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Recycle, Reuse, Renew: Food packaging pledges and promises in the fight against plastic pollution

University of Surrey, September 2019

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I. INTRODUCTION

This research provides an analysis of the sustainability policies of a number of companies in relation to single-use plastics. In particular, it set out to understand if appropriate businesses in the supply and Circular Economy chain are adapting to the requirements of the Single Use Plastics Directive in a way that stimulates the Circular Economy through their sustainability policies. Our objective was to investigate the extent to which businesses in the field of packaging in the food retail industry were responding to the various drivers to change their approach to their use of short life plastics. The research involved reviewing a range of sustainability policies and press releases to track the response by businesses regarding the use of single-use plastics and we looked for evidence of what the explicit drivers of these changes were. We also analysed sustainability policies in the light of companies' strategic changes and their relation to the Circular Economy.

II. BACKGROUND

It is widely reported that plastics waste is a global and increasing issue that needs to be addressed (Jambeck et al., 2015; Thompson et al., 2004). Found across the world, from the deep sea to the polar regions, this manufactured solid waste material has been shown to impact society directly (e.g. in terms of economic and health implications) as well as indirectly, through the damage to the natural environment (Beaumont et al., 2019; GESAMP, 2015; Wyles et al., 2016). However, as this problem is complex and diverse in terms of its sources (see Figure 1), to understand existing and future solutions it is necessary to focus on specific plastic items and sectors.

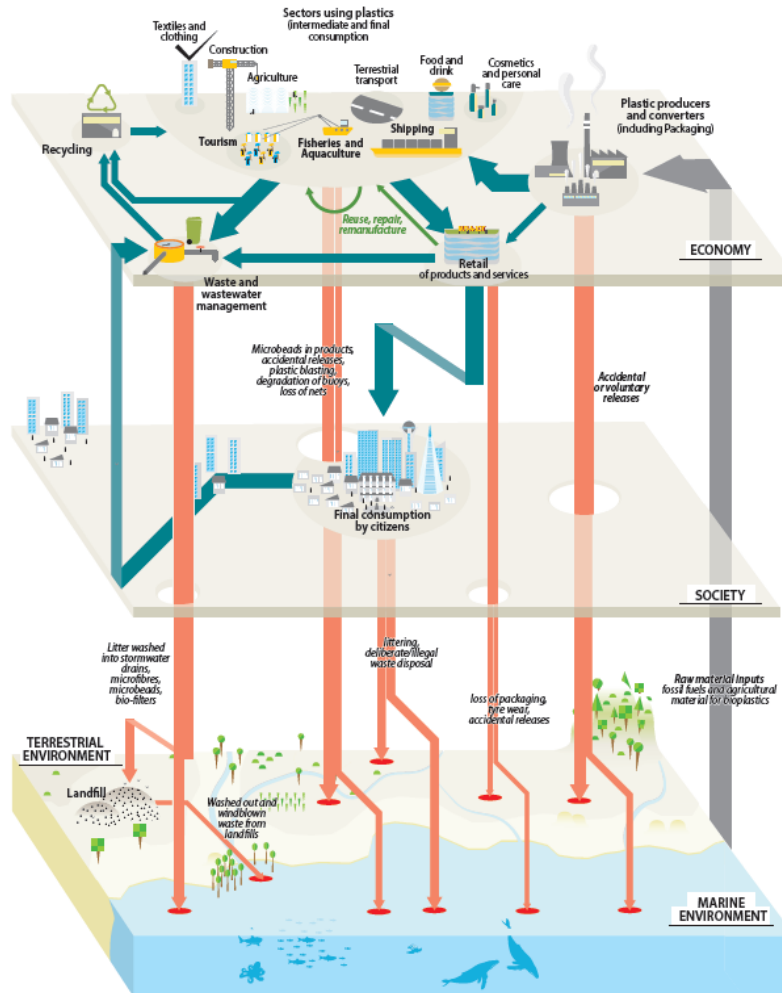


Figure 1. How plastic moves from the economy into the environment.

From GRID/Arendal by Maphoto (Pravettoni, 2018).

Most plastics have been designed and formulated to be stable and durable and it is their persistence which is one of the principal reasons why they have become a major environmental problem (Clift, Baumann, Murphy and Stahel, 2019). While ‘plastic’ covers a broad range of materials, the focus of this report is on solid objects formed from plastic. In particular, we are concerned mainly with products with short service lives often amounting to single-use and which dominate the flows of plastics through the economy. In this regard, packaging is the dominant use, accounting for about 40 per cent of the plastics produced (Geyer, Jambeck and Law, 2017). EU law describes single use plastics as plastics used once and discarded, rarely recycled and prone to becoming litter thereby posing a severe risk to marine ecosystems/ biodiversity and to human health and which damage economic activities. For this reason, we selected single use

plastics as the focus of our project investigating the extent to which businesses related to packaging in the food retail industry (e.g. food and drink manufacturers and supermarkets) were responding to the need to manage the use of short life plastics so as to prevent their leakage from the economy into the environment.

A. Circular Economy

Ending leakage from the economy to the environment accords with the notion of a Circular Economy, which has been advocated in relation to the management of plastics waste amongst other materials (Ellen MacArthur Foundation 2016; Huysman and others, 2017; ten Brink and others, 2018; Malcolm, 2019). A Circular Economy approach seeks to reuse, recycle or recover all materials used in the food retail process to achieve economic prosperity, environmental protection, and social equity (Steenmans, 2019). This approach would turn plastics waste into a resource.

Within the UK and the European Union, there has been no shortage of policy development in relation to both a Circular Economy approach and its connection with the management of plastics waste. In 2015, the European Union launched its Circular Economy Action Plan (COM(2015) 614 final) and in 2018 adopted the Strategy for Plastics in the Circular Economy (COM(2018) 28 final). The UK, in its response to European consultations on the Circular Economy, stated that what was needed was a *“framework of actions to ensure a holistic circular economy approach with proportionate and complementary policies which combine better regulation; market-based instruments; research and innovation; incentives; measures of performance; and information exchange.”* (UK response to European Commission public consultations on the Circular Economy and on the functioning of waste markets, DEFRA, 2018).

B. UK framework of actions

Such a framework of actions in the UK includes the 25 Year Environment Plan (DEFRA, 2018) which sets a target of working *“towards eliminating all avoidable plastic waste by end of 2042”* (p 83). Bans, such as that on the manufacture and sale of cosmetics containing micro-plastic beads, and financial instruments (considered in the consultation: *‘Tackling the plastic problem. Using the tax system or charges to address single-use plastic waste’*, UK Treasury, 2018) are also part of the UK approach. Further proposals include: Extended Producer Responsibility and mandatory

labelling, (Department for Environment, Food and Rural Affairs, *Consultation on reforming the UK packaging producer responsibility* system, February 2019), Deposit Return Systems (Defra, *Consultation on Introducing a Deposit Return Scheme (DRS) in England, Wales and Northern Ireland*, February 2019), and a tax on plastic packaging (Department for Environment, Food and Rural Affairs, *Resource and Waste and Plastic Packaging Tax Consultations*, 18 February 2019). Another consultation (Consultation on proposals to ban the distribution and/or sale of plastic straws, plastic-stemmed cotton buds and plastic drink stirrers in England, May 2019, Defra, UK) was held which resulted in a commitment to ban plastic drinking straws (with some exceptions), plastic-stemmed cotton buds (with some exceptions) and plastic drink stirrers. The ban on these products is planned to come into force in England in April 2020.

In relation to all these initiatives, the House of Commons' Environment, Food and Rural Affairs Committee, in its report on Plastic food and drink packaging (Sixteenth Report of Session 2017-2019 HC 2080), stated that: 'it is disappointing that comparatively little emphasis has been placed, in recent Government consultations, on reducing plastic waste. Reduction and reuse are more important in the waste hierarchy than recycling', (p 23).

C. Voluntary Approaches

Other than governments, private and voluntary stakeholders are driving implementation of circular approaches in relation to plastics. For example, the voluntary UK Plastics Pact, launched in 2018, brings together businesses from across the entire plastics value chain with UK governments and NGOs to tackle the 'scourge of plastic waste' and advocates a shift from a linear economy to a 'circular system where we keep plastic in the economy and out of the natural environment' (UK Plastics Pact, WRAP, 2018). The British Plastics Federation has published *Plastics: A Vision for a Circular Economy* (British Plastics Federation, *Plastics: A Vision for a Circular Economy: Improving the Environment for the Next Generation* (British Plastics Federation 2018) while PlasticsEurope, a pan-European association of plastic manufacturers in Europe, is examining the Circular Economy as a sustainable model for plastics (PlasticsEurope, 'Plastics' Contribution to the Circular Economy' (PlasticsEurope, 2018) and the Ellen MacArthur Foundation is leading the New Plastics Economy initiative to bring together key stakeholders to rethink and redesign the future of plastics ('New Plastics Economy', 2018).

