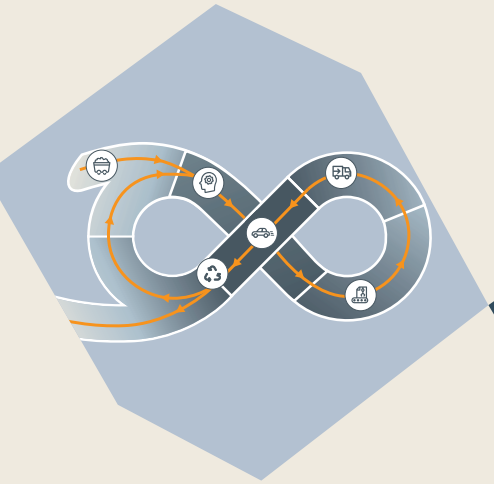
World Business Council for Sustainable Development

Tire Industry Project



Definitions for *Renewable Material and Recycled Material*

Background and Context

Driving sustainability is crucial for the tire value chain but requires standardized methodologies and metrics. Standardization starts with a shared understanding of key terms among stakeholders. Until now, no consistent definitions around circularity have existed for the tire industry.

This document establishes definitions for the key terms "renewable material" and "recycled material", offering tangible guidance for consistent and credible application of the definitions at the material level. Adoption of these definitions will pave the way for greater industry alignment, transparency, and meaningful progress toward a more circular tire value chain.

The definitions in this document have been developed by the Tire Industry Project (TIP) as a recommendation for the tire industry based on International Organization for Standardization (ISO) 14021:2016. Related regulations and standards, such as the EU Waste Framework Directive, Sustainability Accounting Standards Board (SASB), and UL 2809, were also reviewed to facilitate alignment with broader industry and policy expectations. These definitions are the outcome of several years of collaborative work among TIP members – tire companies who represent 60% of global tire manufacturing capacity. It is therefore our recommendation that these definitions be adopted in any future context concerning tire manufacturing.

Definitions

For the purpose of these definitions, all stages of tire manufacturing, as well as all parties/companies involved therein, are considered part of the same process. Table 1 shows an overview of the definitions.

Table 1 - Tire Industry Project Definitions for Renewable Material and Recycled Material

Term	*Definition*
Renewable material	A renewable material is defined as biobased material[1] that returns to its previous stock levels by natural growth or replenishment processes at a rate in line with use cycles. Therefore, it is replenished/regrown at a rate equal to or faster than harvested/extracted.
Recycled material	A recycled material is defined as a material that has been reprocessed from a recovered[2] (or reclaimed) discarded material by means of a manufacturing process and made into a final product or a component for incorporation into a product. A distinction is made between post-consumer and pre-consumer recycled materials: **1. Post-consumer recycled material** Material generated by households or by commercial, industrial and institutional facilities in their roles as end users of the product that is no longer used for its intended purpose. This includes returns of material from the distribution chain. (Aligns with: ISO 14021; SASB; UL 2809) **2. Pre-consumer (post-industrial) recycled material** Material diverted from the waste stream during a manufacturing process. Excluded is reutilization of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it. In the tire industry, a material qualifies as pre-consumer recycled if it meets the three conditions stated in Table 2. (Aligns with: ISO 14021; SASB; UL 2809) The combined proportion of pre-consumer and post-consumer recycled material, by mass, in a product or packaging is defined as recycled content for the tire industry.

[1] *Resource derived from biomass excluding any materials embedded in geological formations or transformed to fossilized material. Examples include trees, crops, grasses, algae, microorganisms, animals and wastes of biological origin (E.g. manure). Source: ISO 59004:2024*

[2] *Excluding energy recovery.*

Conditions for pre-consumer recycled content

To provide further guidance for tire manufacturers when reporting on pre-consumer recycled content, three conditions have been set, all of which must be met, to be able to call a material pre-consumer recycled material. The conditions have been developed based on the principles outlined in ISO 14021:2016. They translate the general requirements of the ISO standard into clear, actionable criteria that tire manufacturers can apply when making specific material-related claims. Table 2 shows an overview of the three conditions.

Table 2 - Conditions for Pre-Consumer Recycled Content

Condition	*Explanation*
Condition 1: **It is discarded**	The material should be a discarded material in the first place, meaning that it is no longer of use to the current owner and discarded[3]. This aligns with the definition of "waste"[4] and "scrap"[5]. Discarded material would naturally either go into waste stream or be recycled.
Condition 2: **It is reprocessed**	To be considered recycled, the material should have been reprocessed from discarded materials by means of a manufacturing process and made into a final product or into a component for incorporation into a product. Reprocessing could be performed by an external party, the producer of the waste or the company using the material in a different manufacturing process than the one from which the material originated.
Condition 3: **It is incorporated in a manufacturing process leading to a product different from the original process**	The material should be made into a different component/product. This indicates that the material is incorporated into a process different from the original (e.g. tire) manufacturing process. Each step of the tire manufacturing process is considered as part of the same process encompassing different parties/companies involved in the manufacturing of tires. In case no reprocessing took place in previous steps to the discarded material, it should be reprocessed by the new manufacturer. Exemptions may apply in some cases. See below for more details.

[3] *Transfer of ownership is not required as long as the material is discarded.*

[4] *Waste is defined as any substance or object which the holder discards or intends to discard or is required to discard - based on the EU Waste Framework Directive. This definition has been reviewed against major national and regional waste regulations and shares similar intentions, including the Resource Conservation and Recovery Act (United States), the Waste Management and Public Cleansing Law (Japan), and the Wastes Control Act (Korea).*

[5] *Scrap is defined as rejected or discarded material generated by a manufacturing process that is useful only after it is reprocessed based on UL page 8.*

Conditions validated through a testing phase

A testing phase was conducted to further validate the above conditions in the context of the tire industry's complex material composition and manufacturing processes. The testing phase involved applying the conditions to a selected range of materials and composites to test their applicability and effectiveness. During the testing phase, it became evident that Condition 3 required further operationalization to address specific complexities within the tire manufacturing processes and as a result, the following clarification was introduced to enhance its applicability.

Clarification: Reprocessed products and materials that re-enter the tire manufacturing process as recycled new raw materials, meaning they have been transformed into new input materials that differ in form or composition with respect to the original waste, are considered pre-consumer recycled content. The scope of this clarification is reprocessed aged, excess, obsolete or otherwise unwanted tires. It also includes mixed rubber waste from the tire manufacturing process, and scrap reprocessed into new raw materials.

Example: Carbon black that is recovered through chemical recycling of off-specification tires and manufacturing scrap and processed into a new, functional raw material and reintegrated into the tire manufacturing process. This recovered carbon black qualifies as pre-consumer recycled material because it is chemically different from the original scrap material and used as a new input during tire production.