

A **PLASTIC** PLANET

ROAD MAP TO A PLASTIC FREE FUTURE

The Reuse, Refill and Replace Revolution



October 2023

FOREWORD

BY BARRY GARDINER MP

A CENTURY AGO, PLASTIC WAS A MIRACLE. HUMANKIND HAD CREATED A LIGHTWEIGHT MATERIAL SO DURABLE IT COULD LAST FOR A THOUSAND YEARS. IT HAS TRANSFORMED OUR LIVES, BECOMING THE GO-TO CHEAP WRAPPING FOR FOOD, THE PREDOMINANT PART OF CLOTHING, AND A UBIQUITOUS PART OF ALL THE GADGETS WE USE.



Today, plastic is a menace. A material as long-lasting as diamonds has been mass produced to such an extent that it is as cheap as (or cheaper than) paper. The result is a mismatch of material to purpose, with this 'forever material' deployed for throwaway applications.

Meanwhile, though the first plastics were made from plant cellulose, the predominant feedstock today is petrochemicals: oil. In fact, as the world seeks to move to renewable energy, plastic is the last gasp of the fossil fuel industry.

The result is a toxic cocktail of greenhouse gas emissions when plastic is produced and subsequent leakage of plastics (and the chemicals which are fundamental to their make-up) into the environment at the end of a product's life.

Meanwhile, evidence from the United Nations Environment Programme released this year shows that chemicals are released from plastic along its entire life cycle, not just during the extraction of raw materials and manufacture of plastic products, but also during their use.

THIS PAPER STARTS FROM A DIFFERENT PREMISE, RECOGNISING PLASTIC AS A 'FOREVER MATERIAL' WHICH SHOULD BE DEPLOYED ONLY WHERE ITS PURPOSE IS TO BE PERMANENT AND THE CHEMICALS WITHIN IT ARE SAFE.

Women and children are particularly susceptible to these toxic chemicals, with exposure having potentially long-lasting adverse effects during foetal development and the same substances have been shown to affect fertility in males.¹

Over the past decade, governments in the UK and the European Union have made strides to curtail some uses of plastic. Plastic straws and cotton buds – once ubiquitous – have disappeared. In October, the UK will do away with plastic plates, trays, bowls, cutlery and balloon sticks too.

Yet the starting point for ministers is still that plastic should be permitted, except where it isn't. This paper starts from a different premise, recognising plastic as a 'forever material' which should be deployed only where its purpose is to be permanent and the chemicals within it are safe.

A critical and radical contribution to the debate, sets out a vision of the future that is ambitious, business friendly and (crucially) plastic free. The paper shows how a government determined to lead the world on plastics could use legislation already on the statute book to do so.

Labour is committed to a fairer, greener future. This roadmap to a plastic free Britain – leading not following – is a timely blueprint for how to get there.

ABOUT

A PLASTIC PLANET AND PLASTICFREE

A PLASTIC PLANET IS A GLOBAL SOLUTIONS ORGANISATION DRIVEN BY A SINGLE GOAL – TO IGNITE AND INSPIRE THE WORLD TO TURN OFF THE PLASTIC TAP.



We work with governments and the United Nations to change minds. And we work with business to change outcomes. Our approach is unique, recognising that a plastic free future requires ministers and global policy makers to mandate change, then catalysing business to deliver it.

Our twin track approach in action is the Sack the Satchet campaign. We highlight the urgency of banning the 1 trillion highly polluting, unrecyclable plastic sachets whilst also working collaboratively with Unilever and Kraft Heinz, helping them switch to plastic free alternatives.

In January 2023, we launched **PlasticFree**, the world's first material and system solutions platform, to empower the creative industry and their CPG clients to rethink everything from the beginning of the design phase. Everything is designed, and if we design differently, we can eradicate plastic pollution at source. **PlasticFree** is the result of two years of research, design, and development - building on all our experience and expert advisors to create an education platform that ignites, inspires, and informs, connecting innovators with future customers, proving change is possible with

thousands of case studies, rich with editorial features featuring our 50 icon-strong Creative and Science Council. This extraordinary Council includes Thomas Heatherwick; Sir David Chipperfield; Sir David King, Professor Hugh Montgomery, Solitaire Townsend; Tom Dixon; Shaway Yeh, and Skylar Tibbits of MIT.