D. The Single Use Plastics Directive

Amidst this plethora of initiatives, consultations and proposals, we focused in particular on one of the few legislative enactments which is the key driver of European Union law in this field: the Single Use Plastics Directive on the reduction of the impact of certain plastic products on the environment (Single Use Plastics Directive (EU) 2019/904, or SUPD). The SUPD is the key piece of legislation within the European Union and must be implemented across the Member States by 2021, although it does make some provision for longer implementation periods in some cases. Crucially, the SUPD, unlike the voluntary approaches and various policies and pipeline proposals noted above, is a regulatory instrument which must be implemented and to which businesses must respond. The SUPD promotes circular approaches giving priority to sustainable, re-usable products rather than single use plastic products and is concerned to reduce the quantity of waste generated (Waste Framework Directive 2008) as well as contribute to UN Sustainable Development Goal (SDG) 12 to ensure sustainable consumption and production patterns. In that it corresponds to the criticism made by the House of Commons Environment, Food and Rural Affairs Committee report 'Plastic food and drink packaging' (Sixteenth Report of Session 2017-2019 HC 2080) that the emphasis needs to be on approaches higher up the waste hierarchy. The SUPD argues that retaining product and material value for longer and generating less will result in a more competitive and resilient economy and reduce pressure on precious resources.

In order to clarify the current status of the SUPD, we should mention that under the EU (Withdrawal) Act 2018, which creates a new category of 'retained EU law', most existing EU legislation becomes part of the UK legal system on the date of withdrawal. If there is a transition period, EU Directives which are awaiting implementation (which includes the SUPD) would become part of that body of retained EU law once implemented. In a no-deal scenario where there is neither a withdrawal agreement nor transition period, the position is likely to be different since then there will be no obligation for the UK to implement EU directives which are yet to be transposed. The fate of the SUPD would then depend on the future intentions of the UK government. The evidence on which we base our findings in this report tends to suggest that companies will continue to implement the substance of the SUPD. Indeed, given the lack of reference to the SUPD in their sustainability policies it would be odd if they then sought to rely on the lack of transposition of the Directive to justify turning their faces against their previous commitments which were justified on other grounds.'

E. Making the aspiration real

For stakeholders concerned with promoting, developing, stimulating and increasing the levels of plastics waste reduction, reuse and recycling within the UK, these issues and drivers are critical. The SUPD is still in its infancy awaiting pan-European implementation (and potential copying further afield) and other legislation within the UK already in force is still in its early days. Therefore, the question remains: how can such aspirations be achieved and how are they being achieved? It is unquestionable that the level of corporate and consumer interest in plastics waste management is unprecedented and RECOUP and its members are at the forefront of change. Progress needs to be measured against what is socially acceptable, politically and economically achievable, as well as what is environmentally essential. Any evaluation of the extent to which businesses are rising to this challenge would be both timely and highly instructive. This project sets out to do just that and in doing so seeks to lay the groundwork for the next, and most crucial, step of putting these aspirational discourses about the implementation of SUPD and the radical strategic transformations that reduction of plastics pollution entails into action.

The aim of this report is therefore to shed light not only on how companies are responding to new legislation but also to new societal debates on plastic pollution and how these responses are being embedded in circular value chains. Part III of the report sets out our research method, Parts IV and V present our analysis and results, Part VI discusses our findings, and Part VII summarizes our conclusions.

III. METHOD

A. Research Process and Data

(i) Selection of organisations

Organisations were selected from the list of companies recorded by RECOUP as having made commitments to reduce their use of single use plastic. This decision was made following some consideration amongst the team about comparing their environmental statements with those of organisations who had been less quick to respond to the imperative to reduce plastics waste - an idea we later dismissed. To an extent this decision was made because such companies do not tend to publicize their impact on plastic pollution in their policies and marketing materials. To a larger extent however, it reflected the fact that this project did not aim to gauge how the market

as a whole is responding, but rather to look at how trailblazing organisations are adapting their businesses in the hope of learning lessons that will benefit others who will follow.

To that end, 12 organisations were selected from RECOUP's list with the intention of representing a variety of different relationships to plastic food packaging and to the consumer. Some were relatively small organisations based in the UK who sold a specific range of related products under one or a few brand names, others were amongst the largest food or drink manufacturers in the world with global reach and one might argue, global responsibility. In addition, a number of food and drink retail organisations were selected, ranging from budget supermarkets to retailers which marketed themselves more on quality, enjoyment and health benefits than affordability. It was judged important that the organisations selected vary on these points, as it would likely shape the way they choose to represent their duty towards their customers and environment. Large supermarkets, for example, which tended to present themselves as being a familiar and trusted part of the community, might be more likely to express their desire to drive down plastics waste through socially-aware endeavours such as buy-back initiatives and the provision of recycling points in their stores for packaging that cannot be recycled at the kerbside.

(ii) Data capture

Given the objective of looking at aspirational objectives around recycling, for example time-specific pledges to achieve measurable goals, the research team decided to examine policy documents, press-releases and customer-facing websites designed to present the organisation's environmental values and the actions that result from them to the public. This was more practical than an approach attempting to gauge whether companies are actually living up to their sustainability pledges, because the project is being conducted quite early in the period for adapting to the requirements of the SUPD. Most pledges made will be referring to future events. Nonetheless, it was felt that a study which does monitor compliance several years down the line would be not just valuable but potentially achievable given that many trailblazing organisations have already signed up to work with non-government organisations and schemes (for example WRAP's UK Plastic Pact (WRAP UK, 2019) which will keep track of how well they are living up to their promises, in addition to official government measures of compliance with the specific terms of the SUPD.

The examination of aspirational narratives in the context of corporate social responsibility has already been well established as a useful avenue of investigation (for example by Christensen, Morsing and Thyssen (2013)), as it values pledges of future behaviour as a potential force for positive change without losing sight of their uncertain relationship to underlying values, present actions and future accomplishments. Our focus on the pledges and promises companies make has the added advantage of being able to gauge what these companies have taken it upon themselves to do above and beyond what they will be obliged to do by law.

The range of publication dates to be included was set as beginning in January 2018, when the European Strategy for Plastics in a Circular Economy that heralded the SUPD was issued, and ending in September 2019, in order to sample as many of the companies' ongoing responses as possible. Whilst not able to be exhaustive, a concerted effort was made to sample the full range of types of messages and varieties of communication used by the organisations. In many cases, for example, a press release was issued and then a number of different news outlets publicised it but quoted, summarised or interpreted it in slightly different terms with slightly different focuses. Therefore, rather than examining each such variant article in detail, where possible, the original press release was used as the text for analysis. In this way, it was hoped to more accurately represent the original communication without the potentially distorting influence of how different news outlets with different goals interpret it.

We gathered data until a broad and representative picture emerged of the 12 companies' plastic-related communications over the specified period of January 2018-September 2019. The companies surveyed and a summary of their pledges concerning plastic use is given in Table 1 below.

Table 1: List of companies, materials sampled, and main pledges made.

Company	Sustainability Policy name	Example Targets for next 5 years	Example Longer term targets
Carlsberg Group	Together Towards Zero, Carlsberg Circular Community	Carlsberg's 5 year targets tend to relate to other aspects of sustainability e.g.	Substantially reduce waste generation through prevention, reduction, recycling and reuse by 2030

		Carbon emissions rather than plastic	
Nestlé	No specific examples in documents surveyed	Paper based pouches for Milo brand in 2020, recycled PET content of water bottles at least 35% by 2025 (10% more than SUPD requirement). Also eliminating non-recyclable plastics by 2025.	Zero environmental impact of global operations by 2030
Aldi	Aldi 10 Plastic and Packaging Pledges	2022 - 100% own brand packaging recyclable, reusable or compostable (unless this damages food quality, safety etc), 2023 - 25% less plastic packaging overall by year end.	100% recyclable, reusable or compostable packaging across ALL products. Looking into feasibility of deposit return scheme for plastic bottles.
M&S	Plan A - Our Plastics Plan, "Refuse, Redesign, Reduce, Reuse and Recycle"	2020 - All -black plastic replaced by recyclable materials, 2022 - 100% of packaging to be easily recyclable	No specific examples in documents surveyed
Iceland	Plastic Free by 2023! #TooCoolForPlastic	2023 - Remove plastic packaging from own brand products	No specific examples in documents surveyed
Quorn	Healthy Protein for People and Planet	2019 - No single use plastic in any of their facilities by end of year	2025 - All packaging to be recyclable, reusable or compostable by 2025
Pepsico	Performance with Purpose 2025		2025 - All plastic packaging to be at least 25% recycled content by 2025, PET Bottles to be made from at least 33% recycled content by

