Eco Design and the Future of Plastics

A key element of unlocking a circular economy within plastic packaging is adopting a holistic approach to the eco design of products. We explain what eco design is, the benefits it can bring, the role it plays in the product life cycle, the trends driving it forward and new legislation designed to accelerate the adoption of this important discipline.

80%

of products' environmental impacts are determined at the design phase

Source: European Commission

What is Eco Design?

Design is in everything and is the basis for how a product or service is formed.

Eco Design for products or services making it desirable for people, minimising its environmental impact and maximising its business impact along its life-cycle by designing a circular system around it.

In short, this approach takes into account end-of-life collection and circularity from the design stage.

What are the benefits of Eco Design?

1 Less materials and energy

Manufacturing using fewer materials and less energy. This **protects resources and reduces emissions.**

2 Easily reused or recycled

Ensuring easy disassembly means using materials that are easily identified, reused or recycled.

3 Use of bio-materials

The best choice is to use a **single type of material or a biodegradeable** material, whether natural or a derivative.

4 Maximise life of the product

Shapes and sustainable materials should be **long-lasting**, maximising the useful life of the product.

5 Multipurpose, reusable and recyclable

Products should have **multiple uses**, be suitable for **reuse**, and be manufactured with **recyclable materials**.

6 Reduce emissions

Products should be of a suitable size to save material and fuel consumption during transport to **reduce** CO_2 **emissions**.

7 Innovative

Technological innovations can **optimise product efficiency and sustainability**.

8 Customer satisfaction

Consumers' needs are met with **more attractive products** that satisfy an increasingly demanding public.

9 Commitment

Companies benefit from innovation and become **more committed to the environment**.