A Plastic Planet sits on the Stewardship Council for Ocean Plastic Leadership Network's Global Plastic Treaty Dialogues, bringing stakeholders together to help the negotiations of the UN Global Plastics Treaty that is being negotiated by the 190 member states through 2024.

One of the most important considerations in the UN Global Plastics Treaty is, for course, the impact on human health. Together with Plastic Soup Foundation, A Plastic Planet have founded the Plastic Health Council, representing the most expert scientists and doctors who have dedicated decades to researching the impact of micro, nano-plastics and the chemicals used within plastic on human health. The Plastic Health Council gives this global stage to these eminent scientists to ensure the UN process results in a robust and effective Treaty that protects the unborn and future generations.

EXECUTIVE SUMMARY

THE CHALLENGE: REPLACING SINGLE-USE PLASTIC FOR GOOD



Humans are the only species on the planet who produce waste. There is no waste in nature. Everything becomes the fuel, the nutrient for the next cycle of growth, even our own bodies. The future depends on us understanding how to work with nature, not against her.

Not only do we waste, but we take too much. Every year we use up 2 planet's worth of natural resource, stealing from our children's future and calling it GDP. In the last 6 years, we have used more resources than in the entire 20th century. Our single-use society, enabled by plastic, is highly destructive.

This paper asks you to imagine a post-plastic world of abundance and innovation. A world that reduces our excessive need for natural resources, where real circularity is achieved, harmonised with nature. Weaning ourselves from plastic will catalyse investment and innovation, creating new safe materials and better systems that eradicate single-use.

Our strategy creates a path of certainty for industry, who are currently treading water, waiting for clear guidance and policy from our Government. Clarity that empowers them to collaborate and invest in the new economy, embracing innovation and systemic change we all crave.

THE RECYCLING FALLACY

IN THE LAST 25 YEARS, KERBSIDE RECYCLING HAS BECOME COMMONPLACE, AND MOST PEOPLE ‘DO’ THEIR RECYCLING BY DEFAULT.

But despite *actual* UK plastic recycling rates, they remain woefully low at around 10%. With plastic-based textiles, the numbers are even lower as only 1% of all clothing is recycled.

Meanwhile new “chemical recycling” techniques are highly carbon intensive, with only 1 to 14 percent of the plastic sent through such processes retained as plastic, according to research by the US National Renewable Energy Laboratory (NREL).² Meanwhile, research by Zero Waste Europe shows that carbon emissions from these processes are up to nine times greater than those from mechanical recycling³.

In short, recycling has become an alibi for “business as usual” – feeding a pretence that the planet can withstand ongoing production of plastic if

only there were a recycling system at scale. Big consumer brands continue to deflect responsibility on to consumers, despite the fact the infrastructure doesn’t exist. The plastic recycling narrative is a convenient placebo pill we have been fed by Big Oil for decades.

But there is a better way ahead. *Designing single-use plastic out of our lives altogether*, and creating a business framework that ensures the products and packaging of tomorrow be genuinely useful again and again and again and again. Circularity is waste-less. This is the new economy we must strive for.

**THE PLASTIC
RECYCLING
NARRATIVE IS
A CONVENIENT
PLACEBO PILL
WE HAVE BEEN
FED BY BIG OIL
FOR DECADES.**



Source - Changing Markets report - Solutions to help the plastic crisis - 2021



A LONG-TERM TARGET

THIS PAPER MAKES ONE CENTRAL RECOMMENDATION FROM WHICH ALL ITS OTHER RECOMMENDATIONS FLOW – FOR GOVERNMENT TO USE THE ENVIRONMENT ACT TO SET A LONG-TERM ENVIRONMENTAL TARGET OF STOPPING THE PRODUCTION AND IMPORT OF PLASTIC INTO THE UNITED KINGDOM. FULL STOP.

