Mass Balance
Supply Chain Model:

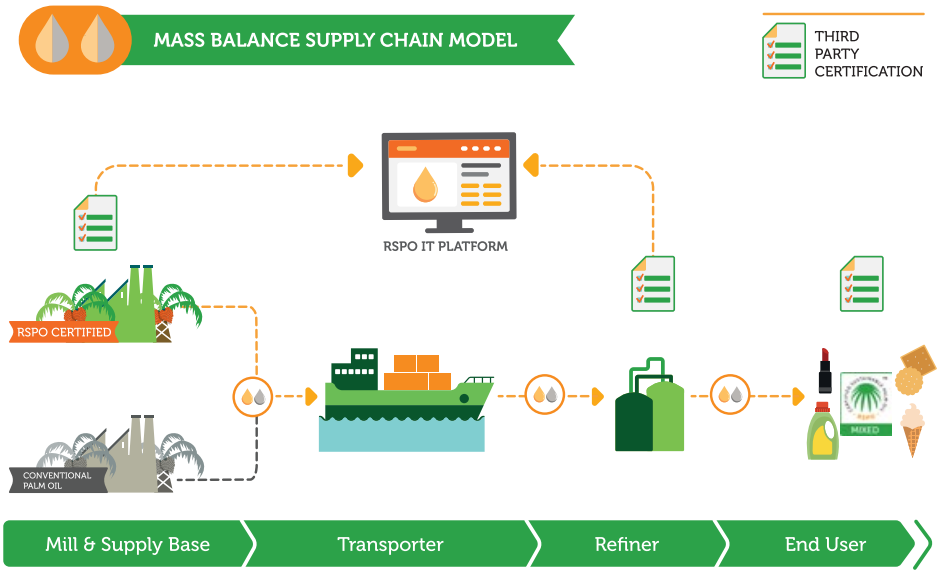
Where flexibility allows market access

What is it?

Mass Balance as a supply chain model is widely used in many industries. It helps transition from conventional or unsustainable sourcing and production approaches towards more sustainable models.

Due to the complexity of this mechanism, explaining MB in clear and simple terms is key to increasing acceptance.

The Mass Balance (MB) Supply Chain model allows mixing RSPO and non-RSPO Certified palm oil (through physical or administrative blending) at any stage in the supply chain, provided that the overall site quantities are controlled.

