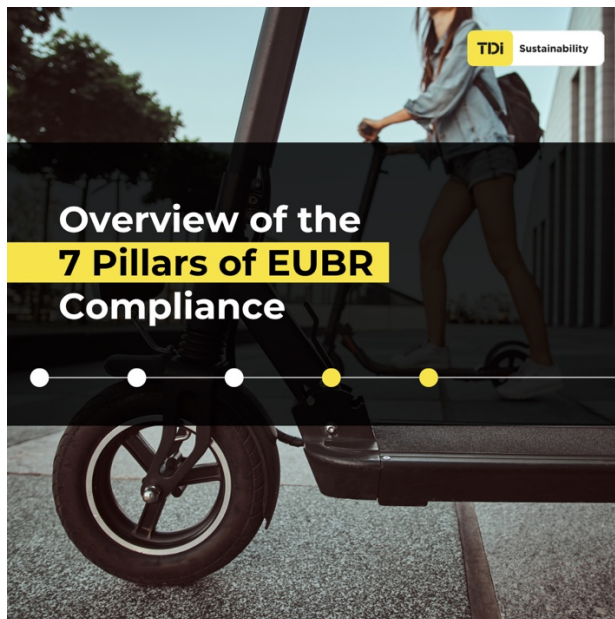




1. Carbon Footprint Declaration

Original equipment manufacturers (OEMs) must calculate and disclose total greenhouse gas emissions generated across the entire battery lifecycle, spanning raw material extraction to end of life, excluding the use phase. The calculation must follow a methodology set by the European Commission, based on the EU's Product Environmental Footprint (PEF) methodology which restricts the use of estimated industry averages in favour of company-specific data, such as facility energy consumption and the embedded carbon of purchased materials.

Key Deliverable: *A formal Carbon Footprint Declaration accompanying the battery.*

- *EV Batteries: 18 February 2025, or 12 months after the Commission's methodology act enters into force, whichever is later. The act is still pending, so this obligation is not yet in force.*
- *LMT Batteries: 18 August 2028, or 18 months after the methodology act enters into force, whichever is later.*

2. Digital Battery Passport

Under the EUBR, every LMT battery, EV battery and industrial battery above 2 kWh must carry a unique digital identity accessible directly via an on-pack QR code. Major automotive and industrial groups are actively prototyping cloud-based digital twin infrastructures to handle the roughly 80 to 100 mandatory data attributes required per battery. This system links

physical units to a secure database detailing material composition, recycled content, carbon footprint, and technical specifications. Authorised recyclers can subsequently scan this code to assess chemical makeup and dismantling parameters without prematurely disassembling the structure.

- **Key Deliverable:** *A QR code on the battery linking to its digital battery passport*
- **EV Batteries:** 18 February 2027.
- **LMT Batteries:** 18 February 2027.

3. Supply Chain Due Diligence

The European Union Battery Regulation demands traceability far beyond direct vendors, rendering simple Tier-1 self-assessments obsolete. The framework mandates a strict, OECD-aligned Risk Management System requiring full traceability of critical minerals, such as cobalt and lithium, all the way back to the source mine. Although the enforcement deadline for this pillar was extended to August 18, 2027, [leading industry players](#) are utilising the transition window to construct the complex data architecture required for comprehensive, audit-ready supply chain mapping.

- **Key Deliverable:** *A due diligence policy, verified by a notified body, and an annual due diligence report.*
- **EV Batteries:** 18 August 2027.
- **LMT Batteries:** 18 August 2027.

4. Performance & Durability Rules

The EUBR strictly regulates battery lifespan and data transparency. Moving forward, manufacturers must provide documentation proving that batteries meet specific performance and durability key performance indicators, including cycle life and capacity retention (minimum values to follow). Additionally, the integrated Battery Management System must be capable of self-reporting state-of-health metrics to users. For manufacturers of stationary battery energy storage systems, the regulation also introduces stringent requirements for fire safety and thermal propagation testing.

- **Key Deliverable:** *A formal Technical File (Conformity Assessment).*
- **EV Batteries:** 18 August 2024 (Requirement to provide documentation containing electrochemical performance and durability values).
- **LMT Batteries:** 18 August 2024 for the initial documentation of performance and durability values. Minimum mandatory performance thresholds will apply starting 18 August 2028.

