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What key issues exist for my business?

Within the framework of society's broader social and moral responsibilities, 'standards' are developed that are supported by legislation. Standards evolve from the understanding of the technology, its direct and indirect impacts on us and our environment, and a legal structure to enforce minimum standards of 'duty of care'. These minimum standards evolve over time along with social evolution. Two examples that have seen considerable change in the last century include child labour and workplace health & safety legislation. However eco standards can be misused to suggest certain environmental credibility to lever a premium.

Why is this an issue for my business?

Many eco-labels refer back to one or more eco-standards, and the misuse of these standards via eco-labels is in danger of becoming meaningless by their proliferation with this increase in marketing 'green-spin' to boost eco-claims. The outcome is consumer 'eco-fatigue' and bamboozlement, with the over-selling of sound environmental standards leading to consumer mistrust and potential brand damage.

For example, the term 'biodegradable' and its departure from recognised standards is often cited as at best confusing.

What steps can I take to address this?

Clarity and transparency are key, but **mapping product specifications to standards** is a specialist role, and this section does not attempt to cover this broad area. You will need to employ a standards specialist in this area.

The biodegradable example.

To highlight the need for careful use of standards, this section outlines the marketing issues around term 'biodegradable' when compared to the science and standards.

There are many online examples of contesting claims over a product being 'degradable' and by association 'green and better', alluding to harmless absorption into natural biological cycles, when this is far from the case, reinforcing public mistrust. Many supermarket plastic bags allude to harmless degradation, when they only disintegrate into small plastic pieces and are not absorbed (positively) into the biological cycle.

There are two main aspects to degradation:

- How long it takes.
- What benefit (or not) there is in the process.

Most petro-chemical plastics take hundreds of years to degrade and many leach undesirable chemicals into the soil then into ground water and ultimately into the food chain including the bloodstream and tissue of fetuses, children and adults. Plastic waste in our oceans is a severe problem.

- In marketing terms, 'biodegradable' often incorrectly lumps three distinct terms together: Degradable
- Biodegradable
- Oxo-biodegradable

The following definitions - to illustrate the marketing and eco standards issues - are as defined by American Society for Testing and Materials (ASTM):

- **Degradable Plastic:** A plastic designed to undergo a significant change in its chemical structure under specific environmental conditions. This change results in a classification determined by the loss of some properties that may vary as measured by standard test methods appropriate to the plastic and the application in a period of time.

***What this means** – it will become brittle and fall into bits, especially if left in direct sunlight, in maybe 3 months or over 50+ years. Potentially harmful, a waste and litter problem.*

- **Biodegradable Plastic:** A degradable plastic in which the degradation results from the action of naturally occurring microorganisms such as bacteria, fungi, and algae.

***What this means** – it falls into bits quicker than degradable plastic when left to the natural elements, but this could still take many years. This is not compostable. Potentially harmful, a waste and litter problem for slightly less time.*

- **Oxo-biodegradable Plastic:** A two-stage process in which plastic is first converted by reaction with oxygen to molecular fragments that are water wettable. Second, these smaller oxidized molecules are biodegraded and converted into carbon dioxide, water and biomass, by microorganisms.

***What this means** – it falls into bits quicker than degradable plastic when left to the natural elements, but this could still take many years. Compostable. Might be a biological nutrient. Mostly harmless.*

Clarity and transparency are critical to ensure synergy between marketing messages and conformance with environmental standards.

Further reading

- [UK Government website on Environmental Regulations.](#)
- [The Electronic Product Environmental Assessment Tool \(EPEAT\)](#) based in the US.
- [The EcoLabel Index](#) (a 5 user license costs \$99/month).
- [Full product transparency](#), an e-book by Ramon Arratia of InterfaceFLOR.
- [RoHS 2002/95/EC](#)
- The [Ecodesign Directive 2009/125/EC](#) has been transposed in the UK by the [Eco-design for Energy-related Products Regulations 2010](#) (SI 2010 No.2617). It aims to improve the environmental performance of products throughout the life-cycle, by integration of environmental aspects at a very early stage in product design. The original Directive was recast in 2009 and was previously known as the [Energy-Using Products \(EuP\) Directive 2005/32/EC](#). This was transposed into UK law under Statutory Instrument (SI 2007 No.2037) which is now revoked.
- [PAS 141: 2011 for reuse of UEEE and WEEE](#) (2012 Recast)
- [WRI's Greening the supply chain](#)
- [Eco Design For Packaging & Packaging Waste Directive \(94/62/EC\)](#)
- [BS 8887-1:2006](#) Design for manufacture, assembly, disassembly and end-of-life processing (MADE). General concepts, process and requirements.
- [BS PAS 2060](#) (carbon neutrality)
- [BS 8887-2:2009](#) Design for manufacture, assembly, disassembly and end-of-life processing (MADE). Terms and definitions.
- [IEEE 1680.1-2009](#) Standard for Environmental Assessment of Personal Computer Products.
- [EU Batteries Directive 2006/66/EC](#)
- In California in August 2010 Senate Bill 1454 went under consideration to ban all biodegradable claims on plastic bottles, with the intention to extend this to all plastic products, because of numerous marketing eco-claims that were confusing at best.
- In May 2011 the European Commission began a call for views on whether requirements around biodegradable and compostable packaging are fit for

purpose as laid out in the [Eco Design For Packaging & Packaging Waste Directive \(94/62/EC\)](#) for the same reason.

- Note: There are two main types of biodegradable plastics: oxo-biodegradable and hydro-biodegradable. Both will first undergo chemical degradation by oxidation and hydrolysis for oxo- and hydro-biodegradable plastics respectively. This results in their physical disintegration and a drastic reduction in their molecular weights. These smaller, lower molecular weight fragments are then amenable to biodegradation by microbes.
- Hydro-biodegradable plastics tend to degrade and biodegrade somewhat faster than oxo-biodegradables but the end result is the same – both plastics are converted to carbon dioxide, water and biomass. Oxo-biodegradable plastics are generally less expensive, possess better physical properties and are easier to process on current plastic processing equipment than hydro-biodegradable plastics.