LONG-TERM TARGETS – ACCORDING TO THE LEGISLATION – MUST BE ACHIEVED OVER A TERM OF, AT MINIMUM, 15 YEARS. SO, WHILE THE AMBITION IS RADICAL, OUR INTENDED MEANS OF DELIVERY IS PRAGMATIC AND SIMPLE.

A DECADE LONG PROGRAMME OF PLASTIC BANS

To support the long-term target, we ask government to commit to **banning more and more applications for plastic over the coming decade**, starting with the most obvious problem plastics and making progress towards eliminating the rest. **We set out a plan for new plastic bans to come into force every single year for a decade from now, in advance of that target.**

BY 2038, WE WANT TO SEE THE UNITED KINGDOM USE THE LEAST PLASTIC OF ANY DEVELOPED COUNTRY IN THE WORLD, CUTTING DEMAND AND THEREFORE CUTTING PRODUCTION.

**RIGHT NOW
EVERY PERSON IN
THE UK THROWS
AWAY A TOTAL OF 100
BILLION PIECES OF
PLASTIC EVERY YEAR**

SOURCE - EVERYDAY PLASTIC - THE BIG PLASTIC COUNT

FIGURE 1: A TIMELINE TO A PLASTIC-FREE FUTURE

WHEN?	WHAT?	WHY?	HOW WILL THESE PRODUCTS BE REPLACED?
OCTOBER 2023	Single-use plastic plates, trays, bowls, cutlery, balloon sticks, and certain types of polystyrene cups and food containers	The government has already committed to this ban, which must go ahead as planned.	There is a vast range of natural bio-based materials available to replace conventional single use plastic packaging and other single use items. Returnables, introduced by Reposit and Club Zero are also good replacements, reducing the use of natural resources for such a transient purpose.
MARCH 2024	Single use disposable vapes/electronic cigarettes	Over 1.3 million disposable vapes being thrown away in the UK every single week. A study from recycling campaigners Material Focus ⁴ said the number of disposable vapes that end up in landfills each year is enough to fill 22 football pitches. That's 1.4 million square feet of land, or enough space for 14,000 kilowatts' worth of solar panels — which could power 4,000 homes per year. ⁵ 59,650 tonnes of CO2 is released in the production of disposable vapes, from the 167.5 million sold in the UK each year. ⁶ That's the same amount of CO2 released by roughly 375,795 people in the UK annually. Globally, around 1.9 million tonnes of CO2 is released in the production of disposable vapes, or 0.3% of the Amazon Rainforest's annual capacity for absorbing carbon emissions. ⁷ Furthermore, these items are difficult to recycle in conventional waste management facilities due to their electronic components and potential fire risk.	The industry must be forced to reduce its plastic footprint and remove plastic from its products. Disposable vaping devices are complex and unrecyclable in any waste stream. They are sold as 'future landfill'. An immediate ban on these single use items would be the catalyst for innovation and a move towards biomaterials that avoid the use of conventional plastics.
OCTOBER 2024	Plastic wrappings around all fruit and vegetables	Such wrappings account for 10,300 tonnes of plastic per year and 100,000 tonnes of food waste per year, in the UK alone according to WRAP. Their February 2022 report exposed significant potential to reduce food waste by enabling people to buy only what they need and to reduce plastic packaging by increasing the amount of fresh produce items sold loose. The research showed that if all apples, bananas and potatoes were sold loose, 60,000 tonnes of food waste could be saved by enabling people to buy what they need, and plastic packaging use reduced by 8,800 tonnes per year. Combined, this is a saving of more than 80,000 tonnes of CO2e. ⁸	There is no replacement needed to wrap the produce itself. Innovations such as APEEL, using plant extracts to create natural protective coatings, ensure the water content of the produce is maintained. Barcodes are lasered on. No packaging is needed. Any packaging needed for transportation purposes could be provided by paper based materials and other plastic alternative materials. France has already shown the way on this, banning supermarkets and other shops from selling cucumbers wrapped in plastic, and peppers, courgettes, aubergines and leeks in plastic packaging. A total of 30 types of fruit and vegetables were banned from having any plastic wrapping, including bananas, pears, lemons, oranges and kiwis. ⁹

