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13 Mar 2023

The Industry and Parliament Trust hosted a dinner event between parliamentarians, industry and researchers entitled, 'The Future of Recycling' on Tuesday 31 January 2023. The discussion was chaired by Sir Robert Goodwill MP, Chair of the Select Committee on Environment, Food and Rural Affairs, with guest speakers Adam Grant, General Manager, Mars Wrigley UK, and Dr Alison Stowell, Senior Lecturer, Management School, Lancaster University.

## The need to discuss the future of recycling

In its January 2023 response to the House of Commons Environment, Food, and Rural Affairs Committee's report on 'The Price of Plastic', the UK Government recognised that despite the progress made to address problematic plastics there were still difficulties to be tackled. These included recapture and reuse materials back into plastic production. They also noted that progress on addressing challenges posed by plastic waste has slowed in recent years.

An estimated five million tonnes of plastic are used annually in the UK. According to the 2022 House of Commons 'Plastic Waste' research briefing, plastic packaging accounts for approximately half. In recognition of the material's utility and versatility, the government focus is on maximising resource efficiency and minimising waste by adopting the waste hierarchy – reduce, reuse, recycle – keeping the materials in circulation for as long as possible at their highest utility.

The government and devolved administrations have a variety of initiatives and commitments to mobilising the plastic agenda. These include, 'The 25 Year Environment Plan' which outlines ambitions to eliminate avoidable plastic waste by 2042; The plastic tax which incentivises recycled content in new packaging; new regulations for packaging, such as, Extended Producer Responsibility (pEPR) that places the cost of disposal on the producers; the introduction of Deposit Return Schemes (DRS) to recapture valuable materials; the newly proposed recycling target of 62% by 2030; and the UK's membership as a founding member of the High Ambition Coalition (HAC) to End Plastic Pollution.

## Challenges facing the elimination of 'avoidable' plastic packaging waste

To achieve these plastic packaging goals, transformation across plastic packaging producers, brands, consumers, waste/resource management, and local government, among others, will take place. This could lead to further innovation in plastic packaging, rethinking collection systems, engaging with a diverse range of consumers, and the adoption/development of new recycling technologies.

If we take household food plastic packaging as an example. To achieve essential criteria for quality, preservation, and safety standards, different food plastic packaging requires different technical specifications. Whether designing new packaging, increasing the use of recyclable plastics in packaging, eliminating avoidable packaging, or changing material composition, requires careful consideration. Brands must be involved to ensure technical standards are met and labelling is clear for consumers. Local council collection systems must be capable of capturing plastic packaging. Any adjustments must be communicated to different socio-economic demographics of consumers and be inclusive. Existing waste/resource management infrastructures and technologies must also be able to handle the packaging, and the disposal and recapture costs must be covered by pEPR.

## Areas for action

Modifications to maximise resource efficacy and minimise waste give an opportunity for key stakeholders to realign and reassess working processes and infrastructures.

- 1. Plastic production and waste management are fragmented. (i) Value chain stakeholders exist within and outside the UK; (ii) there is no standardisation of waste collection; and (iii) despite common polymers in plastics, different additives and composite materials add a layer of complexity for current in-country recycling technologies.
- 2. Is the plastic necessary and is it designed for recyclability or reuse? The UK Plastic Pact, led by Waste Action and Resource Programme (WRAP), recently released its annual report highlighting the actions being taken by over 100 plastic value chain members. The results show that there is an 84% reduction in use, 70% is recyclable. The recapture secondary resources of which 50% is recycled and an improved recycled content of 22%. With over 41% of their retail members trialling reuse and refill in their stores.
- 3. Sharing best practice. Explain the potential benefits of recycling and reuse of recyclates in new plastic packaging. A report 'Recycled content used in plastic packaging applications' by the British Plastics Federation (BPF), Cosmetic, Toiletry and Perfumery Association (CTPA), and Food and Drink Federation' (FDF) shares insights into measuring recycled content, regulatory requirements, risks, labelling and communication ideas.
- 4. Collection systems. Collection systems differ across the UK in terms of what can be collected, processed and accessibility to other recycling collection points for households. While significant gains have been made in recycling, there is still potential for improving collection systems and investments in recycling technologies. Rethinking how collection systems could be more effective would ensure valuable secondary plastic materials are not lost.
- 5. Developing a more circular system for plastic recycling. This will provide opportunities to complement existing infrastructures while retaining recycled materials at their highest utility and reusing them in the production processes. Mechanical Recycling, Energy Recycling and Advanced Recycling are three common methods for recycling fossil fuel produced plastics. Mechanical and Energy Recycling are popular methods in the UK. Mechanical recycling is concerned with sorting, washing, drying, grinding, re-granulating, and compounding plastics, whereas Energy Recycling converts plastic waste into energy typically utilised within the waste process. Chemical Recycling is a subset of Advanced Recycling technologies, that can take lower grade plastics and converts them to pyrolysis oil that can be used to replace virgin raw materials, as documented in the BASF Project ChemCyling Environment Evaluation based on Life Cycle Assessment report.
- 6. Engage consumers. Consumers need to be involved in the changes as they are not a homogenous group. They have varying needs and lived experiences with plastics. Specific projects in these areas have been financed by UK Research and Innovation's smart sustainable plastic packaging (SSPP) five-year programme. The Plastic Packaging in People's Lives (PPiPL): Rethinking the consumer attitude-behaviour gap, is one. This project takes food plastic packaging as an exemplar and adopts a holistic approach to examine the plastic value chain from production to consumption.

## The need for a holistic approach

Addressing the problem of plastic waste and the future of recycling necessitates education, research, shared spaces for innovation and best practice and ensuring a more enriched engagement across a diverse range of consumers.

Words by Dr Alison Stowell, Senior Lecturer, Lancaster University Management School

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