			2025, all packaging 100% recyclable, reusable or compostable
Coca-Cola	World without Waste	By 2020 all PET bottles will be their PlantBottle™, fashioned in part from sugarcane	2030 - All bottles to be av. 50% recycled content. 100% of packaging to be recyclable, reusable or compostable, also for every bottle they sell they pledge to recycle one too.
Müller	Being Sustainable	2020 - bottles to have at least 50% recycled content	No specific examples in documents surveyed
Princes		ASAP - 100% recycled content "as soon as possible"	No specific examples in documents surveyed
Kraft Heinz	Growing a Better World	2022 - Make Heinz tomato ketchup bottle made of 100% recycled material by 2022	2025 - all packaging globally to be R, R or C.
Waitrose	Our plastic plan	2023 - All own brand packaging recyclable, reusable or compostable	

(iii) Data Analysis

Thematic Analysis (Braun and Clarke, 2006) was selected as the technique best suited to this dataset, as an exploratory method was deemed appropriate to address a dataset consisting of such diverse forms of communication generated by an equally diverse set of organisations. This choice of method allowed each organisation's rhetoric of their policy around plastic to be addressed in its own terms, without privileging the researcher's existing assumptions or frame of references. Thematic analysis achieves this by using the data itself as the basis for the inductive generation and ongoing refinement of thematic categories. This structured approach allows for a process which is both rigorous and retains flexibility, while encouraging researchers to be reflexively aware of their own biases. Applying this process generated initial themes which were

then refined to produce a set of overarching themes beneath which sit various sub-themes representing different ways in which that theme is used rhetorically.

The specific focus of the thematic analysis was the discourses found in the organisation’s aspirational narratives. A “discourse” in this context can be defined in a broad sense as “a system of statements which constructs an object” (Parker, 1992). While this is a thematic analysis of discourses rather than a discourse analysis in the academic sense, the utility of taking a discursive focus in analysing environmental rhetoric in business contexts has long been established (Livesey, 2002).

IV. RESULTS

In total, 46 documents were actively drawn upon in the initial analysis, with many more being examined but not sampled. The analysis of the discursive strategies employed produced a series of thematic categories at different levels of abstraction, as summarised in Table 2 and Figure 2.

Table 2: List of thematic categories and sub-categories.

Overarching thematic Categories	Themes (and brief explanation)	Subthemes
<p>Part of the Solution Documents position the organisation explicitly as part of the solution to plastic pollution (rather than, for example, as an organisation that creates pollution but is aspiring to produce less), for example by leading the way in changing how plastic is treated in their sector</p>	<p>Collaboration Documents describe working together with partner organisations and customers as crucial to address plastic pollution</p>	<p>Collective responsibility vs self-inflation Do companies emphasize how it is everyone’s responsibility to tackle plastic or do they focus on valorising the importance of their own pioneering role?</p>
	<p>Educating consumers e.g. Helping their customers navigate the confusion over what can be recycled by disseminating information</p>	
	<p>Doing good in the community e.g. Setting up recycling points at community hubs or even working with local</p>	

	and national government to improve recycling	
	<p>Environmental stewardship</p> <p>Documents justify their plastic policies by invoking the idea of their industry, or mankind more broadly, having the responsibility to act as stewards of the environment</p>	
	<p>“Listening to our customers”</p> <p>Documents frame changes to their plastic policies on the basis of having listened to what is most important to their customers</p>	
<p>Invoking authority</p> <p>Documents frame their decisions re: plastic in relation to various kinds of authority</p>	<p>Scientific authority</p> <p>Grounds their decisions in the rhetoric of impartial scientific knowledge</p>	<p>Impressive but opaque language and statistics</p> <p>Invocation of the authority of science backed up by complex language or statistics that are not necessarily easy to understand</p>
	<p>Moral authority/doing the right thing</p> <p>Documents portray the organisation taking the moral high ground, for example relative to other organisations in their sector.</p>	
<p>Plastic vs other factors</p> <p>Documents portray the organisation’s responses to the plastic problem as being relative or proportionate to other important concerns rather than as an absolute imperative</p>	<p>Plastic vs other environmental issues (e.g. food waste)</p> <p>Efforts to combat plastic pollution are framed in relation to other environmental concerns</p>	
	<p>Plastic vs servicing consumers</p> <p>Other factors framed as important to customers are juxtaposed with the plastic issue, for example convenience or visual appeal</p>	
	<p>Plastic vs pragmatic limitations</p>	<p>The limitations of current knowledge</p>

	Reasons are explained why it is not possible to take the most drastic and immediate action to reduce plastic pollution on the basis of being realistic and practical	Documents point out that, for example, the precise effect of a certain measure on marine pollution is not yet understood
		<p>The limitations of current technology</p> <p>For example, the fact that not all types of plastic can yet be easily recycled due to equipment available</p>

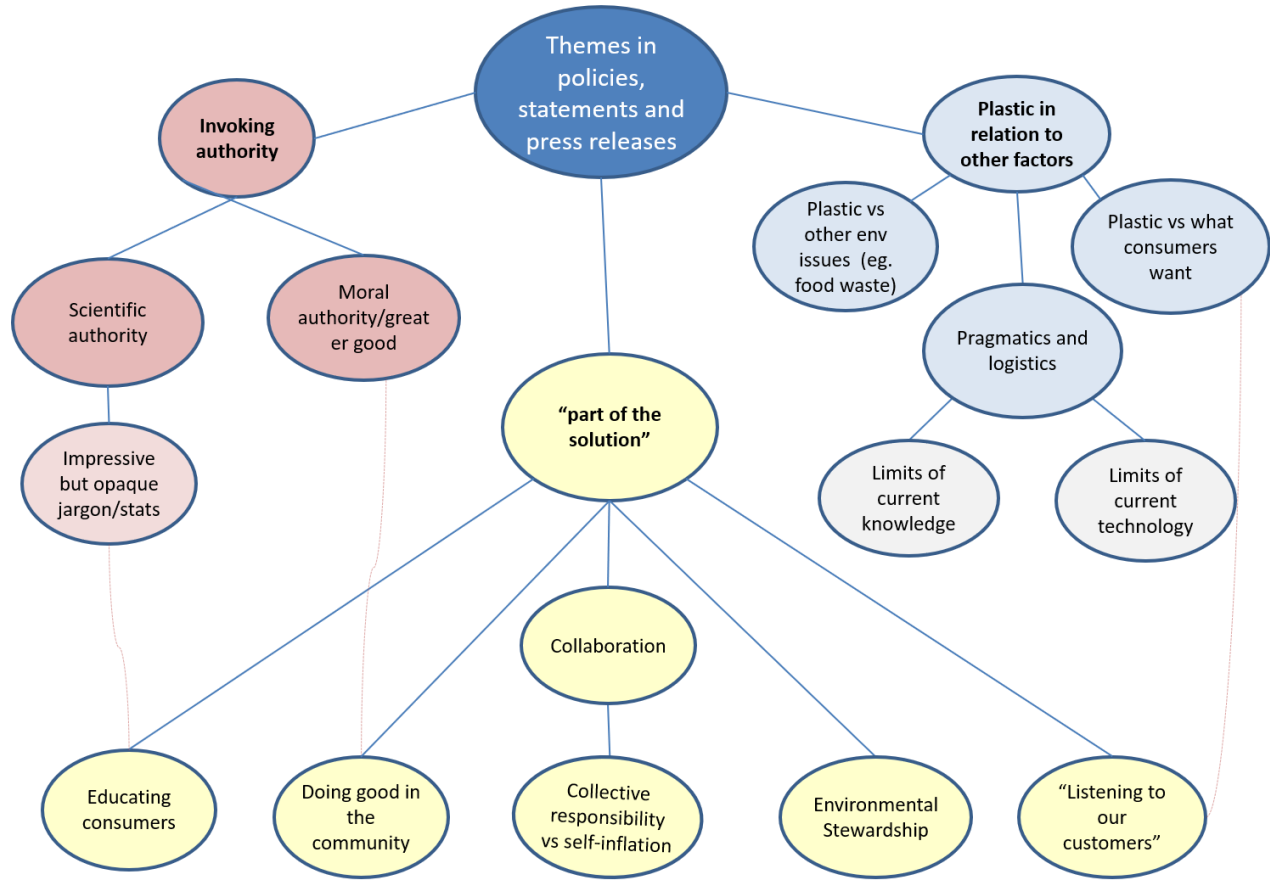


Figure 2: Map of thematic categories

The following sections explore each of the three top-level categories separately, delving into the sub-categories as part of the discussion as appropriate.