WHEN?	WHAT?	WHY?	HOW WILL THESE PRODUCTS BE REPLACED?
MARCH 2025	Plastic (PET or PVC) thermoformed 'clam packs' used for example, to package torches, razors, batteries, and other electronic, household and personal care products and thermoformed inserts used in gift packaging such as Easter eggs	The global thermoformed plastics market was estimated at US\$ 12.38 billion in 2020, is expected to register a compound annual growth rate of 3.9% from 2021 to 2028.	Card / moulded fibre / clever construction that protects without the use of plastic casings. Such blister packs are already available at viable scale.
OCTOBER 2025	Single-use plastic sachets and all plastic carrier bags including "bags for life"	The government has already called for evidence on such a ban and should now proceed with introducing it. Almost 1 trillion plastic sachets are produced each year and 1 million bags a minute. In the UK alone, 564 million single-use bags are used each year in the UK, despite the single-use plastic bag tax, according to DEFRA figures. In addition, Greenpeace has found that 1.58 billion 'bags for life' were sold in 2018/19, representing 57 per household per year. Other European countries have successfully moved away from all plastic carrier bags, with France banning the single use carrier bag in 2016. Over 70 countries globally have outright plastic bag bans.	Strong paper bags or EN13432-certified compostable bags designed to double as food waste liners, as introduced by the Co-op and Aldi. In the longer term, new materials such as those being developed by Sway, Xampla and Notpla will simplify the 'end of life' for bags. These technologies can already replace many single-serve sachets. The substantially increased cost of bags at supermarkets will encourage a further shift toward reuse.
MARCH 2026	Washing machines without plastic filters	As the global middle class grows, the number of washing machines in the world will increase from 2 billion to 5 billion, according to the Plastic Soup Foundation. France is the first country in the world to take legislative steps in the fight against plastic microfibre pollution, by insisting that all new machines are fitted with microfibre filters by January 2025. The UK should follow suit.	There are many filter systems already available. A Slovenian start-up PlanetCare, has developed a washing machine filter that stops 90% of microfibres from entering the waterways and can be retrofitted to every type of washing machine. The company's managing director Mojca Zupan says that the legislative change in France will see the country avoid 500 tons of microfibres in five years.
OCTOBER 2026	Single use plastic pots, tubs and trays in food produce	WRAP figures confirm that these forms of packaging do not prevent food waste. Meanwhile since they are almost always food contaminated, they are unlikely to be effectively recycled.	To be replaced with reusables and/or fibre, metal, glass
MARCH 2027	Single-use plastic bottles / flexible plastic pouches in personal and home care	The beauty industry produces 120 billion units of packaging around the world every year according to Inside Packaging. Meanwhile, a further 29 billion plastic containers are used globally every year just in homecare, according to Ocean Saver research.	New formulations of concentrates, powders and solids. Permanent standardised packaging, ie metal bottles, used across competitive brands and retailers with a centralised collection, washing, and redistribution umbrella cooperative handling all logistics. The REPOSIT Project, supported by WRAP, UK Plastics Pact and UKRI, is already workshopping this solution with many CPGs and retailers. Smaller scale solutions are refillable alternatives with Prefill option.

