Lead Battery 360°
– An Independent Assurance Framework for the Lead Battery Value Chain

Pb 2025 Amsterdam

Agenda

1. Reminder-Lead batteries have a positive sustainability profile
2. Drivers for responsible lead battery value chains
3. Guiding principles for a responsible lead battery value chain
4. Objectives of the Lead Battery 360° assurance framework
5. Scope of Lead Battery 360° certification
6. Performance expectations
7. Steps in applying for certification
8. Why apply for Lead Battery 360° certification
9. Summary-Participate in the certification program!

Lead Batteries Positive Sustainability Profile……..A reminder

Lead batteries possess many sustainability attributes

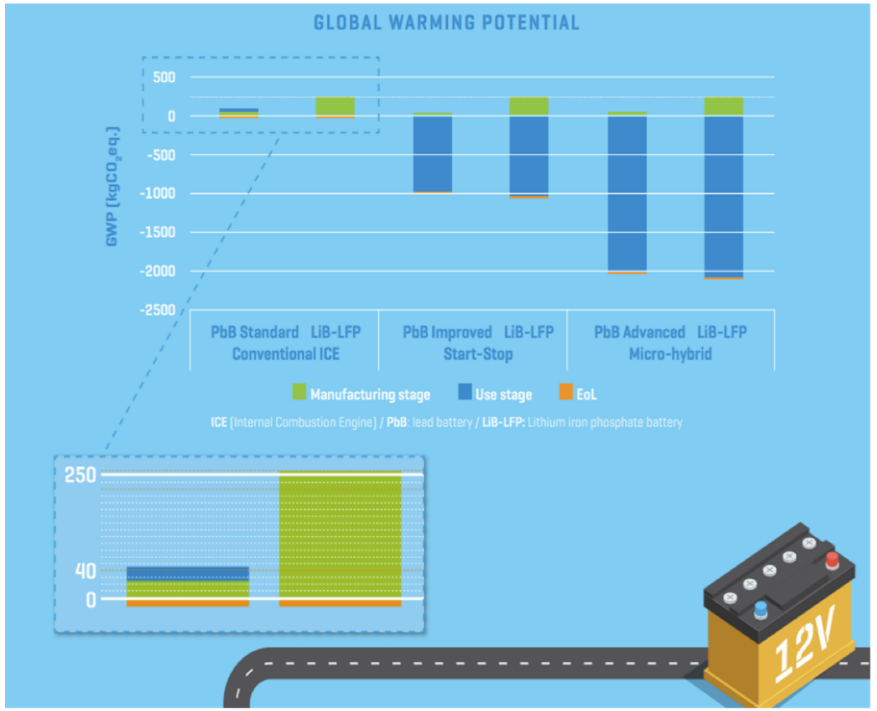
- Currently **best example of a battery operating in a closed-loop circular economy**
- In many regions there are **high collection rates** (~100% of those available) supported by highly regulated network of recyclers
- **Highly efficient recycling process delivering battery grade raw materials**
- **Strategic autonomy** for raw material supply not impacted by geopolitical issues
- New batteries manufactured with **high recycled content (>80%)**
- Manufacturing has **low carbon footprint compared to alternatives** (in EU, 12V Pb manufacturing 6X lower GWP compared to LFP)
- Responsible sourcing of primary lead addressed through LME due diligence standard

BUT poor recycling practices in some regions continue to dominate the narrative and drive perception that lead-batteries are polluting

90% of a lead battery is recycled at end of life[4]: and nearly all of the lead recovered is re-used in batteries[5] – creating a circular product cycle that minimises the generation of waste.

A new lead battery is made up of more than 80% recycled material.[6]

75% of lead in European lead batteries is now produced from recycled sources.[7]



Drivers for responsible lead battery value chains

Lead Battery 360°

Lead Battery 360- The Guiding Principles

The Lead Battery 360° Certification Program is built around the **Seven Guiding Principles** adopted in early 2020 for members of BCI, ILA, EUROBAT and ABR

The **Guiding principles** are:

1. Support responsible battery manufacturing and recycling by **placing environmental health and safety excellence at the heart of our operations**.
2. **Promote the sound management of lead exposure and emissions** by setting continuous improvement targets and sharing best practices.
3. Adopt **responsible sourcing policies** for lead-containing materials, seek to identify risks in the supply chain, and use our influence to promote best practices for EHS performance in suppliers' operations.
4. **Minimize the environmental impact of our products** by encouraging the development of programs that ensure effective collection, transportation and environmentally sound recycling of used lead batteries.
5. Adopt business practices that **consider the communities impacted by our operations, respect the human and labour rights of our employees and work against corruption in all its forms.**
6. Proactively **engage key stakeholders** in an open and transparent manner.
7. Partner with key stakeholders and government agencies to **share our expertise and promote environmentally sound recycling of lead batteries in low and medium-income countries**.