V. ANALYSIS

A. TRENDS PRESENT IN SUSTAINABILITY POLICIES

(i) Part of the solution

If the discursive strategies used in the policies, statements and press releases analysed shared one commonality, it was their use of the newfound public concern for marine plastics waste pollution to reframe their organisation as a part of the solution rather than part of the system that created the problem in the first place. This was the most complex and multi-faceted of the types of discourse found, and faced the difficult task of offering clear messages and moral conviction about a topic with many underlying uncertainties and contradictions. In many cases, not only did the organisation present itself as merely part of the solution but leading the way:

'This step is part of the wider focus of the Quorn brand to be a leader in sustainable nutrition and is the first such significant effort to reduce, and eventually eliminate, black plastic from its supply chain by a major food brand,' (Kevin Brennan, CEO, Quorn).

Though any pledge to reduce polluting behaviour implies ongoing participation in polluting behaviour, this - in many respects the elephant in the room - was rarely directly referred to. On occasions when this was acknowledged, the companies sometimes found ways to mitigate it; for example, by associating this behaviour most strongly with organisations within their value chain rather than actually within their own company.

"We found that most of our emissions are coming from areas outside our direct operations. To truly succeed as champions of sustainability, we will look at our full value chain and determine where we can make the greatest impact for our planet." (Bernardo Hees, CEO, Kraft Heinz).

This theme of the importance of connectedness and collective action versus individual responsibility that appears in both the above extracts was used by several of the companies in various ways. In this case, it can be argued as a way of refracting a proportion of culpability. In others, statements emphasise partnerships with organisations whose environmental credentials tend to be viewed as unimpeachable (often NGOs), serving to elevate the company by association:

"We're also working with waste education social enterprise, Wastebuster, to introduce recycling collection points to primary schools across the country, where pupils will be taught about the importance of reducing plastic waste and recycling" (M&S, Sustainability blog, 'Our Plastics Plan: What we've achieved in the first four months, 30 January 2019).

As this extract demonstrates, promoting the organisation's work in making recycling easier for their customers and the public in general, was another aspect in which the organisations depicted themselves as part of the solution. This was especially common among supermarkets, which with their strong visible presence in local communities, were able to provide convenient recycling facilities in their stores, and as in the example above shows, in other locations such as schools. M&S was again a key example of an organisation that has implemented a raft of such measures in a relatively short space of time, and is not backward in coming forward about it:

“Our customers have told us they don't always know which types of packaging are recyclable by their local authorities and are concerned about the impact on the environment of non-recycled packaging. That's why we're on a mission to provide a greater awareness of landfill avoidance and plastic recyclability and have introduced a plastic take-back scheme to an initial eight stores” (M&S, Sustainability blog, 'Our Plastics Plan: What we've achieved in the first four months, 30 January 2019).

This extract also provides a neat example of how the measures being described both start and end with the customers themselves. Customers are positioned as providing the impetus for action (which both illustrates a commercially viable justification for taking action and implies that M&S listen to and value their customers). They are also shown as benefitting from it directly, when their access to recycling opportunities is made easier and less confusing. In this account, the organisation acts as an intermediary between customers and local authorities to help improve information provision available to customers (the blog later describes “sharing our insight with local authorities”). This particular example of a discourse of connectedness goes further than most others surveyed in addressing not just the need to make packaging itself more recyclable, but increasing the chances that it will actually be recycled on the basis that “Encouraging consumers to shift their mindset and recycle as often as possible is vital to creating a circular economy.”.

Educating and encouraging consumers in their recycling efforts was a trend that appeared chiefly amongst the larger organisations surveyed, who might have the infrastructure, reach and connections to make a difference beyond the level of product innovation. A key example of this was Coca Cola:

“By 2030, for every bottle or can the Coca-Cola system sells globally, we aim to take one back so it has more than one life. The company is investing its marketing dollars and skills behind this 100% collection goal to help people understand what, how and where to recycle.” (Jimmy Quincy, CEO, Coca Cola).

Sharing insights with authorities and helping people understand how to best protect their own planet treads a fine line between evangelising for environmental issues and a rhetoric of benevolent paternalism no longer accepted by most elected governments, let alone organisations in the private sector. This risk is heightened when one considers that these larger organisations were also more likely to raise broader themes of environmental stewardship and depict responsibility not just for the actions of their own employees or those of their collaborators, but in terms of addressing global problems.

“Even though we don’t yet have all the answers, we owe it to current and future generations who call this planet ‘home’ to find better packaging solutions and actively progress efforts to improve recycling rates.” (Bernardo Hees, CEO, Kraft Heinz).

This extract perhaps best of all illustrates the difficult balance these statements attempt to tread when addressing genuinely grand challenges without inviting accusations of grandiosity. The admission of not yet having all the answers helps leaven the high-flown rhetoric that follows, as does the fact that this is immediately grounded in concrete measures.

These organisations’ attempts to present themselves as part of the solution, often faced a difficult task in striking a balance between several different discourses, without seeming hypocritical, or self-contradictory. They had to present themselves as both being driven to take drastic action by their customer’s values and by their own core beliefs, both listening to their customers and educating them, both knowing what was best for the consumer and not having all the answers, of leading the way and yet being part of a much larger network of collective responsibility. The latter equilibrium was rendered yet more difficult by the fact that many of the companies they were collaborating with were charities and NGOs with stronger environmental credentials than they had.

This series of balancing acts is less surprising when one considers that at their root lies a central contradiction - one which was rarely addressed in these discourses - of being both implicitly part of the problem and yet explicitly part of its solution.

(ii) Invoking authority

A related but distinct discursive strategy was to bolster the companies' environmental credibility by associating it with other forms of authority. One aspect of this is the aforementioned strategy of partnering with organisations with arguably unimpeachable environmental credentials, which would serve to both endorse the truth of the company's convictions and hold them to account for meeting the goals they set out. An example of the latter aspect includes organisations signing up to the WRAP UK Plastics Pact. Some of these actively keep track of how successful they are in keeping to their pledges, and publishing the results. Similarly, some organisations spoke of the various forms of independent certification they obtained via their packaging innovations.

“Rexam and Carlsberg obtained Cradle-to-Cradle bronze® certification for Carlsberg and Somersby cans in the UK in late 2014 – this is the first aluminium beverage can to achieve C2C certification. C2C is the only certification available to validate products according to the circular economy’s Biological or Technical cycles, and the certification supports our aspiration to make our cans circulate again and again.” (Carlsberg sustainability online press kit).

Appeals to science as an objective yardstick and source of authority were also sometimes used in relation to the specific targets set out by some companies (a Kraft/Heinz press release from 2018, for example, talks about “setting science-based goals”). However, use of scientific language or statistics was also occasionally used in ways that sounded impressive but were arguably quite opaque. The claim in the same document that new Carlsberg packaging “is set to reduce plastic waste globally by more than 1,200 tonnes a year - the equivalent to 60 million plastic bags” sounds wonderful but lacks any contextualising information; just how meaningful this change is depends on what proportion of the plastic waste produced by Carlsberg this figure represents (and for that matter how large are the 60 million plastic bags this is likened to).

As well as using scientific and statistical rhetoric to bolster their credibility, several companies invoked the more helpfully abstract concept of “doing the right thing”. Whilst it is difficult to argue that reducing marine plastics waste pollution is not the right thing to do, organisations occasionally succumbed to the temptation to use this as an opportunity to laud their own heroic efforts to an extent that could be read as self-congratulatory:

“Moving so quickly to remove black plastic is a significant challenge, but one that, as a sustainable company, we view as being of the utmost importance. We view this as the right thing to do, despite the six-figure cost.” (Kevin Brennan, CEO, Quorn).

In contrast to this tactic of invoking the absolute imperative of doing what is morally right, other companies adopted more pragmatic and contextualised discourses when explaining what they were doing to reduce plastics waste and why they were doing it, as the next section will discuss.

(iii) Plastic versus other factors

A number of companies usefully contextualised the problem of plastic pollution with other factors that affect their work, factors that could mitigate either for or against getting rid of single-use plastics. In some cases, these factors were accorded not just pragmatic but also moral weight, usually because they themselves had environmental value. A common example of this was preventing food waste. In the following extract Aldi’s Managing Director of Corporate Responsibility addresses plastic waste and food waste as part of the same problem, underlying the folly of reducing one at the cost of the other:

“Cutting waste is at the heart of what we do. Where we can, our aim is to remove unnecessary plastic entirely without leading to unnecessary food waste. Where we can’t do that, we are committed to ensuring that packaging doesn’t end up as waste by ensuring that all ours is recyclable, reusable or compostable.” (Fritz Walleczek, Managing Director of Corporate Responsibility, Aldi).

This tendency was part of an interesting discursive repertoire in which, far from being demonized, plastic is presented as a valuable material capable of doing more good than harm when it is used judiciously and sustainably. An Iceland statement (‘Plastics Pledge Progress’, January 2019), for example, describes it as “a material that has become the food industry’s default packaging solution precisely because it is effective, versatile and cheap.”

Other factors which were juxtaposed with the desire to reduce plastic waste were more pragmatic. These included the affordances of day to day logistics, which could mitigate for or against reduced environmental impact. For example, Müller’s acquisition of packaging plants close to their dairies allowed them to gain more control over how their bottles are manufactured and to avoid transportation issues.