5. Removability & Replaceability (LMT Specific)

The EUBR introduces hardware requirements for light vehicles such as e-bikes and e-scooters. From 18 February 2027, LMT batteries must be designed so that an independent professional can replace them, rather than being permanently fixed into the vehicle.

Major manufacturers are already aligning with this shift through initiatives like the [Swappable Batteries Motorcycle Consortium \(SBMC\)](#) establishing standardised hardware design as an industry-wide movement.

- **Key Deliverable:** *Hardware Design Specifications and physical verification during inspection.*
- **EV Batteries:** *N/A – applies only to portable and LMT batteries.*
- **LMT Batteries:** *18 February 2027 (Must be replaceable by an independent professional).*

6. Recycled Content Targets

The rules for calculating and verifying recycled content will be set by a Commission delegated act. Starting in 2031, EV batteries must contain at least 16% recycled cobalt, 85% recycled lead, 6% recycled lithium and 6% recycled nickel. LMT batteries benefit from an extended timeline: their mandatory minimums start in 2036, when they must meet the higher 2036 levels of 26% cobalt, 85% lead, 12% lithium and 15% nickel.

- **Key Deliverable:** *A Recycled Content Declaration (verified by a third party).*
- **EV Batteries** *Documentation of recycled content applies from **18 August 2028** at the earliest. The mandatory minimum percentage targets take effect on **18 August 2031** (16% cobalt, 85% lead, 6% lithium, 6% nickel). Stricter targets apply from **18 August 2036** (26% cobalt, 85% lead, 12% lithium, 15% nickel).*
- **LMT Batteries:** *Documentation of recycled content is required starting **18 August 2033**. The mandatory minimum percentage targets take effect on **18 August 2036**.*

7. Collection & Recovery Efficiency

Producers – including importers placing batteries on the EU market – must organise and finance take-back schemes, directly or through a producer responsibility organisation. Separately, recyclers must meet material recovery targets for critical metals such as lithium, cobalt and nickel, so that they are returned to the production cycle.

- **Key Deliverable:** *Collection Reports (producers) and Recovery Reports (recyclers) submitted to national authorities.*
- **LMT Battery Collection:** *Mandatory collection targets are 51% by 31 December 2028, and 61% by 31 December 2031.*
- **Material Recovery (applies to recyclers processing waste batteries, including EV and LMT batteries):** *Specific material recovery targets must be met by 31 December 2027 (e.g., 90% for cobalt, copper, lead, and nickel; 50% for lithium). These targets increase on 31 December 2031 (e.g., 95% for cobalt, copper, lead, and nickel; 80% for lithium).*



Carbon Footprint Declaration

Battery manufacturers must calculate and disclose total greenhouse gas emissions across the battery life cycle, from raw material extraction to end of life, excluding the use phase. The calculation must follow a methodology set by the European Commission, based on the EU's **Product Environmental Footprint (PEF)** rules, which restricts the use of estimated industry averages in favour of company-specific data, such as facility energy consumption and the embedded carbon of purchased materials.

KEY DELIVERABLES:

DEADLINE A formal Carbon Footprint Declaration accompanying the battery

EV Batteries: 18 February 2025**

LMT Batteries: 18 August 2028 at the earliest





Digital Battery Passport

Under the EUBR, every LMT battery, EV battery and industrial battery above 2 kWh must have a unique **digital battery passport**, accessed via a **QR code** on the battery. Manufacturers need data systems capable of handling the large number of **mandatory data points** required for each battery.

Authorised recyclers can then scan this code to assess chemical makeup and dismantling parameters without prematurely disassembling the structure.

KEY DELIVERABLES:

A QR code on the battery linking to its digital battery passport



EV Batteries: 18 February 2027

LMT Batteries: 18 February 2027 **DEADLINE**



Supply Chain Due Diligence

The EUBR demands traceability far beyond direct vendors, rendering simple Tier-1 self-assessments obsolete. The framework mandates an **OECD-aligned due diligence system** covering **cobalt, lithium, nickel and natural graphite**, including controls and transparency over the upstream supply chain, such as chain of custody or traceability. Although this pillar's application date has been postponed to 18 August 2027, leading industry players are utilising the transition window to construct the complex **data architecture** required for **comprehensive, audit-ready supply chain mapping**.

KEY DELIVERABLES:

A verified due diligence policy and annual report



EV Batteries: 18 August 2027.

