

PRESS RELEASE

New RCI report finds that no single method fully captures biodiversity in life cycle assessments

The comprehensive review of nine leading approaches provides guidance on current methods, finds real progress and priorities for further research.

Hürth, 27 August 2026: Biodiversity is increasingly recognised as a critical consideration in sustainability assessments. However, companies and researchers continue to face considerable challenges when attempting to quantify biodiversity impacts within life cycle assessments (LCA). A new report by Renewable Carbon Initiative (RCI), supported by nova-Institute, provides a transparent overview and comparison of the most advanced methods currently available for assessing terrestrial biodiversity impacts in LCA.

The report, **“Biodiversity in Sustainability Assessments - in Particular Life-Cycle-Assessments (LCA)”**, examines nine approaches developed or substantially advanced during the past decade. These include ReCiPe2016, IMPACT World+, LC-IMPACT, the Product Biodiversity Footprint, Biodiversity Impact Assessment+, BioMAPS, Global Extinction Potential, UNEP-GLAM and Biodiversity Value Increment.

The methods are compared according to their coverage of biodiversity levels and the major drivers of biodiversity loss, as well as their data requirements, regionalisation, methodological characteristics and practical applicability. The review also considers whether the methods are available in established LCA software.

The analysis shows that no single method currently covers all three dimensions of biodiversity, i.e. species, genetic and ecosystem diversity, together with all five major drivers of biodiversity loss: Land and sea-use change, climate change, pollution, direct exploitation of organisms and invasive alien species. While substantial methodological progress has been achieved, important gaps remain regarding data availability, uncertainty, impact-pathway modelling and interpretation.

“We have known for years that biodiversity is a critically important issue, but our ability to account for it in life cycle assessments remains limited,” says Dr. Matthias Stratmann, Head of Sustainability at nova-Institut GmbH. *“This work does not solve the problem, but it highlights which models and tools are currently the most advanced. Practitioners can use the methodology to select and apply suitable approaches, while researchers can build on their expertise to further develop these tools.”*

For high-level biodiversity risk screening, the report highlights UNEP-GLAM and BioMAPS – once incorporated into the European Environmental Footprint methodology – as particularly relevant emerging approaches. At the same time, the authors recommend combining LCA methods with a broader assessment toolkit, including certification schemes, field measurements and other site-specific biodiversity evaluations.

The report also stresses that the choice of assessment method can directly influence the identification of environmental hotspots and, consequently, strategic priorities and resource allocation. The authors therefore recommend conducting sensitivity analyses using different methods. Due to the current uncertainties, biodiversity-related LCA results should not yet be used as the sole basis for consumer communication.

The report is the first part of a two-part series examining biodiversity in the context of biomass production and the bioeconomy. It is available at <https://renewable-carbon.eu/publications/product/biodiversity-in-sustainability-assessments-in-particular-life-cycle-assessments-lca-rci-report/>

The second part is expected to be published in autumn 2026.

Disclaimer

RCI members are a diverse group of companies addressing the challenges of the transition to renewable carbon with different approaches. The opinions expressed in these publications may not reflect the exact individual policies and views of all RCI members.

About RCI

The Renewable Carbon Initiative (RCI) is a global network of more than 60 prominent companies dedicated to supporting and accelerating the transition from fossil carbon to renewable carbon (bio-based, CO₂-based and recycled) for all organic chemicals and materials. Its work focuses on scientific background reports, position papers, advocacy and networking.

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