

Challenges and opportunities of the European circular battery industry

At the parallel session on the circular battery industry, the atmosphere buzzed with industry insights and regulatory updates in a packed room. The panel gathered to delve into the challenges and opportunities facing Europe's circular battery sector.

The session kicked off with a presentation by the European Commission's Rana Pant on the new EU Battery Regulation. He outlined a harmonized approach across member states towards battery circularity, stating, "The new EU Battery Regulation tries to harmonise among member states, such that we all go in the same direction regarding circularity of batteries in the EU." The regulation, adopting a life cycle perspective, sets compliance milestones up to 2036, ensuring all batteries entering the EU market meet specified standards, regardless of origin.

Marcel Weil presented the work done in the task forces Sustainability, Digitalisation and Social Sciences and Humanities (SSH) of Batteries Europe and BEPA. He elaborated on sustainability and innovation initiatives within the European battery ecosystem, emphasizing the importance of collaboration, a life cycle assessment approach, digitalisation as a common language and integration of SSH with technological innovation for a more comprehensive approach.

Presentations from Orano and Watt4Ever underscored the industrial challenges and imperative of circularity in battery recycling and repurposing, advocating for stringent standards and innovation. Justo Garcia of Orano emphasised the importance of support from the EC. Catherine Lenaerts of Watt4Ever made a passionate plea, stating, "We need to invest in circularity, to get raw materials from recycling rather than mines," and advocating for "Only non-reusable batteries to go to recycling."

Notably, Jyri Arponen from Sitra presented the world's first digital battery passport, integrating regulatory compliance with digital product tracking, a significant step towards transparency and accountability, to enable true circularity in the battery ecosystem.

Meanwhile, VITO's Daniele Costa highlighted the complexities of assessing social and environmental impacts across battery life cycles, urging clarity on evaluation metrics.

A lively panel discussion ensued, addressing concerns on recycling costs, industry reliance, and regulatory gaps. While acknowledging challenges, panellists emphasised the regulation's potential to drive innovation, foster collaboration, and reduce dependence on external markets.

Justo Garcia highlighted the positive signal from the commission and emphasised the importance of traceability along the supply chain for customer confidence. Catherine Lenaerts expressed concern over the lack of norms for repurposing batteries. Rana Pant from the European Commission responded by explaining the difficulty in quantifying realistic targets for repurposing.

Jyri underscored the benefits of regulation in fostering collaboration between industries and researchers to extend battery life cycles. Marcel echoed the sentiment, noting the positive impact on sustainability from a life cycle perspective. Daniele raised concerns about the complexity of including social assessment indicators and understanding different classes of carbon footprint for batteries. She emphasised that "We need to consider the entire life cycle and value chain, as repurposing batteries may not always be the most sustainable option".

Despite uncertainties, the session exuded a sense of determination to navigate the complexities of battery circularity, ensuring a greener, more resilient future for all.

