel and aluminium not included. See Chapter 1 and Annex for details on the assumptions and methodologies.



EVs, batteries, new business models

- Battery-as-a-service
- Leasing of electric trucks
- Exploring the R strategies
- The 'R' concepts are contested, will be defined in Ecodesign for Sustainable Product Regulation and other laws

Term	User	Level
Repair & maintenance	First user	Product
Re-use	Second Hand	Product
Refurbish	Second Hand	Product
Repurpose	Second hand in another application	Product
Remanufacture	Second Hand	Component
Recycle	Same industry (closed) Any other industry (open)	Material
Recovery	Any	Energy/material

The EU Battery Regulation

- The first EU law that combines aspects related to design, safety, performance, information management, data access & information disclosure & digital passports & labeling, end-of-life, supply chain governance, public procurement...
- A 'blueprint' for future product regulations

The EU Battery Regulation: some key provisions

- Battery Passport for large batteries (QR code)
 - Increase transparency along the supply and value chains for all stakeholders and to aid the exchange of information
- Supply chain due diligence obligations
 - Importers and manufacturers, for Co, Li, Ni, and Graphite
- Extended producer responsibility schemes, and material recovery rates in recycling
- Recycled content obligations
- Performance and durability requirements for certain batteries
- Carbon footprint declaration for e.g. EV batteries
- Information on the state of health and expected lifetime of batteries
 - E.g. for third parties aiming to reuse, repurpose, remanufacture

Different challenges for different types of batteries

Description	Portable	LMT	SLI	Industrial		EV
				< 2 kWh	> 2 kWh	
Restriction of substances (Cd/Hg/Pb)	x/x/x	-/x/-	-/x/-	-/x/-	-/x/-	-/x/-
Carbon footprint	-	x	-	-	x ²	x
Recycled content (Co/Pb/Li/Ni)	-	x	x	-	x ³	x
Performance and durability requirements	x ⁴	x	-	-	x ²	x
Safety of stationary energy storage systems	-	-	-	x ¹	x ¹	-
Labelling, marking and information requirements	x	x	x	x	x	x
Information on the state of health and expected lifetime of batteries using a BMS	-	x	-	x ¹	x ¹	x