What were the objectives in developing an “Assurance Framework”?

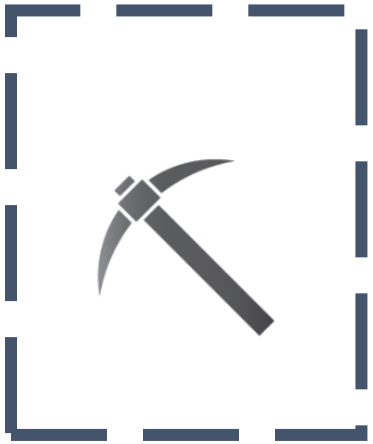
The Lead Battery 360 ° Assurance Framework was developed to be the **leading assurance framework to promote responsible practices** across the lead battery value chain.

An important principle is that it requires **independent verification** of a site’s performance.

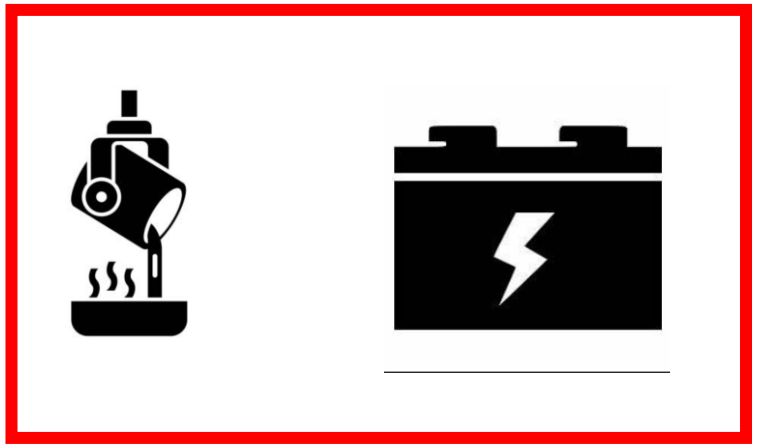
- Can play a role in mitigating potential negative reputational impacts in lead battery use caused by inappropriate sourcing, manufacturing and recycling practices (with focus on risks associated with lead exposures)
- Help **rebuild trust** in the market, in policymakers, and with civil society thereby supporting our claims that lead batteries can contribute positively to sustainable development.

ESG Issues Addressed by LB360 Certification
Climate change/carbon footprint
Environment, Health & Safety
Energy management
Water intensity
Materials sourcing
End of life management of products
Diversity & inclusion
Talent attraction
Human rights (working hours, child labour etc)
Fair competition and antitrust
Community engagement

Lead Battery 360° Assurance Framework Scope



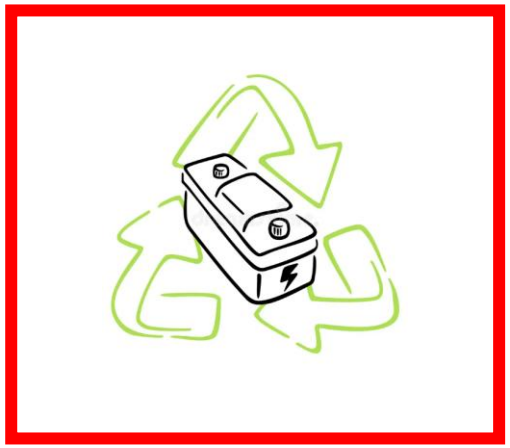
Mine



Primary Smelter

Battery Manufacturer

OEM



Battery Recycler

Mines not currently in scope as already covered by ICMM and Joint Due Diligence Standards

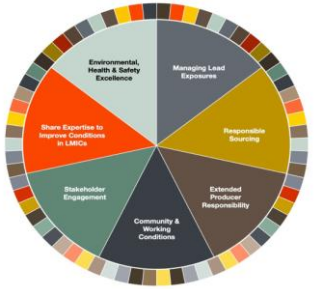
Lead Battery 360° Assurance Framework Criteria- Performance Expectations

