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About · The Mass Balance Approach

# ISCC for the Circular Economy and Bioeconomy

## The mass balance approach

Based on customer requirements, ISCC offers two chain of custody options for ISCC system users. Materials are either physically segregated in production processes throughout the supply chain (*"physical segregation"*) or mixed in production but separated

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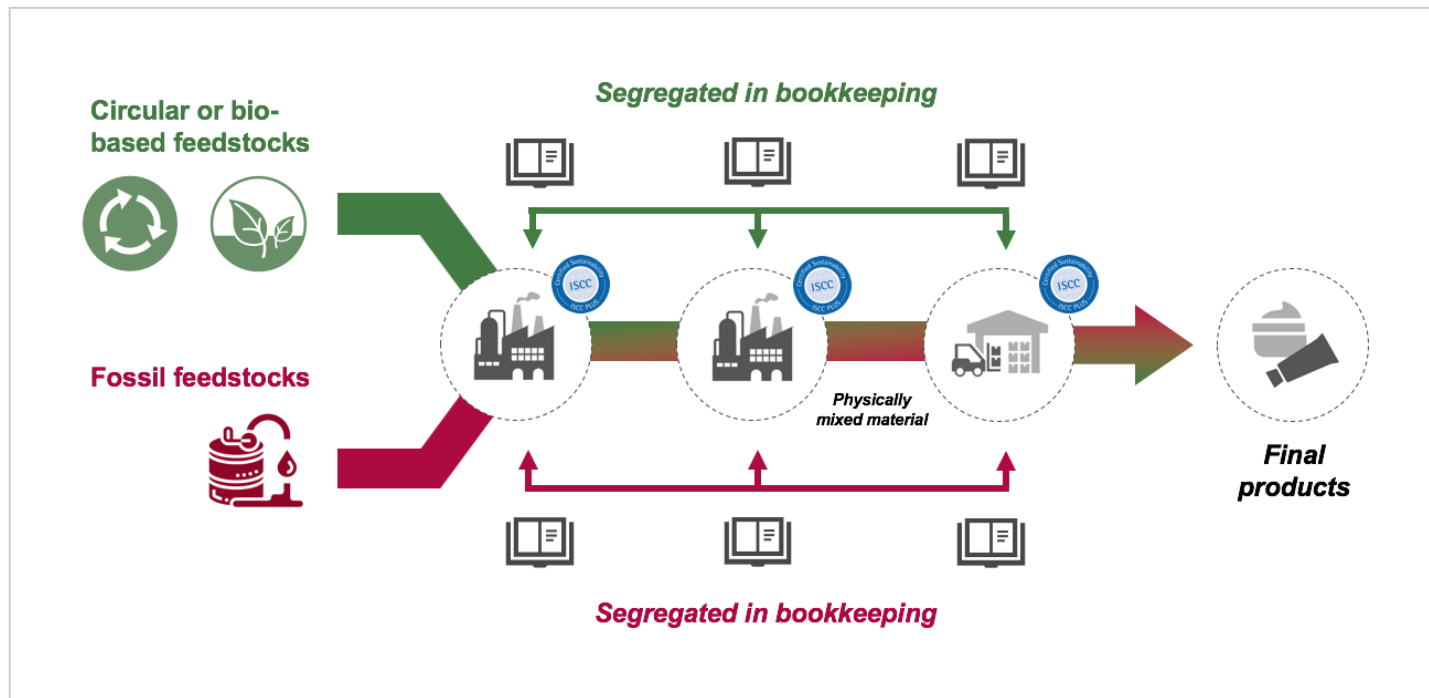
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in bookkeeping (“mass balance approach”).

The mass balance approach along the supply chain:



Over the past years, the mass balance approach has prevailed in the chemical industry. As an important milestone on the pathway to a circular economy and bioeconomy, it has been designed to trace the flow of materials through a complex value chain. Since chemically recycled or bio-based feedstocks are typically blended in the manufacturing complex, physical segregation of recycled content is often practically and economically infeasible. The mass balance approach makes it possible to track the amount and sustainability characteristics of circular and/or bio-based content in the value chain and attribute it based on verifiable bookkeeping.