Rather than being reliant on third party manufacturers or having to purchase and transport empty packaging from remote manufacturing facilities to our dairies, we will have the ability to make milk bottles in our own plants to our specification and pass them straight to our filling lines,” (Andrew McInnes, Müller Milk and Ingredients Managing Director).

Similar practical concerns included the limitations of current knowledge, technology and infrastructure. The fairly recent rise in interest in plastics recycling meant that some of the technology required to recycle plastic packaging is still in an early stage of development, as sometimes is the infrastructure necessary to process plastics that in theory are quite capable of being recycled. This often included investing in research into new, cleaner technologies which will ensure that in the future packaging that cannot currently be recycled can be either recycled using new technologies or re-designed to use greener materials. Such discourses often took on board the reality that no one solution is sufficient to tackle every aspect of a multi-faceted problem, as in this statement from Nestle’s CEO.

“While we are committed to pursuing recycling options where feasible, we know that 100% recyclability is not enough to successfully tackle the plastics waste crisis... We are determined to look at every option to solve this complex challenge and embrace multiple solutions that can have an impact now. We believe in the value of recyclable and compostable paper-based materials and biodegradable polymers, in particular where recycling infrastructure does not exist.” (Mark Schneider, CEO, Nestle).

Ultimately discourses about the other factors that must be weighed in when making realistic recycling promises returned to the familiar theme of what the customers wanted. Companies tended to acknowledge that whilst their customers did want to reduce plastic pollution, they also wanted freshness, quality, value for money and convenience, all of which must be taken into consideration.

“As a business, we design our packaging materials around several critical criteria, including compliance with food safety regulations, freshness and quality of the product, environmental sustainability, affordability, and consumer preferences, including convenience. At the beginning of every packaging design effort, we balance these criteria to arrive at a final packaging design.” (Dr Mehmood Khan, Chief Scientific Officer, Pepsico).

Whilst some might argue that this merely excuses a failure to make plastic reduction a priority above all others, it is perhaps creditable that rather than simply promising the Earth, as it were,

and working out later how to deliver, some companies went to the trouble of explaining why single-use plastic could not be eliminated overnight, crediting their customers with the ability to consider all the factors involved.

The ability to justify these policy decisions with arguments based on both absolute moral imperatives and the relative merits of different types of plastic use demonstrates the wide range of choices and discursive strategies available to companies choosing to adopt more proactive approaches to eliminating single-use plastics and move towards a Circular Economy. These choices of strategy are still more interesting when one considers the rapidly changing context in which they are being made, when companies are called upon to not just respond to growing concern about marine pollution but to anticipate a future in which the world's relationship to a material it has come to rely upon in so many ways is being radically redefined.

B. Benchmarking of Sustainability Policy Strategies

The analysis of the strategy discourses of the companies in relation to their innovation strategies and their adaptation to the Circular Economy leads us to make two conclusions. Firstly, companies rely strongly on the legitimacy of developing partnerships and collaborations with civil society and multi-stakeholder organizations for the issue of plastics pollution. Secondly, organizations tend to have a holistic approach to the issue of plastics pollution. We can elaborate on these conclusions as follows.

The preliminary analysis of the strategic discourses in relation to the potential innovation and product development strategies indicates that companies are describing their responsibilities on plastics pollution at three main levels:

1. Focusing on internal process improvements of the reduction of their own impacts
2. Stressing the importance of strategic change done through alliances and collaborations
3. Defining themselves as environmental leaders.

Leadership is also defined in relation to the partnerships they develop with civil society organizations. These discourses about their strategy changes are very often focused on the creation of networks on collaboration and partnerships. This, being a trend in the sustainability strategies, is proven to be even more dominant in relation to the issue of plastic pollution.

We argue that the approach of most of the companies surveyed on the issue of plastic pollution is not centred on a particular aspect of the Circular Economy, such as how to deal with the increasing need of managing waste and disposals. Rather, most of the companies analysed have a coherent discourse on the different impacts and strategies. They are also starting to relate their new sustainability strategies to the Circular Economy.

These two observations are consistent with our findings in the broader discourse analysis presented in this report (see, Part VI Discussion: Companies' Commitment to Sustainability). We observe that companies present themselves as 'part of the solution' to plastics pollution, taking a holistic approach to their circular value chains and proposing initiatives and partnerships not only for waste management but also for the development of new products, alternatives to plastic and the way they present to society. We adopt in our analysis the strategies set out in the model in Figure 3.

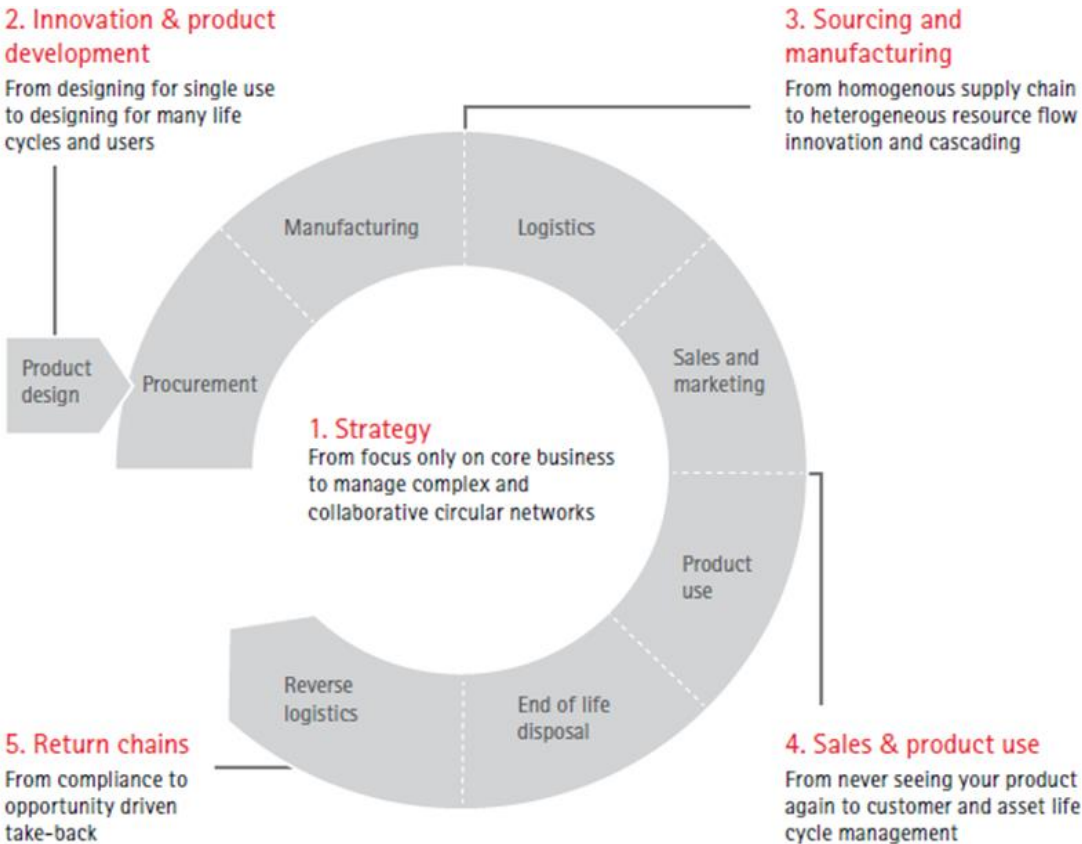


Figure 3: Potential innovation and product development strategies (Accenture Strategy, 'Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth, 2014).

Table 3, below, gives examples of how each company’s policies and press materials describe adopting each of these five strategies set out in Figure 2. Note that these are examples rather than an exhaustive list. If there are no examples of some strategies from some companies, this may not mean they have not adopted it, merely that they have not publicly and specifically committed to doing so in the documents surveyed.

Table 3: Examples, where available, indicating how each company examined demonstrably adopts different environmental strategies in their published policies and publicity materials.

