



PRESS RELEASE

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HiQ-LCA fosters industry collaboration to address data needs and drive compliance with new EU Battery Regulation

The HiQ-LCA project, funded by EIT RawMaterials and co-funded by the EU, supports the battery industry in complying with the EU Battery Regulation by offering various tools and services, including an advanced Life Cycle Assessment (LCA) database to be developed as a satellite database of the renownedecoinvent database. To foster collaboration and encourage data contribution, project partnerecoinvent successfully organized industry workshops in 2023 and 2024, bringing together stakeholders to address key challenges and promote transparency. By contributing data, industry leaders gain access to peer-reviewed LCAs, compliance support, and an enhanced role in advancing sustainable battery production.

The new EU Battery Regulation imposes several requirements on the battery industry along the entire battery value chain. Any battery manufacturer or supplier wishing to sell products in the European market will have to meet certain demands, such as providing mandatory information on the CO₂ emissions generated during production. Other key requirements include reliable information on the sourcing of raw materials, recycling recovery rates, and the proportion of recycled materials in batteries produced from 2025 onwards. These stricter obligations are expected to drive the development of more sustainable batteries, thereby contributing to a European circular economy.

To comply with the new Battery Regulation, industry must commit to providing comprehensive and transparent information on details such as technical specifications, conformity assessment procedures and data on production processes. Since LCA expertise is often not housed within individual companies, there is a growing need for external resources to perform the assessments and provide support for verification by notified bodies. HiQ-LCA (High-quality Life Cycle Assessment for Battery Industry), coordinated by the European Lithium Institute (eLi), has developed services and tools tailored to customers along the battery value chain to address the needs of the industry. Under the leadership ofecoinvent, the project consortium organized two industry workshops in 2023 and 2024 to foster networking with and among industry stakeholders and identified key industry needs arising from the new Battery Regulation.

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Delivering a reliable battery life cycle database: ecoinvent and eLi drive key developments in HiQ-LCA

One of the key requirements defined by the industry is access to up-to-date and reliable data for battery Life Cycle Assessment (LCA) modeling. Data gaps are particularly prevalent in areas of raw material sourcing, secondary materials, alloys and end-of-life treatments. The metal industry, in particular, emphasized the issue of geographical representativeness in the existing datasets. To address this, HiQ-LCA aims to target various use cases while considering regulatory applications to bridge data gaps. Furthermore, HiQ-LCA enhances its support for policy compliance, further aligning with industry regulations.

The HiQ-LCA project partner ecoinvent provides a comprehensive Life Cycle Inventory database with extensive information on a wide range of products and services, including data on batteries. Within HiQ-LCA, ecoinvent's role is to provide guidelines and guidance for data processing that aligns with existing databases, as well as to support the development of a dedicated data platform lead by eLi. The HiQ-LCA database to be developed is conceptualized as a satellite database of the ecoinvent database, ensuring alignment with the ecoinvent methodology. Collaboration with industry stakeholders is essential for enriching the database with relevant battery data and ensuring the success of HiQ-LCA. Another key industry need is to improve the technological granularity in LCA data sources across all life cycle stages. With the help of project partners, HiQ-LCA is working on different datasets that enhance both technological granularity and geographical resolution.

The industry has raised concerns from the user perspective regarding the assessment of the appropriate level of detail in data for various purposes, such as compliance, technology selection, and scenario analysis. HiQ-LCA has addressed this issue by highlighting the importance of sourcing detailed data. This approach ensured that activities across supply chains can be effectively linked. During the data generation, encompassing raw data collection, inventory modelling, integration, review, and publication, data is aggregated at different levels to maintain confidentiality while preserving its utility for analysis and decision making.

Advancing battery data collaboration: HiQ-LCA industry workshops focus on confidentiality, transparency, and industry cooperation

The workshops focused on investigating methods to provide data that ensure a high level of confidentiality for sensitive industry information while maintaining as much transparency as possible.

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The HiQ-LCA consortium actively engaged with industry leaders in strategy development such as anonymizing suppliers incorporating data aggregation on a case-by-case basis into the data collection methodology, meaning that the HiQ-LCA database offers great flexibility in data aggregation. For example, a unit process (non-aggregated dataset) aggregation can be applied to deliver a dataset as an LCIA score, while none of the inventory entries (elementary or intermedia exchanges) are visible to the end user.

Furthermore, the foundation for potential collaboration between HiQ-LCA and industry representatives was established, including key points for data contribution. Since the industry plays a dual role in LCA as both data owner and data user, such collaboration will ensure an accurate representation of the battery supply chain in the corresponding databases. By contributing data to HiQ-LCA, industry leaders benefit from support in data collection according to the latest regulatory standards. They also secure a strategic position to better manage the fair representation and resolution of data across the battery supply chain. Within the database, they can fill data gaps according to their specific needs. In addition to shaping a greener electric vehicle sector, industry stakeholders gain transparent insight into sustainability claims and assets. Several internal quality checks of the data are performed prior to data publication, enhancing the quality and integrity of the data; and if/when published, the data will have a high usability potential. Moreover, industry data undergoes peer review by experts before the publication at no additional cost, facilitating the development of LCA tools and services tailored to specific needs.

Industry highlights critical need for reliable data in LCA modelling

Both industry workshops successfully communicated the project objectives to industry representatives, outlined industry needs, and defined key issues for the development and implementation of the database. Industry stakeholders highlighted the importance of up-to-date and reliable data as central to LCA modelling. Both industry and academia emphasized the criticality to obtain detailed data while incorporating appropriate levels of data aggregation to balance transparency and confidentiality. Additionally, both industry and the HiQ-LCA consortium have identified data gaps in several areas. Addressing these gaps through comprehensive data contributions is crucial to building a solid foundation for reliable and accurate battery LCAs.

HiQ-LCA facts and figures

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High-Quality Life Cycle Assessment for Battery Industry (HiQ-LCA)

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Partners

- Bureau de Recherches Géologiques et Minières, BRGM, France
- CellCircle UG (haftungsbeschränkt), Germany
- ecoinvent Association, Switzerland
- Eramet SA, France
- European Lithium Institute eLi, Belgium (project coordinator)
- Fraunhofer Institute for Silicate Research ISC, Germany
- Fraunhofer Institute for Surface Engineering and Thin Films IST, Germany
- Ghent University, Belgium
- Leiden University, Netherlands
- Minviro Ltd, United Kingdom
- Northvolt AB, Sweden
- Université de Bordeaux, France

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Picture



ecoinvent's Antonio Valente asks industry leaders what data they use for LCA of lithium-ion batteries.
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