Source: Intertek

¹Only for stationary battery energy storage systems

²Non-rechargeable industrial batteries are excluded

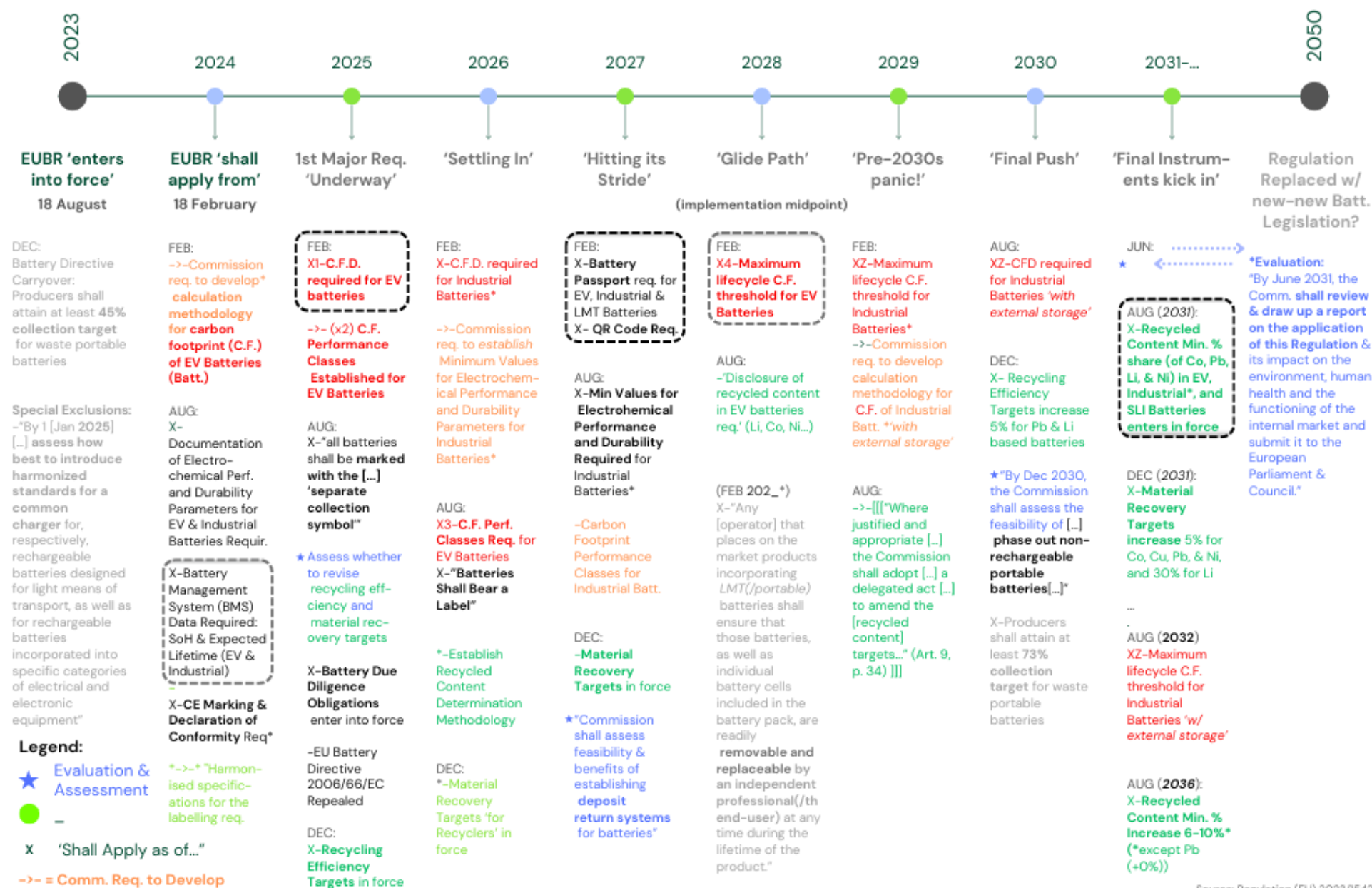
³Flow batteries are excluded

⁴Only for portable batteries of general use excluding button cells

“x” – applicable requirement

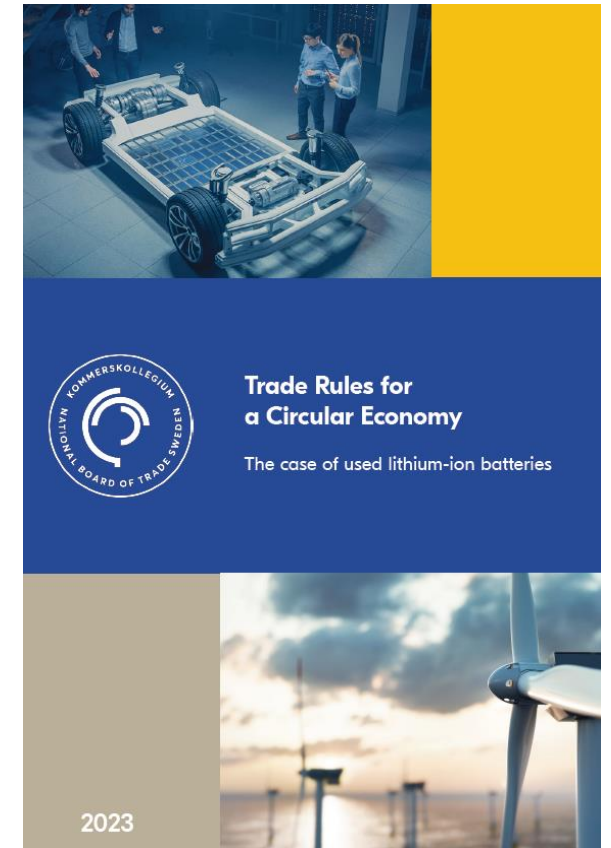
“-” – not applicable requirement

EUBR /1542 Timeline (for EV and ESS)