Company	1. Strategy (i.e. focus on core business or external circular networks)	2. Relation to strategy elements - Innovation and product development	3. Relation to strategy elements - Sourcing and manufacturing	4. Relation to strategy elements - Sales and product use	5. Relation to strategy elements - Return chains
Carlsberg Group	Evidence of focus on extended collaborative relationships with e.g. packaging companies such as ExoXpac to make their whole network more sustainable.	Evidence of innovation in product packaging development, e.g. "snap pack" technology uses a special glue to hold multipacks together rather than plastic, reducing plastic used in multipacks by 76%	New coating on refillable glass bottles to extend their lifespan and therefore reduce their environmental footprint.	Education and culture/infrastructure change initiatives, e.g. campaigns at large music festivals to try to change the consumers’ attitude to recycling, campaigns to promote return of packaging and foster recycling infrastructure	e.g. Increases recyclability of packaging by switching to using the Hubergroup Eco-Off set Ink Premium Plus which is Cradle to Cradle Certified at the Silver level

Nestlé	Portrays an awareness of, and environmental leadership role within, extended network. Nestlé first food company to partner with Project STOP in Indonesia in 2017 to prevent the leakage of plastic into the ocean by developing partnerships with cities and governments in Southeast Asia.	In 2018 announced creation of its institute for Packaging Science to develop new sustainable packaging. Developing bio-based resins (NODAX PHA) for water bottles to replace plastic with Danimer Scientific	Seeks to use recyclable and compostable paper-based materials and biodegradable polymers, especially for use where recycling infrastructure does not exist. Paper packaging to replace plastic on many of their products between 2019 and 2025	Are engaging customers to involve them in the recycling process. New coating on refillable glass bottles to extend their lifespan and therefore reduce their environmental footprint.	NODAX PHA is suitable feedstock for industrial compost, home compost, and anaerobic digester facilities as well as reuse through recycling. Nestlé also collaborated with PureCycle Technologies to produce food-grade recycled Polypropylene (PP).
Aldi	Their rhetoric tends to focus on reducing own impact rather than going into detail about wider network. Cutting waste is portrayed as intrinsic to culture of Aldi rather than something that must be balanced with profit.	Introducing compostable bags. Encouraging "naked vegetable" shopping - i.e. no bags.	Created "Packaging Task Force" which works with buying teams.	Educating customers on the importance of reduce, reuse and recycle through community programmes. Looking into deposit return schemes for plastic bottles.	Re-usable bags
M&S	Working with consumer groups, local authorities and other members of industry. Joined the UK Plastics Pact	Using less plastic in packaging, replacing with recyclable or bio-	Developing new packaging technologies in collaboration	Working with customer groups to promote recycling. Began introducing "take back" initiatives in UK for	Developing new recycling technologies

	and the New Plastics Economy's Global Commitment.	degradable alternatives. All black plastic to be replaced by recyclable material by 2020, ALL plastic in their packaging to be recyclable by 2022.	with companies like Viridor	packaging not recycled at curbside in 2019 (limited area so far). Also incentivising coffee cup re-use and customers bringing own containers.	
Iceland	Collaborating with other retailers and attempting to influence the government on environmental issues	Plastic trays replaced by paper trays in new product ranges, plastic egg boxes replaced by pulp trays, no more black plastic used	Professes a commitment to changing infrastructure to make recycling easier and more efficient. Has issued list of acceptable materials to their suppliers	Claims to be changing consumer habits around what they buy and what they recycle	Seems to be pushing compostable paper and pulp as much as recovery
Quorn	Working with WRAP (Plastic Pact founding signatory, Courtauld Agreement 2025) and other societal groups. Supports Ocean Sole Social Enterprise.	Pledges centre around getting rid of black plastic packaging and switching to clear or opaque plastic trays that are widely recycled rather than	Given that Quorn products tend to be fairly specific types of product, black plastic appears to be their main concern, other types of plastic packaging appear to be less relevant to them. All manufacturing	Pledges not to pass cost of changes on to consumer. Policy of more local sourcing reduces need for extensive packaging to preserve during transmit. 100% of Quorn products clearly marked with OPRL (On Packet	Working with resource recovery partner, Enva (www.enva.com)

		non-plastic alternatives.	sites free of single-use plastic by 2019.	Recycling Labelling).	
Pepsico	Claims that due to their prominence they have duty to change society's relationship with plastic packaging. Working with organisations including Recycling Partnership, Loop Industries, Alliance to End Plastic Waste, and World Economic Forum's Global Plastic Action Partnership	Moving away from unrecyclable plastic and where possible plastic in general	Working with suppliers and manufacturers to make all packaging reusable, recyclable or biodegradable throughout supply chain by 2025	Commitment to making recycling more accessible to public and educating them to use it (especially in US).	25% of all packaging to be recycled material by 2020
Coca-Cola	Collaborating with various organisations on recycling projects and targets (e.g. Ellen MacArthur Foundation, the Ocean Conservancy/Trash Free Seas Alliance and the World Wildlife Fund, New Plastics Economy signatory)	Increasing recycled content, using plant-based resins and reducing overall amounts of plastic used. Attempting to innovate on problems of single use cups.	Increasing amount of recycled content in materials used.	Education to encourage customers to return packaging for recycling, community initiatives.	Has set out commitment to packaging recovery. Was first in sector to set up PET plastic buy-back and recycling programmes.

Müller	Participate in external networks and collaborations with environmentally focused organisations such as Nampak (packaging manufacturer) and IGD Industry Sustainability Group	Driving down use of scarce resources including plastic using innovative processes. All Muller bottles now 100% recyclable, all bottles to be made from at least 50% recycled material by 2020	Working with recyclable packaging producers and have streamlined use of plastic within bottling and production plants (which they own - vertical integration)	Less evidence of this	Pledges to use 50% recycled content in bottles from 2020
Princes	Committed to working with consumers and authorities to improve recycling knowledge and infrastructure	All bottles 100% recyclable as of 2018	Using less plastic in packaging and less packaging in general.	Less evidence of this	Increasing recycled content of packaging (51% in 2018), shrink wrap to be 50% recycled content by end of 2019. working to ensure its plastic waste is recycled in UK (better transparency and traceability)

<p>Kraft Heinz</p>	<p>Committed to looking at their whole value chain, including external collaborators. Also working with Environmental Packaging International (EPI), and other unnamed packaging experts</p>	<p>aims to make 100 percent of its packaging globally recyclable, reusable or compostable by 2025</p>	<p>Adapting processes to use less packaging and produce less waste, building sustainable supply network based on responsible sourcing. Researching technological solutions to difficult packaging issues (e.g. single-use sachets).</p>	<p>Has community initiatives but most centre on other issues (e.g. hunger)</p>	<p>Heinz tomato ketchup bottle to be made of 100% recycled material by 2022. General increase in recycled content.</p>
<p>Waitrose</p>	<p>Has joined WRAP UK Plastics Pact, network includes various other environmentally-focused organisations (e.g. The Global Ghost Gear initiative, which protects marine life from waste)</p>	<p>Replacing plastic cutlery with wood, 100% of own brand packaging to be recyclable, reusable or home-compostable by 2023</p>	<p>Invested £1m in the Waitrose & Partners Plastics Fund aimed at preventing plastic pollution. Attends farmer and supplier conferences and works with these groups to address plastics in their supply chains</p>	<p>Are encouraging customers to buy loose veg or bring own bags, use of refillable containers in other areas. Balancing packaging reduction with preserving freshness to avoid food waste. Plastic Fund also addresses education and changing societal behaviour</p>	<p>Aiming for average of 50% recycled packaging for own-brand products.</p>

VI. DISCUSSION: COMPANIES' COMMITMENT TO SUSTAINABILITY

A. Sustainability as a long-term mission

The analysis of companies' sustainability policies above illuminates trends in the shift away from single-use plastic and towards a greater commitment towards the Circular Economy. Through integrating plastic-specific commitments in their sustainability policies and associated press releases, public-facing companies are demonstrating their willingness to communicate their 'circular' ambitions and activities to the general public. To that end, almost every company surveyed advertised either short-term, long-term, or both short- and long-term targets to minimise their single-use plastic use, and to shift towards alternatives that are or are perceived to be more sustainable (e.g., Coca Cola's commitment to shift to PlantBottle™ made in part from sugar-cane; Nestlé's shift to paper-based pouches for the Milo brand; see Table 1). This suggests that companies are integrating single-use plastic reduction as part of a broader and longer-term mission towards sustainability.

It is important to note that commitments to 'do good' in this sphere are but a first step in the process. Monitoring the extent to which companies ultimately deliver on their targets for behaviour change will be essential, if we are to trace the tangible impact of companies' pledges in shaping more sustainable business models and contributing to the Circular Economy.

B. Sustainability policies and plastics commitments: missing rationales

When assessing companies' discourses in their sustainability policies, the choices of what companies did not choose to focus on were also revealing. Two factors that were rarely discussed were any role played by government legislation changes as a driver for company policy change and the environmental damage the companies had previously been responsible for (and to an extent still are). The following paragraphs will consider these omissions in turn.

(i) The SUPD as a hidden rationale?

It was striking that companies very rarely cited either the SUPD or other relevant EU or national legislation as reasons for the wave of changes in companies' policies towards plastics, in particular those that took place during 2018 when the SUPD was on the radar. On the surface, the timing issue may not be surprising. Companies may review and update their sustainability policies periodically, so in many cases the most recent available may have been drafted and published some months/years previously. Notwithstanding this factor, the trend in issuing fresh

press releases and policy statements in 2018, and the trend of such statements/commitments emphasising the desirability of reducing single-use plastic relative to other environmental factors, are noteworthy.