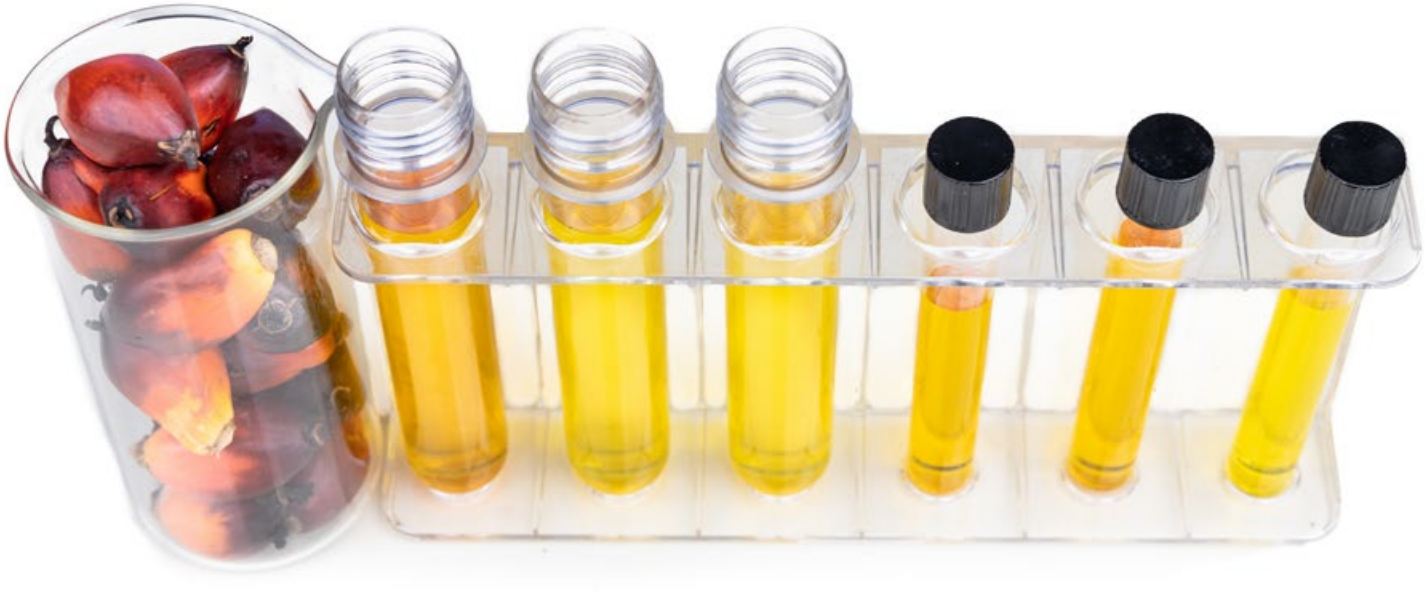


What are the benefits?

1) Smallholder Inclusion

The mixing of RSPO Certified oil palm products and non-certified/ conventional material can happen at any stage in the supply chain. When certified Fresh Fruit Bunches (FFB) are mixed with non-certified/ conventional FFB during the processing stage at an RSPO Certified palm oil mill, only then the equivalent CSPO volumes used in the mix can be sold as Mass Balance products. Mass Balance models allow smallholders to sustain their livelihoods by selling their uncertified FFB to RSPO Certified palm oil mills. Once the independent smallholders are certified on their own, they may then choose whether to sell the certified FFB as physically certified, or sell the certified FFB volume as RSPO Independent Smallholder (IS) Credits via the Book and Claim model.

MB support from downstream players is crucial in supporting smallholders to sell their volumes, embrace sustainable practices and achieve certification. In some countries like Indonesia, mills are legally obligated to receive material from smallholders through a Plasma Plantations scheme.



2) Flexibility in complex supply chains: oleochemical industries

In oleochemical industries, oil palm products are often classified as primary oleochemicals and secondary oleo derivatives. Hundreds of ingredients are manufactured from secondary oleo derivatives, including surfactants, emollients and sealants, to name a few. Given the complexity of these supply chains, the MB model allows downstream players that use these ingredients to source them sustainably even when the middle actors are not able to for various reasons such as when:

- facilities are unable to keep the oils (conventional vs certified sustainable) separate during storage and transportation
- the minimum quantities necessary for the operation of the plants are not reached by certified material only
- the costs of keeping the oils separate from conventional would lead to non-competitive prices for market development of certified material

MB allows flexibility for companies sourcing many palm ingredients but with demand for certified material limited to a handful of products or customers. Moreover, MB product claims can be transferred from one product to another, allowing companies to continue to have a business case when there is a lack of demand for certain products.

What is the impact?

Although the MB model does not guarantee that certified palm oil is present in a given final product, MB contributes to the positive impact that sustainable production generates for Producers and downstream players. It is an essential model, for example, for the development of a sustainable oleochemicals market. In some sectors such as the feed sector or the derivatives sector (for cosmetics, and detergents), sourcing Segregated (SG) or Identity Preserved (IP)* material may be difficult, due to either a lack of demand or the composition of co-products or costs associated with material separation. However, MB products are largely available and can represent a good way to stimulate a sector.

** Please refer to the Segregated and Identity Preserved Supply Chain Models fact sheet.*

What is needed to implement it?

Please read the **RSPO Supply Chain Certification Standard** for more details.

A company is only required to ensure that it sources MB materials from RSPO Certified suppliers. It does not require major investments in production lines or segregation of materials. MB requires RSPO Supply Chain Certification and bookkeeping, representing a scalable and good model for all players willing to move to a physical supply chain of palm oil, palm kernel oil or derivatives.

Oil Palm Products

Products produced from the oil palm, including its fruit and kernels. Depending on the context, the phrase 'oil palm products' in this document can also refer to products such as (crude) palm oil, shells, palm kernels, palm kernel expeller, palm kernel oil (PKO), or products derived thereof, palm fatty acids (PFAD), palm kernel fatty acids (PKFAD), olein, stearin, or other products that are derived from the fractionation of palm oil and palm kernel oil.

You can find additional information in the **RSPO Supply Chain Certification Standard**, or **contact your local RSPO representative** for more information

CERTIFIED SUSTAINABLE PALM OIL™ RSPO

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