PRESS RELEASE

HiQ-LCA Project Succeeds: Closing Data Gaps in Europe's Battery Value Chain

The European HiQ-LCA project – funded by EIT RawMaterials – has made significant strides in enhancing the sustainability of the battery industry in Europe. With the conclusion of the project on December 31, 2025, the consortium is excited to announce two major outcomes: the development of an automated data collection tool that supports the validation of Life Cycle Inventories (LCIs) and the planned establishment of a startup dedicated to the validation of Life Cycle Assessments (LCAs).

Automated Data Collection Tool

One of the key achievements of the HiQ-LCA project is the creation of an automated data collection tool designed to streamline the validation process of Life Cycle Inventories (LCIs). This innovative tool aims to enhance the transparency of Life Cycle Assessments (LCAs), enabling companies to gather, analyze, and validate LCA data efficiently. By addressing the complexities of data collection, the tool will help battery manufacturers and suppliers meet the stringent reporting requirements set by the EU Battery Regulation.

Founding of the Startup

In response to the critical need for reliable LCA validation, the HiQ-LCA consortium has announced the formation of a startup, led by Minviro, a key partner in the project. This new venture will focus on providing high-quality validation services for LCAs specific to the battery industry. With a mission to support companies in complying with regulatory requirements while minimizing environmental impacts, the startup will offer tailored solutions, including benchmarking, product certification, and professional training.

Dr. Andreas Bittner, project coordinator and now CEO of CellCircle, emphasized the importance of this initiative: "The establishment of the HiQ-LCA startup is a significant step in helping the battery industry navigate new regulatory landscapes while promoting sustainable practices."

Predictive LCA Modeling Solutions

The HiQ-LCA project has also focused on developing predictive LCA modeling solutions that deliver scenario-based prospective LCIs. These LCIs are instrumental in assessing the future environmental impacts associated with widespread electric mobility deployment. They offer insights into the supply chain of key battery-grade raw materials such as lithium, nickel, and graphite while documenting decarbonized raw material supply chains and the production of chemical reagents relevant to raw materials processing.

These prospective LCIs can be integrated with existing future energy scenarios across various industries, providing a robust foundation for performing LCAs of e-mobility solutions and related technologies. The methodologies and modeling approaches developed in this project hold strong

potential for replication in other industrial sectors, thereby contributing to broader sustainability efforts.

Data Management Guidance: Confidentiality and Aggregation

The HiQ-LCA project also provides critical guidance on data management regarding confidentiality and aggregation strategies. It emphasizes multiple aggregation strategies that enable regulatory compliance, including unit process datasets, vertical aggregation, horizontal aggregation, and full foreground aggregation. These strategies must be accompanied by appropriate metadata documentation to ensure transparency.

Key findings highlight that over-aggregation can create compliance vulnerabilities. Cumulative LCA datasets, often perceived as "black boxes," may hinder the verification of allocation procedures and system boundaries, potentially disqualifying them from regulatory use. Furthermore, early stakeholder dialogue is essential for determining appropriate confidentiality strategies, preventing misalignment between data protection and market utility.

With ongoing regulatory uncertainty, particularly concerning the European Commission's Delegated Act under Article 7 of the Battery Regulation, adaptive planning becomes crucial. Providers pursuing aggressive aggregation strategies may face future compliance risks that could necessitate costly data reconstruction. This framework equips HiQ-LCA partners with the operational direction needed to navigate these complexities.

Addressing Industry Challenges

During the project, stakeholders identified during numerous workshops and interactive trainings various challenges in the battery sector, including economic barriers and the need for improved transparency in LCA verification. Participants noted that existing ISO 14040 standards and EU regulations set different data quality requirements, complicating the validation process. The HiQ-LCA consortium responded by developing tools that aim to automate verification, allowing for quicker identification of outliers and errors while maintaining accuracy.

Additionally, the necessity for specialized organizations focused on specific sectors was highlighted, ensuring deeper expertise in reviewing LCA studies. The startup will build on these insights to provide comprehensive support tailored to the battery industry.

Path Forward

The HiQ-LCA project has equipped the battery industry with tools and knowledge required to meet evolving sustainability demands. With its automated data collection tool and the launch of the validation startup, the consortium is committed to closing data gaps and enhancing the overall transparency of the battery value chain.

A follow-up technical workshop together with the BATTERY 2030+ project ReUse was conducted in the first week of February 2026 in Würzburg, hosted by the Fraunhofer Institute for Silicate Research, as side event of the 2nd Conference on Battery Direct Recycling. The workshop addressed the challenges in direct recycling and LCA for lithium iron phosphate batteries, as used for low-cost electric vehicles and stationary energy storage for photovoltaics.

More information provides the HiQ-LCA project consortium in its whitepaper "Challenges in Defining and Assessing Greenwashing"

Contact:

Marie-Luise Righi

Project Dissemination Office

Fraunhofer Institute for Silicate Research ISC

Email: marie-luise.righi@fraunhofer.isc

Dr. Andreas Bittner

CellCircle UG (haftungsbeschränkt)

Email: andreas.bittner@cellcircle.de