Why this resurgence of interest in 2018? The SUPD had been on the EU's agenda for some time before being passed in Spring 2019. The EU Circular Economy Action Plan of 2015 had put initiatives for maximising 'circular' activities on the agenda, and proposals for the SUPD were part of European Strategy for Plastics in a Circular Economy (16th January 2018). The SUPD gave the governments a two-year deadline to plan their implementation, including any new national legislation on plastics. This put governments - and companies - on notice for the imminent prospect of tighter regulation on single-use plastic. It became a live issue for companies - even if the details of national laws would take time to materialise. In parallel with these shifts in law and regulation, a renewed interest in marine plastic pollution was growing more broadly, associated with the increased media coverage - notably David Attenborough's BBC series 'Blue Planet 2' which aired in the UK between October 2017 and January 2018. This sparked what some have called "The Attenborough Effect", which has been felt both across the media and in wider culture.

However, when the companies surveyed provided any rationale at all for their newfound commitments to reducing plastic pollution, they tended not to mention the need to comply with new legislation, rather attributing them to either their organisation's own deep-seated values, or framing their initiatives as being in response to listening to their customers and finding that they are concerned about marine plastic pollution. Waitrose was unusual in citing 'Blue Planet 2' explicitly in their Plastic Plan document as an influence, although this was also embedded in the "listening to our customers" discourse ("Since Blue Planet II aired at the end of 2017, our customer services team has seen an 800% increase in questions about plastic."). The lack of reference to the SUPD might be a way of deflecting from the fact that many of the key targets presented in these policies as innovative are merely actions the Directive is likely to require them to take soon in any event. As such, omitting references to legislation can create the impression that companies are driving change rather than being driven by it - a sense of being proactive on sustainability, rather than reactive - giving their organisations more time to make required changes. It should be borne in mind, however, that it is desirable that policies and press releases which drafted for public consumption are accessible and straightforward to understand. The inclusion of concrete

targets in the policies surveyed also adds to the transparency of sustainability initiatives, and the prospect of monitoring compliance in the future.

(ii) Masking environmental damage?

When discussing how much plastic companies use and the environmental damage caused by plastic pollution, the companies surveyed chose to speak in broader terms rather than in relation to their own role, distancing their activity from the wider environmental problems. This contrasts starkly with the highly specific way they discussed the improvements they were pledging to make. Plastic use was treated as a fact of life for supermarkets, one that brought benefits primarily in terms of reducing food waste and convenience, but also reduced transportation and operational costs.

Organisations tended to state commitments using language suggesting innovation (e.g. "we want to increase the recycled content of all the plastic we use and have been working for some time to implement 51 percent RPET" (Princes, 2018)), rather than vocabulary evoking the scale of unrecyclable plastic used in their packaging. In some cases, rather than giving a percentage, the scale of these improvements is framed in absolute rather than relative terms which makes it more difficult to assess the real impact of the initiatives. The continued, if shrinking, contributions to single-use plastic waste by companies do not form part of their sustainability narratives. Similarly, policies may speak of reducing use of unrecyclable plastic and increasing use of plastic that has already been recycled, but elsewhere describe using less plastic in general (without specifying whether this means all plastic or only unrecyclable plastic).

The message about whether plastic that has already been recycled or can be recycled, composted or reused is a viable long-term solution or whether ultimately all plastics are simply bad can therefore similarly come across as muddled. Only a few of the companies surveyed had policies implying that any non-plastic substance was a preferred alternative, without exploring whether that replacement substance could itself be recycled, reused or composted. The failure to conduct adequate due diligence before changing to alternatives to plastic can have unintended consequences. This was recently illustrated by McDonald's - a company estimated to use 1.3 billion straws a year (Sherrington et al, 2017) - in its switch from recyclable polypropylene straws to what were considered unrecyclable paper-coated straws.

VII. CONCLUSIONS

This study has explored the legal and economic context shaping the evolution of the Circular Plastics Economy, and has assessed efforts on the part of businesses to integrate pledges, targets and actions in sustainability policies to reduce the use of unrecyclable or single-use plastic. The issue of plastic pollution is firmly part of the zeitgeist, with significant media attention raising public awareness of the effects of plastic in the natural environment. Recent steps taken by countries such as China, Indonesia and Vietnam to restrict the receipt of waste materials including plastic - a significant volume of which has come from the UK - has focused the attention of governments and businesses on the implications of advocating a Circular Economy approach. It is an approach that requires investment, and behaviour-change for governments, industry and communities.

To support the creation of a Circular Economy in plastics, legal and policy developments have been gathering pace at EU and UK levels, with multiple targets introduced for reducing plastic waste. The SUPD has entered into force and is due to be implemented by July 2021. These developments are leading companies to adopt a wide range of initiatives and pledges. Seven of the twelve companies examined have joined the UK Plastics Pact (launched by WRAP UK), a target-based plan aiming to create a Circular Economy for plastics, and which involves voluntary reporting on progress made in plastics reduction and elimination. While this initiative is valuable in accelerating progress towards targets, such monitoring remains voluntary and does not cover the whole sector. There is a real need to ensure that all pledges made translate into tangible, quantifiable actions to benefit the environment, and that transparent, evidence-based measurement is adopted to monitor progress towards a Circular Economy.

We argue that when adapting to behaviours to support a Circular Economy, companies adopt strategic discourses in sustainability policies and other public documents, when framing their commitments to reducing plastic waste. Companies rely strongly on the legitimizing effects of developing partnerships with civil society and multi-stakeholder organizations which deal with the issue of plastics pollution. When explaining their responsibilities, companies focus on (i) their internal process improvements; (ii) the importance of strategic change through alliances and collaborations; and (iii) defining themselves as environmental leaders, taking proactive steps to tackle the problem of plastic waste. Companies also tend to adopt a holistic approach to the issue of plastic pollution. This can involve companies presenting themselves as part of the solution to

plastic pollution, taking a holistic approach to their circular value chains and proposing initiatives and partnerships not only for waste management, but also for the development of new products, alternatives to plastic and the way they present to society.

In the spirit of this holistic approach, the companies surveyed have demonstrated a range of initiatives. The trend of companies framing themselves as a pioneering 'part of the solution' can have the useful effect of educating the public on the seriousness of the plastic pollution problem. Whilst companies evidently vary in terms of the infrastructure they can offer (in terms of capacity for product innovation, for example), it is clear that companies see sustainability as part of a long-term mission - even if their sustainability narratives currently mask the legal context requiring change, and companies' own role in contributing to the problem of plastic pollution.

It should be borne in mind that the context in which companies are operating is undergoing big changes. We have rapidly shifted to a culture where plastics waste and the effects of plastics pollution are viewed as an anathema in the public psyche. In taking steps to help shape a Circular Economy, public expectations will continue to grow, to ensure that pledges and promises made by companies ultimately benefit the environment, with sector-wide evidence-based monitoring to ensure that companies deliver on the promises they make.

REFERENCES

ACCENTURE STRATEGY. 2014. Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth.

ALDI. 2019. Aldi to extend plastic-free fresh veg trial [Online]. Available: <https://www.retailgazette.co.uk/blog/2019/06/aldi-extend-plastic-free-fresh-veg-trial/> (accessed: 24 September 2019).

BEAUMONT, N. J., AANESEN, M., AUSTEN, M. C., BORGER, T., CLARK, J. R., COLE, M., ... & WYLES, K. J. (2019). Global ecological, social and economic impacts of marine plastic. *Marine pollution bulletin*, 142, 189-195.

BRAUN, V. & CLARKE, V. 2006. Using thematic analysis in psychology. *Qualitative research in psychology*, 3, 77-101.

BRITISH PLASTICS FEDERATION, 2018. British Plastics Federation, Plastics: A Vision for a Circular Economy: Improving the Environment for the Next Generation [Online], 25 May 2018. Available at: <http://.britishplastics.co.uk%2Fdownloads%2F5196%2Fdownload%2FPlastics%2520Industry%2520Vision.pdf&usg=AOvVaw1yJKzv4Fn9xvQsbUUUAuqKC> (accessed: 24 September 2019).

CARLSBERG GROUP. updated 2019. Sustainability at Carlsberg, Carlsberg Circular Community [Online]. Available at: <https://www.carlsberggroup.com/news-room/press-kits/sustainability-at-carlsberg/> (accessed: 24 September 2019).

CHRISTENSEN, L.T., MORSING, M. and THYSSEN, O., 2013. CSR as aspirational talk. *Organization*, 20(3), 372-393.

CLIFT, R., BAUMANN, H., MURPHY, R.J., and STAHEL, W.R., 2019. 'Managing Plastics: Uses, Losses and Disposal', *Law, Environment and Development Journal* 5, 1-15.

CRISP, J. 2018. 'Global 24-hour boycott on plastic packaging to fight ocean pollution begins in wake of 'Blue Planet effect'', *The Telegraph*, 5 June 2018.