WHEN?	WHAT?	WHY?	HOW WILL THESE PRODUCTS BE REPLACED?
OCTOBER 2027	Agricultural plastics (mulch)	It is estimated that 12.5 million tonnes of plastic products are used in agricultural production annually, with less than a quarter being recycled. According to the Food and Agriculture Organisation of the United Nations, most “agricultural plastics are single-use products” and “the majority become waste within a twelve month period”. ¹⁰	Soil biodegradable films conforming to BS EN 17033 but also tested by health scientists to prove that the residual matter is completely harmless to the organisms that comprise our vital biomass.
OCTOBER 2028	Single-use plastic bottles for beverages	<p>According to Water UK, the UK uses 7.7 billion a year for water alone, with the average person in the UK now using 150 plastic water bottles each year – more than three a week. Reuters research shows that 481.6 billion plastic bottles were used worldwide in a single year – 1 million bottles per minute. Just one brand, Coca Cola, produce 120 billion plastic bottles each year.</p> <p>By introducing simple technology, it will be possible to transition to truly sustainable, carbon and resource light 21st century answer to a 20th century pernicious pollution disaster.</p> <p>Only a ban will catalyse innovation and investment in alternatives to PET.</p>	<p>There are now many excellent water filtration systems available for either domestic or commercial uses – https://www.bluewatergroup.com. These filtration systems can produce water without the microplastics and toxic chemicals that are currently found in plastic drink bottles.</p> <p>Returnable alternatives, including refillable water bottles to which consumers add “just add water” concentrates in tablet form or contained within soluble, natural films such as those produced by Xampla.</p> <p>The German standardised water bottle system, which has seen the country’s Deposit Return Schemes yield a collection rate of 95% for PET bottles shows what can be achieved by smart regulation. Likewise, Canada has had a standard beer bottle for 70 years. Any brand can take these back, wash them and reuse them.¹¹</p> <p>When single-use is unavoidable, fibre bottles made from pulp derived from paper, hemp, miscanthus etc – without fully biodegradable liners – not plastic or bioplastic. Aluminium cans are also highly recycled and the aluminium bottles are good for refill.</p>
OCTOBER 2029	Export of discarded fashion	<p>Overall, some 67% of materials made into clothing derive from virgin plastic. This clothing is then often exported to the Global South in vast quantities.</p> <p>Sheng Lu Fashion estimates that over 300 million items of damaged or unsellable clothing made of synthetic or plastic fibres are exported to Kenya each year. These end up dumped, landfilled, or burned, exacerbating the plastic pollution crisis.¹²</p> <p>EU countries alone are dumping 37 million items of junk plastic clothing in Kenya every year that are too dirty or damaged to be reused, creating serious health and environmental problems for vulnerable communities, an investigation of trade data and conditions on-the-ground has found.¹³ See Section 5 for more on fashion.</p>	A ban on exports to both OECD and non-OECD countries should be implemented to prevent textile waste being shipped by proxy to the Global South. This should be coupled with an increase in domestic textiles waste management capacity.

WHEN?	WHAT?	WHY?	HOW WILL THESE PRODUCTS BE REPLACED?
OCTOBER 2030	Seed coatings	The degradation of microplastic seed film-coating fragments in soil ¹⁴ contribute to reduction in soil quality and further increase the environmental and human health risk presented by micro/nanoplastics and component chemicals.	Natural alternatives are readily available to be scaled across the agricultural market to replace the use of plastic seed coatings.
OCTOBER 2031	Flame retardants	The quantity of plastics in structures has increased drastically. Fire retardants leach out of the polymeric matrix as they age, which exposes water, air, and the environment to these toxic gases. Recycling or incineration of products with toxic flame retardants can go as far as contaminating the communities where the recycling plants are located, if left uncontrolled. In the event recycling is successful, the pollutants could alter the properties of the recycled products resulting in the production of low-quality goods. Such dangerous chemicals had an annual production estimated to be approximately 180,000 tonnes globally ¹⁵ .	Sustainable FRs are produced from green or biodegradable chemicals or waste with the sole aim of minimising the environmental footprints and effect on human life while simultaneously improving the fire performance of materials ¹⁶ . Many innovative bio-based fire retardants produced from phytic acid, protein, chitin as well as biomass waste such as eggshells, rice husk, oyster shell powder have also been developed ¹⁷ .
OCTOBER 2032	Paint	Research from the Institute for Polymer Research ¹⁸ shows that plastic components within acrylic paints can degrade over time, releasing harmful Volatile Organic Compounds (VOCs). These are highly soluble vapours that can pollute the air and irritate humans and wildlife. Further studies note that acrylic paints can contribute to wider plastic waste, energy expenditure, and water pollution ¹⁹ .	Starch, cellulose, casein, and gum water based paints are all natural alternatives available to acrylic paints. The Organic & Natural Paint Co, Frenchic, Earthborn Paints, Lick and Coat are all examples of plastic free paint brands already on the market and demonstrate both the consumer appetite and scalability of plastic free paint products.
OCTOBER 2033	Built environment	According to Tom Smethurst at the Royal Institute of Chartered Surveyors, meta-analysis published by the American Chemical Society ²⁰ identified more than 2,000 additives used in construction industry plastics, of which 25% were classified as EU substances of concern due to their persistence, bioaccumulation or toxicity. Similarly, a further study found up to 88% of chemicals in everyday plastic products, including common construction finishes, leach out into the environment during use. ²¹	Regulating now will catalyse the innovation to replace these materials in a decade's time.

