Joint statement on

Biogenic carbon accounting in the Product Environmental Footprint

September 2024

We have been closely following the review of the Product Environmental Footprint (PEF) and would like to express our gratitude to the European Commission for their diligent efforts in consulting with industry. We support the work of the DG-ENV and JRC on carbon modelling and want to acknowledge the challenges in addressing the complexity of the chemical sector and its numerous value chains, as well as meeting the requirements of other sectors.

We recognize the significant progress made in assessing carbon flows and their impact on the Green House Gas (GHG) emissions within the EU's PEF. It is essential for providing transparency along value chains regarding the CO_2 contribution of different carbon sources and for GHG reduction strategies. This transparency is crucial in promoting the market for biobased raw materials as part of the EU's goal to achieve net-zero emissions by 2050.

In a recent draft report, the JRC describes a methodological approach to provide this transparency: In the “-1/+1” approach, the carbon footprint of bio-based products is reduced by the amount of CO_2 withdrawn from the atmosphere and incorporated as carbon into bio-mass derived materials. This assessment approach provides transparency on reduced PCF of bio-based products by accounting for the incorporation of atmospheric carbon, while emissions at the end of life are reflected in that stage[1]. However, we understand that one of the carbon modelling options being considered by the Commission entails limited use of the “-1/+1 approach” at the "foreground level," while applying a "0/0 approach" at the “background level”, where no credits or benefits are given at any stage of the life cycle.

We firmly believe that the consistent use of the -1/+1 approach for all biomass-derived products, both at foreground and at background level, is more intuitive, transparent, and compliant with ISO 14067, CEN EN 15804 and prEN 18027 standards. If applied correctly, it provides a clear understanding of the actual difference in CO_2 footprints between biomass-derived and fossil-based products at each life cycle stage. Additionally, it avoids challenges related to the double counting of CO_2 credits, as all end-of-life CO_2 emissions are accounted for, irrespective of whether they are biogenic or fossil-based.

[1] The -1/+1 approach aligns with the physical processes of nature (the biogenic carbon cycle) whereby biogenic carbon is created through the uptake of CO_2 from the atmosphere by plants during photosynthesis, the biogenic carbon is stored in the plant or biomass-derived product during its active life or use, and the biogenic CO_2 is returned to the atmosphere at end of life, creating a natural balance (-1 to +1 = 0).

As an industry, we are willing to contribute to the development of the EF4.0 database that will contain cradle-to-gate life cycle inventories. However, **we recommend adopting a consistent approach by applying the -1/+1 accounting method. This will ensure a fair comparison between fossil-based and bio-based products, allowing consumers to make informed purchasing decisions based on the demonstrated and transparent climate benefits of bio-based solutions**. In any case, as for other products, a correct interpretation of what is covered by the PEF results will require educating consumers. Separate reporting of biogenic and non-biogenic emissions and withdrawals as well as reporting of fossil and biogenic carbon content will provide full transparency. Further technical explanations and suggestions can be found in the appendix.

We kindly invite the Commission to reconsider and align these provisions to ensure consistency, clarity, predictability, and legal certainty for all stakeholders along the value chain. The accounting methodology established in PEF will have a profound effect on the recognised benefits of transitioning away from fossil feedstock in products. This recognition will be a key factor driving, and possibly accelerating the uptake of bio-mass derived products. We therefore kindly ask the Committee to remove all the barriers to the use of the -1/+1 approach. Establishing an innovation- and investment-friendly regulatory environment is of utmost importance to foster the industry's transition towards products with a reduced environmental impact.

We thank the EU authorities and decision-makers for considering our views and are available for further discussions on these critical issues. We look forward to practical, feasible, and forward-thinking solutions.

Appendix:

As sustainability assessment methodologies continue to evolve, there is a need to have reliable, comparable, and state-of-the-art estimations of the environmental performance of products and organizations. We would like to herewith provide further argumentation as to why we firmly believe that the consistent use of the -1/+1 approach is required.

Technical argumentations supporting the application of the -1/+1 approach both at the foreground and background level.

1. **By incorporating positive and negative carbon flows, the -1/+1 approach provides a more scientifically sound and transparent understanding of the GHG emissions, facilitating the selection of options with the least overall negative impact** at every step of the value chain. The 0/0 approach oversimplifies the carbon flows in case of biomass-based feedstock utilization.

2. **The -1/+1 approach for background data provides a more comprehensive assessment of the different life cycle steps.** It allows for a more holistic evaluation of the overall contributions to the sustainability performance of products or processes. In certain environmental impact categories, the upstream data and their optimization play a significant role. For example, the supply chain is heavily influenced by impacts such as the feedstock production of suppliers for industry. The background data influence environmental performance assessment of a huge variety of products, produced using renewable raw materials. Another example is the impact of the use of fertilisers for the growth of biomass in turn used for e.g. biodiesel production.

3. The Product Environmental Footprint (PEF) methodology, which currently follows the 0/0 approach, implicitly assumes that all materials are incinerated at the end of their life. However, this assumption does not hold true for recycled materials or those used in long-term applications among others. Consequently, the 0/0 approach does not adequately reflect these scenarios, resulting in incorrect Product Carbon Footprint (PCF) calculations. It is essential that the discussion on the PEF review focuses on developing a scientifically sound and correct tool which allows to correctly measure PCFs for any feedstock and in all scenarios, such as a revised EF method including a -1/+1 approach. In the case of bio-based products this approach would also allow to recognise the benefits of using biomass-based feedstock in terms of PCF.
   The -1/+1 approach relies on robust data and reliable assessment methodologies for evaluating positive and negative impacts accurately. A consistent application of the -1/+1 approach enables improvement in in accuracy of the representation of these impacts .

4. In particular, under the current 0/0 regime, there is a lack of incentive for the reuse, recycling, or prolonging the service life of biobased products. There is no burden for the emission of greenhouse gases (GHGs) at the end-of-life, scope 3.12, in a 0/0 regime, neither when the products are incinerated nor when these are recycled. As a result, emissions taking place during incineration are not accounted for and there is no incentive to recycle.
   In contrast, when considering the EoL management, **the -1/+1 calculation methods** provide a lower PCF result for recycled biobased products compared to incinerated ones.

5. Obligations for businesses under the CSRD are to maintaining transparency and traceability throughout the process, including data collection, reporting, and decision-making. Companies need to establish systems to track and trace sustainability performance throughout the value chain. Consistent application of the -1/+1 accounting approach would enable achieving these goals, as well as harmonization with ISO requirements.

6. **We invite a discussion on solutions to accurately implement the -1/+1 approach in combination with end-of-life modelling approach in the PEF, in particular with respect to recycling. We disagree that an accurate EoL modelling and accounting is not possible with the -1/+1 approach, all relevant ISO standards and many calculation examples showing that it is possible.**