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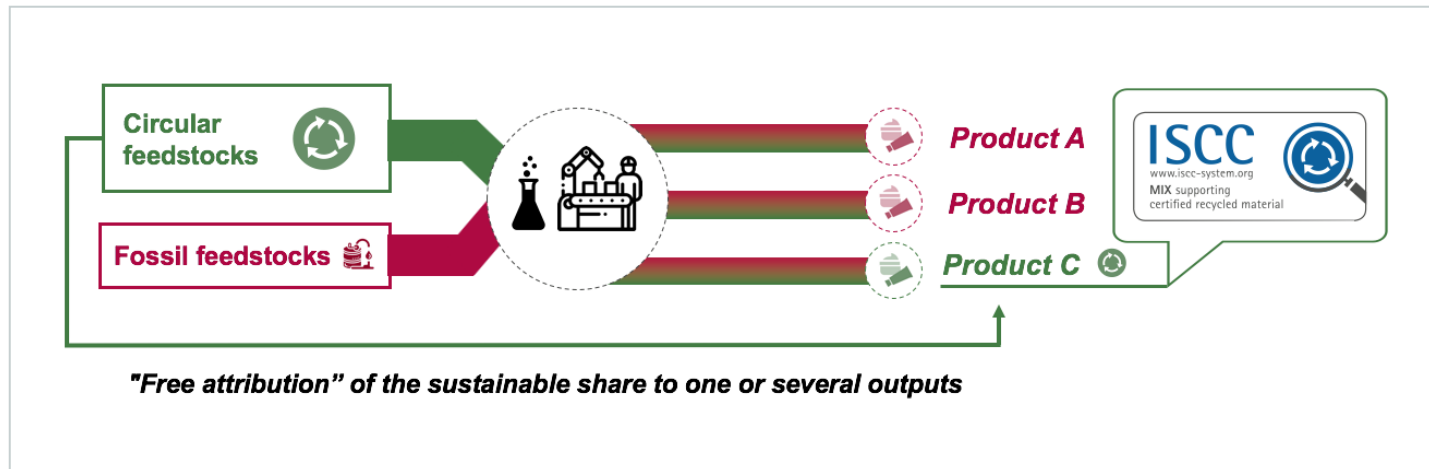
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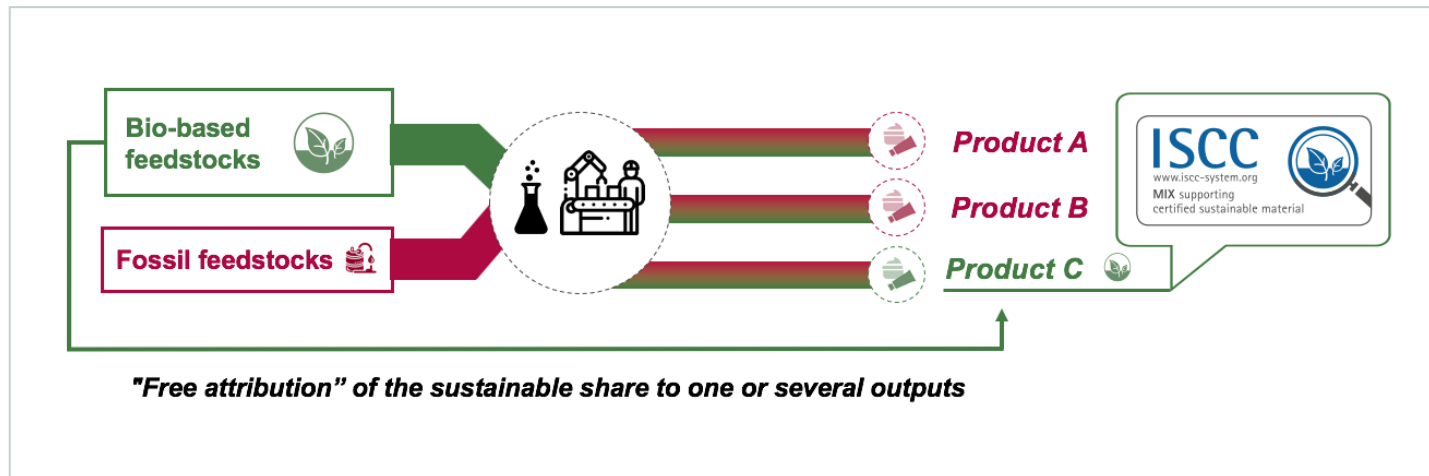
Physical Segregation

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## “Free attribution” of circular feedstocks:



## “Free attribution” of bio-based feedstocks:



One of the major advantages of the ISCC PLUS mass balance approach is the possibility to gradually increase the share of bio-based and/or circular feedstocks in the production process. In addition, the calculated share of bio-based and/or circular feedstocks can be

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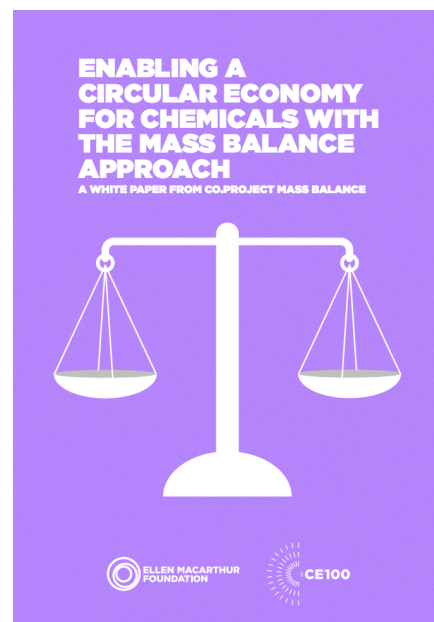
attributed on an equivalent basis to one or several outputs. On this basis, the ISCC PLUS mass balance approach allows system users to make credible claims.

## Need more information?

### CE100 Whitepaper: Enabling a circular economy for chemicals with the mass balance approach

The Ellen MacArthur Foundation brings together decision-makers across business, government and academia and acts as a global thought leader for the circular economy. The foundation's Circular Economy 100 (CE100) Network provides a pre-competitive space for businesses and stakeholders to learn, share knowledge, and build new collaborative approaches.

An important milestone on the pathway to a circular economy is the mass balance approach for the chemical industry. By publishing a whitepaper, the Ellen MacArthur Foundation's CE100 Network, including ISCC members Eastman and UPM, propose a mass balance approach with predefined rules. ISCC has implemented the whitepaper's concept in the ISCC PLUS mass balance approach.



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[Click here for the CE100 Whitepaper "Enabling a circular economy for chemicals with the mass balance approach"](https://www.iscc-system.org/wp-content/uploads/2019/06/Mass-Balance-White-Paper.pdf) (<https://www.iscc-system.org/wp-content/uploads/2019/06/Mass-Balance-White-Paper.pdf>).

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Explaining mass balance



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