Remanufacturing and repurposing – concerns

- Sourcing of batteries
 - Standardization
 - Data access barriers
 - Safety and quality concerns
 - Warranties
-
- Collaboration and contracts can resolve some issues, Battery Regulation aims to resolve some issues



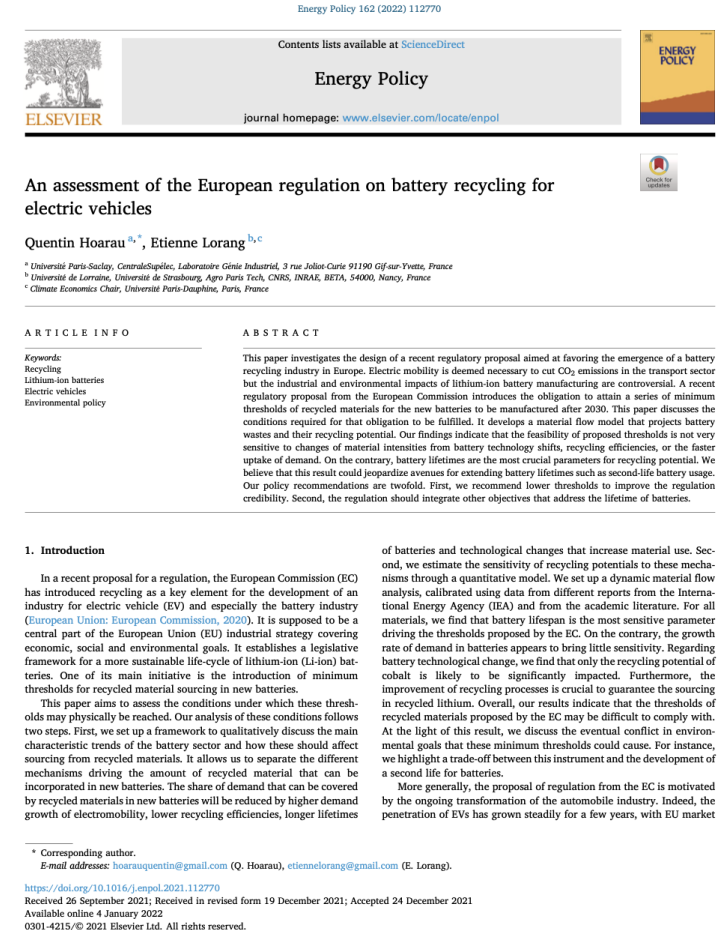
The EU Battery Regulation – concerns

- Recycling vs. Remanufacturing, Repurposing, ‘R’...
 - Recycled content obligations
 - What is environmentally optimal?
 - What role does economic sustainability play in this equation?
- IP vs. right-to-know
 - Collaboration in theory, competition in practice
- Regulatory Flexibility
 - Accommodating Technological Development
- Assumptions
 - How long *should* a battery last?



Perspectives from Industry Stakeholders

- Recycled content obligations, risks
 - Concerns about quality, capacity in EU, increased prices, early vehicle retirement, need for urban mining?
- The Batteries Regulation seems to favor recycling over other ‘R’ strategies
 - Collection, Recycling Efficiency, Material Recovery, and Recycled Content Targets
 - Where do other ‘R’s fit in this picture?
- Legal definitions- fit for purpose?



Proposal regulation on vehicle design and end of life (VDEoL)

- Aims to complement the Battery Regulation, focusing on vehicles
- Cars, lorries, trailers, buses
- Improve circular design of vehicles to facilitate removal of materials, parts and components for reuse and recycling
- Recycled content obligations, e.g. for plastics
- Ban export of vehicles not “roadworthy”
- Circularity Vehicle Passport introduced
- Does not regulate batteries per se, but provisions designed to support battery removal and re-use

“Each vehicle... shall be designed, as ... to enable, in a readily and non-destructive manner, the removal and replacement of electric vehicle batteries and e-drive motors from the vehicle by authorised treatment facilities or repair and maintenance operators during the use phase and waste phase of the vehicle.

Summing up...

- Interesting times for vehicles and electrification
- Need to coordinate policies, strike a balance between different interests
- In the future: need to consider vehicle size and total resource use(?)

Tack så mycket! Thank you!

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