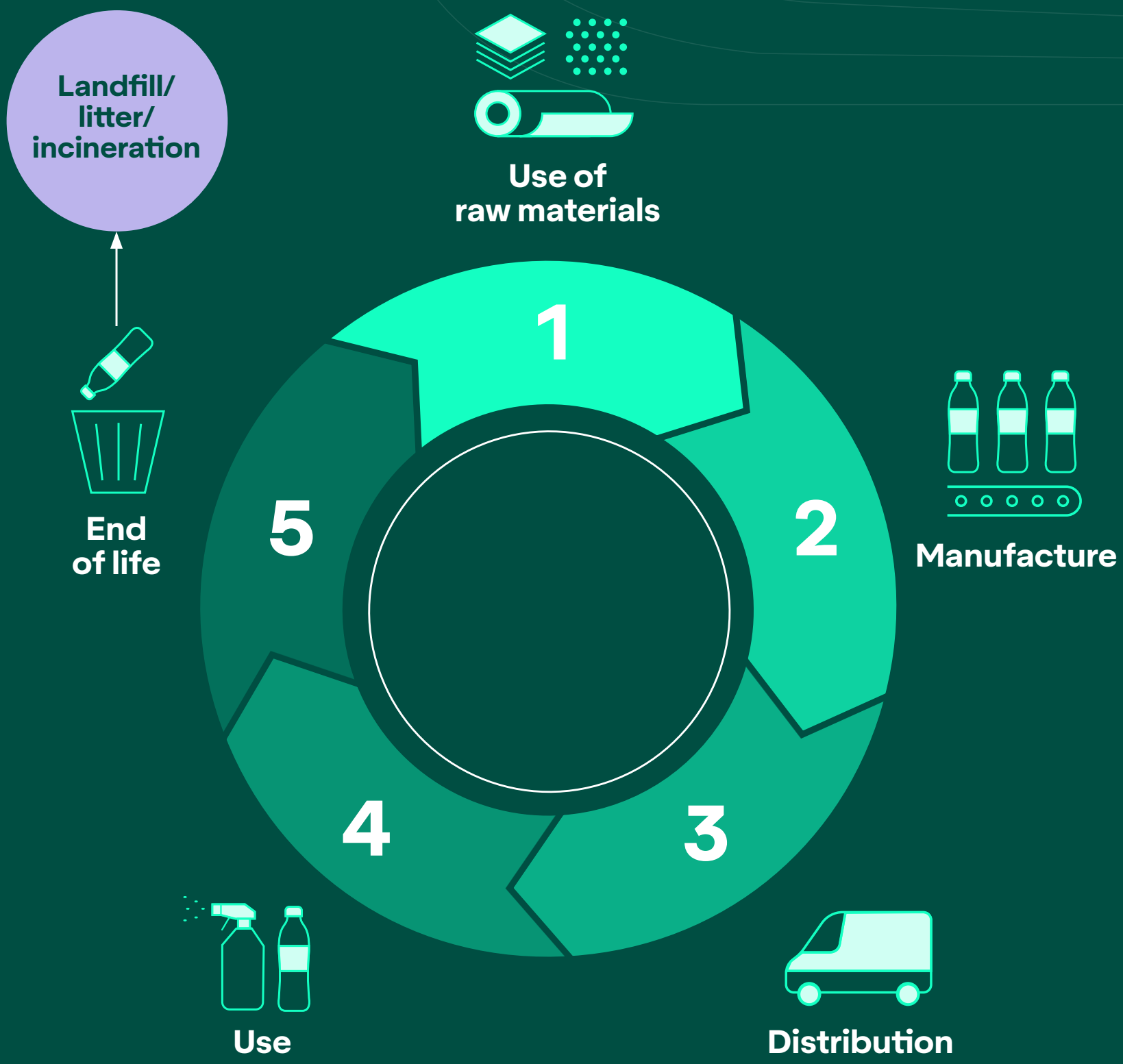
10 Market differentiation

Sustainable products have added value that gives companies a **competitive advantage**.

Source: What is EcoDesign?

Applying Eco Design to the product life cycle

A holistic approach to eco design takes into account the five distinct phases of the product life cycle and crucially links the afterlife to the raw material phase to close the loop.



Trends in Eco Design

1 Design for recycling

Taking into account end-of-life collection from the design stage.

80% of products environmental impacts are determined at the design phase according to the Ecodesign Directive (Green Deal).

Source: Euromonitor

2 Recycled content

Growing demand from brandowners as required by the EU measures to have at least 25% of recycled content in PET bottles by 2025 and 30% by 2030 (single-use plastics Directive)

Source: European Union

3 Mono-material flexibles

Global shift from multi-material to mono-material flexibles to address recyclability according to Euromonitor.

Source: Euromonitor

4 Bioplastic and biodegradeable polymer

Growing demand from brandowners as required by the EU measures to have at least 25% of recycled content in PET bottles by 2025 and 30% by 2030 (single-use plastics Directive)

Source: Smithers

5 Compostable packaging

As the global commitment 100% of plastic packaging to be reusable, recylable or compostable packaging by 2025 or earlier.

Source: Ellen MacArthur Foundation

Enshrining Eco Design into law

The European Union has taken the bold step to implement a directive specifically aimed at eco design principles to help to accelerate the adoption and implementation of this new way of looking at products and services.

Here's what that directive entails and why it's important.

The EcoDesign Directive

The European Union's EcoDesign directive (Directive 2009/125/EC) establishes a framework to set mandatory ecological requirements for energy-using and energy-related products sold in all 28 member states.

It's scope currently cover more than **40 product groups** which are responsible for around **40% of all EU greenhouse gas emissions**.

The objective of the directive is that manufacturers of energy-related products will, from the design stage, be obliged to reduce the energy consumption and other negative environmental impacts of products, enforcing other environmental considerations including: material use, water use, polluting emissions, waste issues and recyclability.

1 The EU legislation on EcoDesign and energy labelling is an effective tool for **improving the energy efficiency** of products.

2 It helps **eliminate the least performing products** from the market, significantly contributing to the EU's 2020 energy efficiency objective.

3 It also supports industrial competitiveness and innovation by **promoting the better environment performance of products** throughout the internal market.

Source: European Commission

For more information on technical performance and printing recommendations, please refer to the respective datasheets. Please note that the Avery Dennison product range and service offering can be subject to changes. For an accurate overview, please check our website label.averydennison.eu or contact your local Avery Dennison sales representative.

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