7 CATEGORIES

66 PERFORMANCE EXPECTATIONS

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

PRINCIPLE 1: Support responsible battery manufacturing and recycling by placing environmental health and safety excellence at the heart of our operations -HEALTH



a) **OH&S Legal Compliance**. Ensure compliance with laws, regulations and international conventions on OH&S in the country of operation.

b) **Occupational Health and Safety (OH&S) Policy**. Document, communicate, and regularly review an OH&S policy designed for continuous improvement, endorsed by the Board and senior management, and supported through the provision of human and financial resources.

c) **Hazards and Risks Assessment and Management.** Maintain procedures and processes to identify work related hazards and assess OH&S risks and apply a hierarchy of controls to minimize risks for workers and visitors.

d) **Workers' engagement on OH&S**. Provide workers with a mechanism by which they can raise, discuss, participate, and be consulted on matters that affect their health and safety, including for the resolution of OH&S concerns with management.

e) **Access to occupational health services.** Provide employees with access to occupational health services with appropriate levels of medical surveillance, counselling and advice on wellbeing

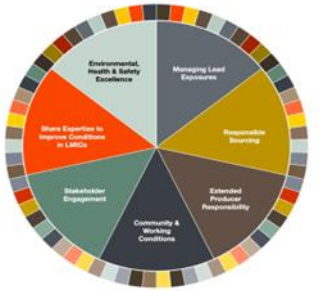
f) **Incident follow-up**. Have procedures and processes in place to record, investigate, and follow-up on OH&S incidents, by definition and implementation of corrective actions and monitoring the effectiveness of such actions through management review at pre-planned intervals.

g) **Education and training on OH&S.** Provide appropriate and periodic training and effective education to employees, require onsite contractors to train their workers on all aspects relevant to their specific tasks and work areas and provide appropriate briefings to visitors to company facilities.

h) **Emergency Response**. Have and regularly test, as appropriate, emergency procedures, response and evacuation plans.

i) **OH&S Performance**. Evaluate periodically OH&S performance using lagging and/or leading indicators, set goals to improve OH&S performance, and strive to continuously improve performance over time

PRINCIPLE 1: Support responsible battery manufacturing and recycling by placing environmental health and safety excellence at the heart of our operations -ENVIRONMENT



a) **Environmental Legal Compliance.** Ensure compliance with laws, regulations and international conventions on environment-related matters in the country of operation.

b) **Environmental Policy.** Document, communicate and regularly review an environmental policy designed for continuous improvement, endorsed by senior management and supported through the provision of human and financial resources

c) **Environmental Risks and Impacts Assessment and Management**. Maintain procedures and processes to identify environmental risks and impacts and apply the mitigation hierarchy to minimize and manage material risks and impacts.

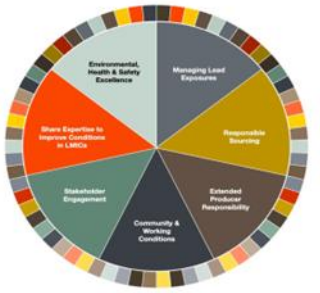
d) **Air quality.** Measure and minimize significant air emissions into the atmosphere (including, at a minimum, lead, arsenic, sulfur dioxide, and particulate matter) from point source and fugitive/diffuse emissions, as necessary to manage negative impacts on air quality.

e) **Water quality**. Measure and minimize substances of concern in water discharges to surface waters, groundwater, and seawater, including, at a minimum, lead contaminants, as necessary to manage negative impacts on the receiving waterbody, ecosystem, or human hea

f) **Spills and Leakages.** Prevent and manage spills and leakages to avoid and remediate adverse impacts on air, water and/or soil.

g) **Energy consumption.** Quantify energy consumption and identify technically practical measures for setting energy efficiency targets and implement a plan designed to achieve such targets.

