Glossary

of policymakers and value chain partners.

TERM	DEFINITION
Bio-attributed plastics	Plastics with attributed bio-based content. The determination of bio-based content can be done via feedstock attribution. Note: These products should contribute to the legislative requirements of bio-based content.
Bio-based feedstock	Raw materials of biological origin, grown and naturally replenished at human time scale, excluding materials embedded in geological formations and/or fossilised. It can either be produced from grown crops ('first-generation': maize, rapeseed, etc.) or organic residuals and waste ('second-generation': agricultural waste, frying oils, manure).
Bio-based plastics	Plastics fully or partially produced from bio-based feedstock. Bio-based plastics can be made entirely or partially from biomass, and can be both biodegradable and non-biodegradable (European Commission, 2022).
Carbon capture and usage	Process of capturing CO_2 from potential system emissions streams before it enters the atmosphere, or from the atmosphere itself (direct air capture). Captured CO_2 can then be used as a feedstock to produce plastics.
Carbon captured feedstock	Raw material derived from technically captured CO_2 from air or industrial processes used as a feedstock.
Chemical recycling	Converts e. g. polymeric waste by changing its chemical structure to produce products (e.g. waxes) or substances (e.g. oil and gas) used as raw materials for manufacturing plastics or other products. Products exclude those used as fuels or means to generate energy. There are different chemical recycling technologies, such as pyrolysis, solvolysis, gasification, hydro-cracking and depolymerisation. Note: Alternatively, the terms 'feedstock recycling' (synonym per ISO 15270: 2008) or 'advanced recycling' (preferred in the American region) are used.
Chemically recycled feedstock	Feedstock derived from waste through chemical recycling.
Chemically recycled plastics	Plastics fully or partly produced from chemically recycled feedstock. The determination of recycled content can be done via feedstock attribution. Note: Those products should contribute to the legislative requirements of recycled content.

Circular feedstock	Circular feedstocks are recycled feedstock, bio-based feedstock, carbon captured feedstock. Note: The definition is based on the feedstock used and does not refer to the end-of-Life of the plastics
Circular plastics	Group of plastics fully or partially produced from circular feedstock, including recycled plastics, bio-based plastics, bio-attributed plastics and plastics derived from carbon capture. Note 1: Antonym of fossil-based plastics Note 2: The definition is based on the feedstock used and does not refer to the end-of-life of the plastics.
Closed-loop recycling	A recycling process in which the output (e.g. recyclate) is included in a product or application of the same plastic sector it originated from (e.g. packaging, automotive).
Decarbonisation	Reduction of carbon. In the context of a circular economy of plastics, it means the reduction of greenhouse gas emissions throughout the life cycle of a plastic material. Decarbonisation can include measures of reduction in production (e.g. via process optimisation or green energy use), sourcing (e.g. via changes in feedstock used), or CO_2 storage. The decarbonisation can be measured and demonstrated scientifically by using methodologies such as life-cycle-analysis. Note: The term refers to the CO_2 emissions throughout a material's life cycle. A plastic material consists fully or partly of carbon.
Depolymerisa-tion	Conversion of a polymer to its monomer(s) or to a polymer of lower relative molecular mass. The process can be mediated by e.g. heating, chemical solvents or enzymatic/catalytic reactions. Note: The process belongs to chemical recycling processes.
Dissolution	A purification process through which the polymer present (e. g. in a mixed plastics waste or in a multi-layer formulation/composite) is selectively dissolved in a solvent, allowing it to be separated from the waste and recovered in a pure form without changing its chemical nature. Note: The process belongs to physical recycling processes.
Elastomer	Macromolecular material which returns rapidly to its initial dimensions and shape after substantial deformation by a weak stress and its release. Note: The definition applies under room-temperature test conditions.
Extended Producer Responsibility (EPR)	Set of measures taken to ensure that producers of products bear operational responsibility or finance an organisation for the management of the waste stage of a product's life cycle.

