

Many terms are used to justify sustainability; however, in many cases the incorrect use or understanding of these terms leads to much confusion. The following sections give a number of definitions for terms commonly related to packaging and sustainability.

26.5.1 Biodegradable

Materials that are capable of undergoing decomposition into carbon dioxide (CO₂), methane, water, inorganic compounds and/or biomass, in which the predominant mechanism of degradation is the enzymatic action of microorganisms (bacteria, fungi, algae). Note methane is 25 times worse than CO₂ as a greenhouse gas. There is no evidence to date that biodegradability confers an environmental benefit and, indeed, biodegradability does not solve the litter problem – biological degradation without the required conditions (microorganisms, temperature, humidity) is very slow and can last for several years.

26.5.2 Compostable

Biodegradable materials which biodegrade in ways which meet the conditions of international standards such as EN 13432, ISO 17088, ASTM 6400. Compostability certification states the conditions and time constraints under which the composting should occur, as well as criteria to be met in terms of material composition, disintegration, ultimate biodegradability (weight loss), compost quality and recognisability (labelling).

26.5.3 Renewable resources

A renewable resource should meet all of the following requirements:

- 1 Be composed of biomass which can be continuously regenerated within a given time frame.
- 2 Be replenished at a rate that is equal to or greater than the rate of depletion.
- 3 Come from sources that are managed in accordance with the principles of sustainable development.
- 4 Have a verifiable traceability system in place (definition from the draft amendment to ISO 14021).

26.5.4 Bioplastics

The term bioplastics is a rather loose term that includes different types of plastics and two aspects of bioplastics are frequently confused:

- 1 *Composition*: a plastic made from renewable resources;
- 2 *End of life*: a biodegradable or compostable plastic;

Composition and end of life are independent aspects. A biobased plastic from renewable resources is not necessarily biodegradable. Furthermore, biodegradable plastics are not always made from renewable resources. Traditional petroleum based plastics can be biodegradable.

26.5.5 Recyclability

For a packaging item to qualify as recyclable it must meet three criteria according to ISO 14021:

- 1 Collection, sorting and delivery systems to transfer the used packaging from the source to the recycling facility are conveniently available to a reasonable proportion of consumers of the packaged product.
- 2 Recycling facilities are available to accommodate the collected packaging materials.
- 3 The packaging for which the claim is made is being collected and recycled.

The fact that a packaging item is made out of one single material is thus not sufficient to claim recyclability.

26.5.6 Recycled content

Two types of recycled materials qualify as recycled content according to ISO 14021/US FTC:

- 1 Post-consumer material: material generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for its intended purpose. This includes returns of material from the distribution chain that generated it.
- 2 Pre-consumer material: material diverted from the waste stream during a manufacturing process. Excluded is reutilisation of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it.

26.6 Portion control

Chocolate confectionery can be generally high in one or more of the health-sensitive nutrients, specifically fats and added sugars, and therefore high in energy content. It is widely accepted that excessive intake of energy dense foods, saturated fatty acids, sodium and added sugars may negatively affect health and have to be taken in moderation. Balance is the key to healthy eating; therefore, chocolate in moderation can be part of a healthy diet.

The serving size used on the pack nutrition label may or may not be according to the discretion of the food manufacturer, depending on legislation of the country where the food is being sold. For example, in the Americas, Brazil, Canada, Mexico and United States, guidelines exist on reference amounts for nutrition labelling. However, in Europe, each manufacturer can select a serving size that it considers most appropriate for a specific type of food for nutrition labelling. Nonetheless, the Association of the Chocolate, Biscuits and Confectionery Industries of the European Union (CAOBISCO) has established reference quantities for labelling of Guideline Daily Amounts, in anticipation of future European Union regulations on serving size information in nutrition labelling.