PRINCIPLE 1: Support responsible battery manufacturing and recycling by placing environmental health and safety excellence at the heart of our operations - ENVIRONMENT



h) **Greenhouse Gas (GHG) emissions**. Quantify and disclose GHG emission and identify technically practical measures for setting GHG emissions intensity reduction targets and implement a plan designed to achieve such targets. [*Partially Meets Required*]

i) **Water consumption and availability**. Quantify water consumption and identify technical and practical measures for setting water intensity reduction targets and implement a plan designed to achieve such targets, to minimize negative impacts on water availability. [*Partially Meets Required*]

j) **Hazardous waste management**. Minimize and, where possible, avoid the generation of hazardous waste generated by the site's operations, where this is not possible, manage and dispose of waste in a manner that minimizes negative impacts on human health and the environment through a waste management strategy in accordance with the waste mitigation hierarchy

k) **Recycling Efficiency.** Ensure that recycling processes reduce the production of waste by maximizing recycling efficiencies and the levels of recovered materials . [*Partially Meets Required*]

l) **Biodiversity protection.** Respect legally protected areas in accordance with local laws, understand potential negative impacts on biodiversity, and apply the biodiversity mitigation hierarchy to avoid, and manage potential negative impacts. [*Partially Meets Required*]

m) **Decommissioning, closure and rehabilitation.** Adopt a documented closure plan, allocate adequate financial resources and engage with stakeholders on social and environmental aspects associated with closure and decommissioning. [*Partially Meets Required*]

Lead Battery 360°- Certification

- **“Critical” Performance Expectations** (mainly related to EHS, management of lead emissions and Responsible Sourcing) will require to be rated **“Meets”** for the LB 360 certification to be awarded to the site.
  - If any of the “critical” PEs are either rated “Partially Meets” or “Does Not Meet”, the certification will not be awarded- independently of performance determination outcomes of other non-critical PEs.
- For “**non-critical” Performance Expectations** which are rated as “**Partially Meets”,** the site will need to agree to a **Performance Improvement Plan** (PiP) after which LB 360 certification will be awarded.
  - The timeframe to address “Partially Meets” gaps will be determined on a case-by case basis by the assessor, however, should be completed by next review cycle.

		Critical PEs		
		Meet	**Partially meet**	**Does not meet**
Non- critical PEs	**Meet**	Certification No PIP required	No certification	
	Partially meet	Certification PIP required	Re-assessment required	
	Does not meet	No certification PIP required(*) Re-assessment required		

(*) PIP required to address the 'does not meet' PE(s).

Steps in applying for certifcation

- **Full cycle** should be completed withing **12 months** of signing the Letter of Commitment
- **Re-assessment** to be done every **3 years**.
- Where sites are already certified under **other standards** these **will be recognised** were cover same requirements.

Why apply for LB360°certification?

- **Only ESG standard that specifically addresses risks of lead exposures and secondary raw material sourcing** in the lead battery value chain
- Allows **independent verification that your site is operating responsibly**, by managing lead exposures, addressing responsible sourcing challenges, considering communities impacted by their operations and respecting human and labour rights of employees,
- Provides **re-assurance to your customers and other stakeholders** that that lead (or lead batteries) sourced from your site have been independently verified as being responsibly produced
- Helps companies demonstrate meeting new **Corporate Sustainability & Due Diligence legislation**
- **Low cost** compared to comparable ESG certification schemes (results of existing schemes will be recognised if cover same requirements)
- Wide participation of Industry participants helps support on going Association advocacy to facilitate continued lead battery adoption in new markets such as EES and **reduces risk of regulatory interventions**.

As of May 2025, eight sites (4 recyclers, 4 battery manufacturing) have sent " letters of commitment" and started their certification journey

Sign up to Participate in LB360 Certification

- Lead Battery 360° Assurance Framework is unique and **the only ESG Certification Scheme that addresses issues material to the lead battery value chain**

- The certification scheme is now **open for membership !**

- Further details can be found at: https://www.leadbattery360.org/assurance-2/

Thank You


ila
International
Lead Association


Battery
Council


EUROBAT


association of battery
RECYCLERS

Governance- “Multi Stakeholder Initiative”

- A Foundation has been established as a not-for-profit under 501(c)(6) in the US as the legal entity that will administer the Assurance scheme (taking over from the Industry Associations)
- The Lead Battery 360° Board of Directors will initially be composed of the Executive Directors of the four founding Trade Associations and will be supported by a Stakeholder Advisory Committee composed of Civil Society, Industry, NGO’s, Academia and Lead Battery Customer representatives
- TDi Sustainability will initially serve as the secretariat to manage the smooth running of the program
- Independent auditors will assess performance of participants against the “Performance Expectations”
- All costs associated with the program will be covered by annual membership fees paid by sites that wish to apply for certification