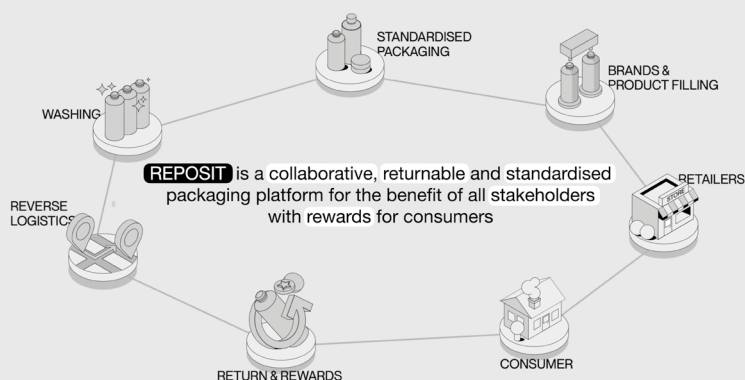
CATALYSING NEW MATERIALS AND SYSTEMS

SYSTEMS

For too long, there has been an assumption that a gamut of single-use plastics is ‘necessary’ or ‘unavoidable’. We seek to challenge that assumption at every turn, because the “take, make, waste” model is simply not sustainable.

But there is another way. 40% of all plastic is used for packaging. We can all see now that to use a material that lasts for centuries for a fleeting moment to wrap something makes little sense. This paper sets out a practical route map to making **permanent packaging** the norm.

In partnership with *Reposit*, we are developing a universal returnable packaging platform. Instead of time-consuming refill systems that tend to be tokenistic for major brands, Reposit introduces ‘packaging as a service’, with standardised packaging formats, leased by competitive brands and retailers, with a centralised cooperative managing all logistics for collection, washing and redistribution to the brands for refilling.



Shoppers still enjoy the convenience of buying their favourite brands prefilled. The ‘empties’ can be returned to thousands of drop-offs - stores, coffee shops etc. They are rewarded for the smallest behaviour shift whilst the brands enjoy the immediate ESG benefit for minimal investment.

To catalyse that transition and to ‘normalise’ reusables, we recommend three policy initiatives on the part of government:

- Introducing a legislative requirement for large supermarkets (over 3,000 square feet as defined in the Sunday Trading Act 1994) to devote 25% or more of their floorspace to returnable / refillable systems by 2026.
- Introducing a legislative requirement for all supermarkets and big business with more than 250 employees to an annual report of their primary, secondary and tertiary plastic packaging use throughout their supply chains.
- Regulating to reform the Deposit Return Scheme from its inception in 2025, requiring industry to print serialised QR codes on every label. Technology exists through companies such as Polytag, to overprint these simply on to packaging. Such regulation would enable ‘digital DRS’ where items are collected at the kerbside and returned for reuse.

PLASTIC[®] FREE

MATERIALS

Where permanent packaging and refill genuinely is not a practical solution, single-use plastics should still cease. Examples include where “single serve” items are required such as at large events, or where some protection is needed around products such as dishwasher tablets and laundry pods. Nine out of every ten cosmetic products contain forever polluting microplastics according to Plastic Soup Foundation²², following analysis of 7,704 cosmetic and care products of the most popular brands of the four biggest cosmetic producers in Europe. Fragrance encapsulation in laundry liquids and shower gels is another hidden use of plastic.