Feedstock	Raw material or material that is the principal input for an industrial production process
Feedstock attribution	Allocating the characteristics of a feedstock (e.g. bio-based or recycled) – which is added at the beginning of the production process – to the end product. Mass balance is one well-known chain-of-custody approach that can be used to trace the flow of materials through the value chain, resulting in associated claims for the allocation.
Fossil-based plastics	Polymer resin produced directly and fully from fossil feedstock. Note: Externally, these plastics are sometimes called virgin plastics or virgin fossil plastics.
Fossil feedstock	Raw material that is derived from fossil resources (crude oil, natural gas, coal).
Fossil-equivalent quality	An adjective describing the quality of a material that has not undergone processes resulting in changes of chain length or non-traceable addition of additives. For example, the term differentiates plastics directly derived from polymerisation from mechanically/physically recycled plastics, based on technical criteria such as chain length, colours, or food grade approval. Note: The term 'virgin-quality' or 'virgin-like' is used equivalently.
Gasification	A process where mixed after-use materials, such as polymeric waste, are heated in the presence of limited oxygen to produce primarily syngas that can be converted into polymers again. Note: The process belongs to chemical recycling processes
Mechanical recycling	A processing method by which plastics are recovered from plastic waste without intentionally changing the basic polymeric structure of the material. Plastic waste undergoes processes in specialised sorting facilities to separate different plastic streams. After cleaning and grinding the sorted plastic waste, the material is recovered by melting, or dissolution of the polymer out of the plastic, and reshaping (e.g. regranulating) to produce pellets, flakes or powders used in the manufacture of plastic parts and products.
Mechanically recycled plastics	Plastics fully or partial produced by a mechanical recycling process.
Open-loop recycling	A recycling process in which the output (e.g. recyclate) is converted into a different type of product (e.g. park benches, fibres) from the one for which the polymer was first used.
Organic recycling	Recycling (via composting or anaerobic digestion) of biodegradable/ compostable organic waste (including plastics) under controlled conditions using microorganisms. In the presence of oxygen, stabilised organic residues, carbon dioxide and water are produced. In the absence of oxygen, stabilised organic residues, methane, carbon dioxide and water are produced. Note 1: The term 'biological recycling' is used synonymously. Note 2: Landfill shall not be considered a form of organic recycling.

Physical recycling	Physical recycling refers to a number of different processes for recycling plastics that include mechanical recycling, but also other physical treatments such as selective dissolution, extraction, precipitation and crystallisation to purify the plastic without (intentionally) modifying its polymer chains chemically. Note: Some stakeholders use the term physical recycling for dissolution processes only.
Physically recycled plastics	Plastics fully or partly produced by physical recycling process.
Plastic	Material which contains as an essential ingredient an organic polymer and which at some stage in its processing into finished products can be shaped e.g. by flow, extrusion, or moulding. Note 1: Elastomeric materials not shaped by flow, extrusion, or moulding, are not considered as plastics. Note 2: Additives or other substances may have been added, and which can function as a main structural component of final products.
Plastics directly produced from polymerisation (PPP)	Resin produced directly by a plastic production facility using polymerisation. Note: This includes the use of fossil, bio-based, carbon capture, and chemically recycled feedstock.
Plastics waste	Any plastic material or object which the holder discards, or intends or is required to discard.
Polymers	A substance consisting of molecules characterised by the sequence of one or more types of monomer units. Such molecules must be distributed over a range of molecular weights, wherein differences in the molecular weight are primarily attributable to differences in the number of monomer units. A polymer comprises the following: (a) a simple weight majority of molecules containing at least three monomer units which are covalently bound to at least one other monomer unit or other reactant (b) less than a simple weight majority of molecules of the same molecular weight Note by Plastics Europe member experts: Although the given definition is the official taken from (EC) No 1907/2006, polymers can, but not must have a molecular weight distribution.
Post- consumer recycled plastics (PCR)	Recycled plastics made from waste generated by households or commercial, industrial and institutional facilities in their role as product end-users, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain or the installation of plastic products (e.g. remnants of insulation, flooring, or wall-covering boards).
Post-consumer plastic waste	Waste generated by households or commercial, industrial and institutional facilities in their role as product end-users, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain or the installation of plastic products (e.g. remnants of insulation, flooring or wall-covering boards).

Pre-consumer plastic waste	Waste arising from plastics manufacturing (production and converting) processes (e.g. faulty production and sprues, edge sections of sheets, production leftovers). Note: This term excludes reutilised material, such as rework, regrind or scrap generated in a given process and capable of being reclaimed within that same process.
Pre-consumer recycled plastics	Recycled plastics made from waste diverted during the plastics manufacturing (production and converting) processes. Note 1: It excludes reutilised material, such as rework, regrind or scrap generated in a given process and capable of being reclaimed within that same process. Note 2: The term 'post-industrial recycled plastics (PIR)' is sometimes used synonymously.
Pyrolysis	A thermal process of heating up polymeric waste (e.g., plastic) in the absence of oxygen. It converts polymers into a range of simpler hydrocarbon compounds mainly in the form of liquid pyrolysis oil. Note: Pyrolysis is also used for cracking other substances/materials such as naphtha. The above definition refers to the pyrolysis of polymeric waste. Note: The process belongs to chemical recycling processes.
Recycled plastics	Plastics fully or partially produced from waste via a recycling process. Recycled plastics can be used as feedstock in the manufacture of plastic parts and products. Recycled plastics may be produced either from post-consumer waste or pre-consumer waste.
Repair	Operation by which a faulty or broken product or component is returned to a usable state to fulfil its intended use.
Reuse	Reuse of plastic products or parts without undergoing a recycling process or significant modification.
Solvolysis	A process by which plastic waste is divided into its monomer components by means of different chemical solvents, thus accordingly called glycolysis, methanolysis, hydrolysis, aminolysis. Note: The process belongs to chemical recycling processes.
Sorting	Physical processing techniques and processes to separate materials in waste fractions or streams. Sorting can be performed automatically with sorting technologies or manually.