

Sustainable Innovation 2019

22nd International Conference

Road to 2030: Sustainability, Business Models, Innovation and Design

4th – 5th March 2019

University for the Creative Arts

Business School

Epsom, Surrey, UK

www.cfsd.org.uk

Eliminating Avoidable Plastic waste by 2042: a Use-Based Approach to Decision and Policy Making.

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Ever increasing growth in the amount of plastics produced has outpaced society's ability to manage them effectively at their end-of-life. The issue of discarded plastics and marine pollution is top of the political agenda and there is increasing pressure for business and Government to work together to 'solve' the problem.

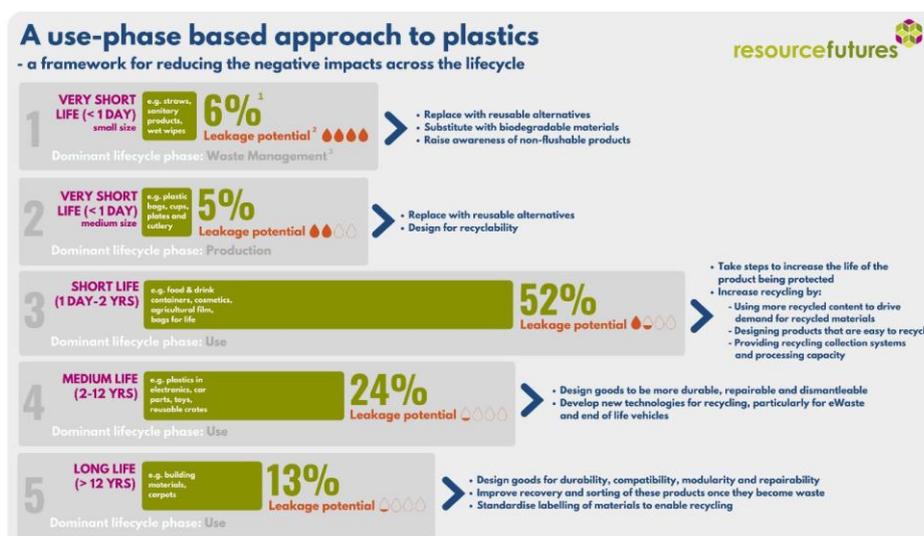
The UK Government's recently published 25-year Environment Plan states its ambition to eliminate avoidable plastic waste by the end of 2042 and the supply chain has responded rapidly with over 80% of supermarkets signing up to the UK Plastics Pact. In addition, an increasing number of measures are being promoted by campaign groups, businesses and through regulation to begin to approach the plastics issue from a range of interventions. However, these actions are not always evidence based, the topic is highly complex, and decisions are heavily dependent on other stages in the lifecycle as well as regulation, global supply chains and consumer understanding.

The Resourcing the Future (RTF) partnership commissioned Resource Futures and Nextek to research and develop a framework to assist stakeholders across the plastics value chain and recycling sectors to move forward in a common direction for improving plastics resource efficiency. This research recognises the tremendous benefits that plastics provide and addresses some of the potential drawbacks of using alternative materials. It takes a proportionate and evidence-based approach to create a more resource efficient economy.

A new approach - use phase categorisation

This research recognises that plastics are not alike as a first step, and develops a new system of categorisation based on the length of time plastics are used. The five 'use phase categories' used in this research (see Fig ES 1) provide a new by focussing attention on the dominant lifecycle impacts of different materials.

Fig ES 1: Summary of use-phase categories used in this research



¹ The estimated proportions indicated above are for post-consumer plastic waste generated in the UK. They are indicative estimates based on review of available data.

² Qualitative assessment of potential for use-based category to release into the environment (terrestrial and aquatic).

³ The term 'dominant lifecycle phase' indicates the part of a plastics product's lifecycle that is considered to have the most impact.

Source: Cook, E., Burlow, E., Kossler, E., Thomas, B., Rizzo, B., Gylfeberg, J. (2018). Eliminating avoidable plastic waste by 2042: a use-based approach to decision and policy making. Resource Futures & Nextek, on behalf of the Resourcing the Future Partnership. <http://rtf.ly/2018GDN>

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The time for action is now

The use phase categories analysis revealed two overarching and interlinked themes:

1. Sustainable design & production choices; and
2. Supporting and generating demand for secondary plastics.

The research proposes a selection of priority interventions which will provide an improved sense of direction for stakeholders across the value chain. These include:

Generating demand for secondary plastic content

Increasing demand for recycled content guarantees a market for secondary production and effectively decouples the industry from the virgin production sector.

Extended producer responsibility

Our research suggests that interventions linked to number of products rather than weight could be effective in recognising and correcting the impact costs.

Sorting and separation infrastructure

An increase in plastic being recycled and will require infrastructure capacity to process.

Clarification and agreement on the role of bioplastics

The UK Government's 25-year plan and the UK Plastics Pact have both included compostability as an aspirational characteristic for plastics alongside recyclability. This research has provided clarification on some of the important issues and highlights the consequences of an unplanned influx of these novel materials into the UK's waste stream.