LMT Batteries: 18 August 2027. **DEADLINE**



Performance & Durability Rules

The EUBR strictly regulates battery **lifespan and data transparency**. Manufacturers must provide documentation of each battery's performance and durability parameters, such as cycle life and capacity retention, with minimum values to follow. Additionally, the integrated Battery Management System must be capable of **self-reporting state-of-health metrics** to users. For manufacturers of stationary battery energy storage systems, the regulation also introduces stringent requirements for **fire safety and thermal propagation testing**.

KEY DELIVERABLES:

DEADLINE A formal Technical File (Conformity Assessment)

- **EV Batteries:** 18 August 2024 (Requirement to provide documentation containing electrochemical performance and durability values).
- **LMT Batteries:** 18 August 2024 for the initial documentation of performance and durability values. Minimum thresholds from 18 August 2028 at the earliest.



Removability & Replaceability (LMT Specific)

The EUBR introduces hardware requirements for light vehicles such as e-bikes and e-scooters. From 18 February 2027, LMT batteries must be designed so that an **independent professional can replace them**, rather than being permanently fixed into the vehicle.

Separately, **industry initiatives** such as the Swappable Batteries Motorcycle Consortium (SBMC) are working towards standardised, swappable battery designs.

KEY DELIVERABLES:

DEADLINE Hardware Design Specifications and physical verification during inspection.

- **EV Batteries:** N/A - only applies to portable and LMT batteries.
- **LMT Batteries:** 18 February 2027 (Must be replaceable by an independent professional).





Recycled Content Targets

Under the EUBR, companies must incorporate a **mandated minimum percentage of recycled materials** into new batteries. The rules for calculating and verifying recycled content will be set by a Commission delegated act. Starting in 2031, EV batteries must contain at least 16% recycled cobalt, 85% recycled lead, 6% recycled lithium and 6% recycled nickel. The mandatory minimums for LMT batteries start in 2036, when they must meet the higher 2036 levels of 26% cobalt, 85% lead, 12% lithium and 15% nickel.

KEY DELIVERABLES:



A Recycled Content Declaration (verified by a third party)

DEADLINE

- **EV Batteries:** Documentation of recycled content applies from 18 August 2028 at the earliest. Mandatory minimum percentage targets take effect 18 August 2031. Stricter targets apply from 18 August 2036.
- **LMT Batteries:** Documentation of recycled content is required from 18 August 2033. Mandatory minimum percentage targets take effect on 18 August 2036.



Collection & Recovery Efficiency

The EUBR introduces stringent take-back and material recovery mandates designed to **close the loop** on battery lifecycles.

Producers – including importers placing batteries on the EU market – must organise and finance **take-back schemes**, directly or through a producer responsibility organisation. Separately, recyclers must meet material recovery targets for critical metals such as lithium, cobalt and nickel, so that they are returned to the production cycle.

KEY DELIVERABLES:



DEADLINE

Collection reports (producers) and recovery reports (recyclers) submitted to national authorities.

- **LMT Battery Collection:** Mandatory collection targets are 51% by 31 December 2028, and 61% by 31 December 2031.
- **Material Recovery** (Applies to the recycling process of collected EV and LMT batteries): Specific material recovery targets must be met by 31 December 2027. These targets increase on 31 December 2031.

Turn EUBR Compliance into a Supply Chain Advantage

Navigating EUBR mandates, from generating verified carbon footprint declarations to launching digital battery passports, requires a degree of supply chain visibility that most manufacturers are actively developing.

TDi Sustainability supports companies in developing the strategic frameworks and technical tools required to manage complex compliance demands. Our team can help your organisation with:

- **Regulatory tracking:** The **TDi [Standards and Regulations Tool](#)**, supports you in tracking how voluntary sustainability standards complement due diligence and reporting requirements for current and upcoming regulations, alongside updates concerning evolving 2026 and 2027 deadlines.
- **Digital traceability:** Through the **TDi Digital Platform**, commodity risk screening and deep-tier supplier mapping identify immediate supply chain vulnerabilities. Our country and commodity risk assessment tools pinpoint risk origins to guide mitigation procedures.
- **Systems development and implementation:** TDi's expert consultants support organisations in building and operationalising the Due Diligence Management Systems required by third-party auditors. Read our [case study](#) on how we supported a major European electronic company in the development of their DDMS. : Our team can also support you with preparation for upcoming second-party and third-party audits, which includes establishing robust policies and internal verification frameworks.

Get ahead of your compliance timelines.

[Get in touch](#) to assess your risk exposure and build your EUBR roadmap.