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2015). Circular Economy and waste markets: UK government response to European Commission consultations, 11 November 2015. Available at: <https://www.gov.uk/government/publications/circular-economy-and-waste-markets-uk-government-response-to-european-commission-consultations> (accessed: 24 September 2019).

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2018). 'A Green Future: Our 25 Year Environment Plan to Improve the Environment, 11 January 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/693158/25-year-environment-plan.pdf (accessed: 24 September 2019).

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2018). Consultation on proposals to ban the distribution and/or sale of plastic straws, plastic stemmed cotton buds and plastic drink stirrers in England. Available at: <https://consult.defra.gov.uk/waste-and-recycling/plastic-straws-stirrers-and-buds/> (accessed: 24 September 2019).

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2019). Consultation on Introducing a Deposit Return Scheme (DRS) in England, Wales and Northern Ireland, consultation outcome. Available at: <https://www.gov.uk/government/consultations/introducing-a-deposit-return-scheme-drs-for-drinks-containers-bottles-and-cans> (accessed 24 September 2019).

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2019). Consultation on reforming the UK packaging producer responsibility system. Available at: https://consult.defra.gov.uk/environmental-quality/consultation-on-reforming-the-uk-packaging-produce/supporting_documents/packagingepconsultdoc.pdf (accessed: 24 September 2019).

DEPT OF ENVIRONMENT, FOOD AND RURAL AFFAIRS (2019). Resource and Waste and Plastic Packaging Tax Consultations. Available at: <https://consult.defra.gov.uk/environmental-quality/resource-and-waste-and-plastic-packaging-tax-consu-1/> (accessed: 24 September 2019).

ELLEN MACARTHUR FOUNDATION, 2016. World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, The New Plastics Economy – Rethinking the Future of Plastics. Available at: <https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy/2016-report> (accessed: 24 September 2019).

ELLEN MACARTHUR FOUNDATION, 2019. New Plastics Economy Global Commitment. Ellen MacArthur Foundation and UN Environment, June 2019. Available at: <https://www.ellenmacarthurfoundation.org/assets/downloads/GC-Report-June19.pdf> (accessed: 24 September 2019).

EUROPEAN COMMISSION, 2015. Closing the loop - An EU action plan for the Circular Economy. (Communication) COM (2015) 614 final).

EUROPEAN COMMISSION, 2018. 'A European Strategy for Plastics in a Circular Economy' (Communication) COM (2018) 28 final).

HOUSE OF COMMONS, Environment, Food and Rural Affairs Committee (2019). Sixteenth Report of Session 2017-19, Plastic food and drink packaging (HC 2080), 12 September 2019. Available at: <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvfru/2080/2080.pdf> (accessed: 24 September 2019).

SHERRINGTON, C., DARRAH, C., WATSON, S., WINTER, J., 2017. Leverage Points for Reducing Single-use Plastics - Background Research, Eunomia 2017. Available at: <https://www.eunomia.co.uk/reports-tools/leverage-points-for-reducing-single-use-plastics-background-research/> (accessed: 24 September 2019).

GESAMP. (2015). Sources, fate and effects of microplastics in the marine environment: a global assessment (Kershaw, P.J., ed.) IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UNEP/UNDP Joint group of experts on the scientific aspects of marine environmental protection. Reports and studies GESAMP 93:96.

GEYER, R., JAMBECK, J. R. & LAW, K. L. 2017. Production, use, and fate of all plastics ever made. Science advances, 3, e1700782.

HM TREASURY, 2018. Tackling the plastic problem: Using the tax system or charges to address single-use plastic waste, March 2018. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/690293/PU2154_Call_for_evidence_plastics_web.pdf (accessed 24 September 2019).

HUYSMAN, S., DE SCHAEPMEESTER, J., RAGAERT, K., DEWULF, J. & DE MEESTER, S. 2017. Performance indicators for a circular economy: A case study on post-industrial plastic waste. Resources, Conservation and Recycling, 120, 46-54.

ICELAND, 2019. 'Plastics Pledge Progress' (statement introducing Iceland's Plastic Annual Report 2019 #TooCoolForPlastic), January 2019. Available at: <https://about.iceland.co.uk/pledge-progress/> (accessed: 24 September 2019).

JAMBECK, J. R., GEYER, R., WILCOX, C., SIEGLER, T. R., PERRYMAN, M., ANDRADY, A., NARAYAN, R. & LAW, K. L. 2015. Plastic waste inputs from land into the ocean. *Science*, 347, 768-771.

KNAPTON, S. 2018. 'The Queen declares war on plastic after David Attenborough documentary', *The Telegraph*, 11 February 2018.

KRAFT HEINZ, 2018. Kraft Heinz Expands Environmental Commitments to Include Sustainable Packaging and Carbon Reduction [Online], 31 July 2018. Available: <https://news.kraftheinzcompany.com/press-release/corporate/kraft-heinz-expands-environmental-commitments-include-sustainable-packaging> (accessed: 20 September 2019).

LIVESEY, S. M. 2002. Global warming wars: Rhetorical and discourse analytic approaches to ExxonMobil's corporate public discourse. *The Journal of Business Communication* (1973), 39, 117-146.

MALCOLM, R. 2019. 'Life Cycle Thinking as a Legal Tool: A Codex Rerum', *Law, Environment and Development Journal*, 5, 1-17.

M&S, 2019. Our Plastics Plan: What we've achieved in the first four months [Online], 30 January 2019. Available at: <https://corporate.marksandspencer.com/stories/blog/our-plastics-plan-what-we-ve-achieved-in-the-first-four-months> (accessed: 24 September 2019).

MÜLLER, 2018. Müller to buy more Nampak plastic bottling plants [Online], 5 March 2018. Available at: <https://www.packagingnews.co.uk/news/muller-buy-nampak-plastic-bottling-plants-05-03-2018> (Accessed: 24 September 2019).

NESTLÉ, 2019. Nestlé accelerates action to tackle plastic waste [Online], 15 January 2019. Available at: <https://www.nestle.com/media/pressreleases/allpressreleases/nestle-action-tackle-plastic-waste> (accessed: 24 September 2019).

PARKER, I. (1992) *Discourse Dynamics: Critical Analysis for Social and Individual Psychology*, Routledge, London.

PEPSICO, 2019. Packaging - Our approach [Online]. Available: <https://www.pepsico.com/sustainability/packaging>. (accessed: 20 September 2019).

PLASTICSEUROPE. 2018. PlasticsEurope, 'Plastics' Contribution to the Circular Economy' [Online]. Available: <https://www.plasticseurope.org/en/resources/publications> (accessed 20 September 2019).

PRAVETTONI, R. (2018). How plastic moves from the economy to the environment. *Marine Litter Vital Graphics*. GRID/Arendal by Maphoto.

PRINCES, 2018. Princes achieves over 50 percent recycled plastic on soft drinks and oils, 23 May 2018. Available at: <https://www.princesgroup.com/news/princes-achieves-over-50-percent-recycled-plastic-on-soft-drinks-and-oils/> (accessed: 24 September 2019).

QUORN, 2018. Quorn makes first steps to remove black plastic from packaging, eliminating 297 tonnes of non-recyclable plastic from its supply chain [Online], 6 June 2018. Available: <https://www.quorn.co.uk/company/press/quorn-makes-first-steps-to-remove-black-plastic-from-packaging> (accessed 20 September 2019).

STEENMANS, K. 2019. Extended Producer Responsibility: An Assessment of Recent Amendments to the European Union Waste Framework Directive. *Law, Environment and Development Journal*, 15.

TEN BRINK, P., SCHWEITZER, J.-P., WATKINS, E., JANSSENS, C., DE SMET, M., LESLIE, H. & GALGANI, F. 2018. Circular economy measures to keep plastics and their value in the economy, avoid waste and reduce marine litter. *Economics Discussion Papers*.

THOMPSON, R. C., OLSEN, Y., MITCHELL, R. P., DAVIS, A., ROWLAND, S. J., JOHN, A. W. G., ... RUSSELL, A. E. (2004). Lost at Sea: Where Is All the Plastic? *Science*, 304(5672), 838-838. doi:10.1126/science.1094559.

WORLD ECONOMIC FORUM, 2016. World Economic Forum, Ellen MacArthur Foundation and McKinsey & Company, *The New Plastics Economy, Rethinking the Future of Plastics*. Available at: http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf (accessed: 24 September 2019).

WRAP UK, 2019. UK Plastics Pact Progress Report May 2019. Banbury, Oxon: Wrap UK.

WYLES, K. J., PAHL, S., THOMAS, K., & THOMPSON, R. C. (2016). Factors that can undermine the psychological benefits of coastal environments: exploring the effect of tidal state, presence, and type of litter. *Environment and Behavior*, 48(9), 1095-1126.