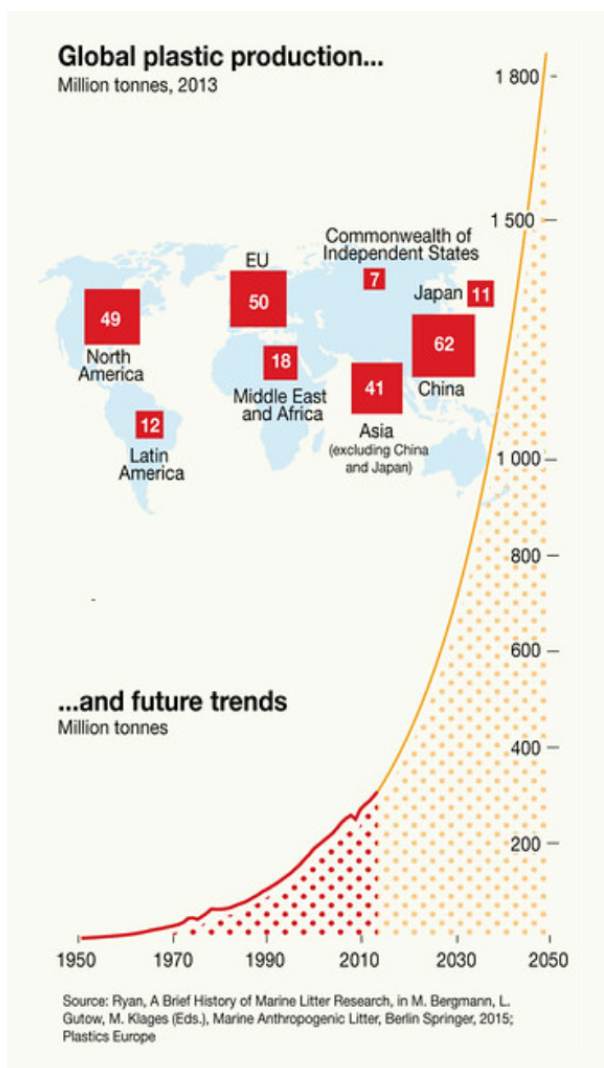
UK innovators such as Xampla and Notpla are bringing to market solutions to these challenges, by replacing plastic with natural *nutrient* materials such as seaweed and plant protein, that slip easily into nature's toxin-free circularity, with no waste, ever.

Such innovation needs further support from the UK government in the following ways:

- Explicit recognition in the Extended Producer Responsibility (EPR) and plastic packaging tax systems, so that innovative, natural nutrient materials are distinguished from polluting plastic
- A clear trajectory of regulation (as set out above) which forces industry's hand to invest in these new solutions, and speed up the scale at which they can be deployed
- New standards to delineate these, new, natural materials – which are completely plastic free – from traditional ‘compostable’ plastics. Whilst both types of material meet the BS EN 13432 standard, only these innovative materials can be returned to nature without industrial composting infrastructure.
- Priority from UK Research and Innovation (UKRI) for grants to test new applications such as mulch and seed coatings (to prevent soil pollution from traditional plastic) and natural microcapsules to replace microplastics and nanoplastics used in liquid formulations such as in laundry products

TAXATION TO CUT USE OF VIRGIN PLASTICS

IT IS ALREADY EVIDENT FROM TREASURY FIGURES SHOWING THAT THE PLASTIC PACKAGING TAX HAS INCURRED DOUBLE THE TAX REVENUES ANTICIPATED, THAT BUSINESSES WOULD RATHER PAY THE TAX THAN CHANGE THEIR MATERIAL. IT IS SIMPLY CONSIDERED A COST OF DOING BUSINESS VERSUS A STIMULUS TO REDUCE VIRGIN PLASTIC.



We recommend taxation to cut the use of virgin plastics in packaging from next year. To that end, we call for an immediate and thorough review of the Plastic Packaging Tax to start now examining:

- the rate, currently set too low at £210.80 per tonne
- the threshold for a product to be considered 'recycled', currently too low at 30%
- the audit process for returns under the tax
- the scope of the tax, including:
 - the position of nutrient materials which replace plastics
 - how the tax can be used to encourage a transition away from single use to permanent packaging, and
 - how the tax might be broadened to discourage plastic use (and catalyse a transition to alternatives) in fashion, healthcare, electronics and construction
- the method of measuring recycled content and the problems of a 'mass balance' approach

OUR RECOMMENDATIONS TO THAT REVIEW ARE SET OUT IN SECTION 4 OF THE FULL PAPER, INCLUDING AN INCREASE TO THE RATE OF TAX TO £500 PER TONNE AND AN EXEMPTION THRESHOLD OF 50% MECHANICALLY RECYCLED CONTENT.

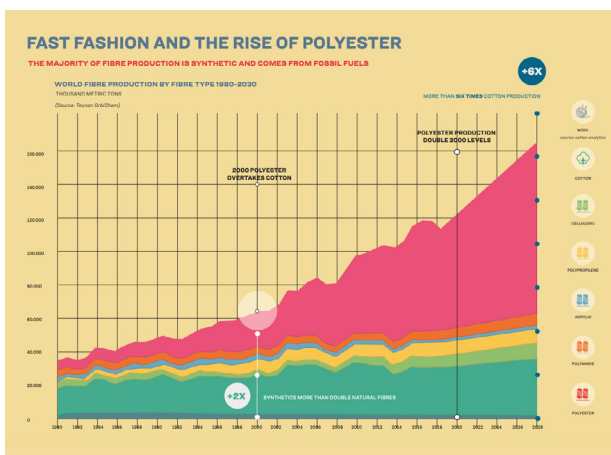
Source - From United Nations Grid Arendal

MEETING TOXIC FASHION HEAD ON

IN ONE GENERATION, THE FASHION INDUSTRY HAS BECOME ONE OF THE WORLD'S MOST DEPLETIVE, POLLUTIVE, EXPLOITATIVE INDUSTRIES. LONGEVITY AND HARD-WEARING QUALITIES HAVE BEEN SIDE-LINED AND NOW THE AVERAGE NUMBER OF TIMES A GARMENT IS WORN BEFORE BEING DISCARDED IS 7, ACCORDING TO BARNADOS.²³

Use of natural materials such as cotton and wool have remained static whilst plastic derivatives such as polyester have escalated to giddy levels:

- 70% of clothes are derived from mostly fossil-based synthetics.²⁶ This results in half a million tonnes of plastic microfibres being released into the ocean every year from our laundry machines – the equivalent of three billion polyester shirts.²⁷
- Over 35% of all ocean micro-plastics derive from textiles.²⁸
- 5.6 million metric tons of synthetic microfibres have entered the environment as a result of simply washing our clothes since 1950. 22 million tonnes of microfibres will enter our oceans. Vast quantities are also exported to developing countries.



Source - Figure 1.1: *Fast fashion and the rise of polyester: world fibre production by fibre type 1980-2030* by Changing Markets Foundation from Synthetics Anonymous

A PLASTIC PLANET THEREFORE CALLS FOR:

- an immediate consultation on an Extended Producer Responsibility system for the fashion industry, to be implemented under the Environment Act, penalising plastic content for its unsustainability and pollutive impact.
- A “Digital Passport” system for fashion items, akin to that pioneered in packaging by “R-Cycle”²⁴. The European Union’s call for proposals on digital passports, aimed at demonstrating their potential in up to two supply chains is an opportunity for the industry.²⁵
- The UK to set a new standard with a labelling system which:
 - only marks as sustainable products which are truly biodegradable at the end of life
 - accounts for the plastic content of clothes
 - accounts for the impact of extracting fossil fuels to make polyester, and conversely allows for the reduced impact of using natural fibres
 - recognises and incentivises sustainable agricultural practices
 - recognises the socio-economic impact of different fibre production and manufacturing processes

INTERNATIONAL ACTION

PLASTIC IS SOLID CLIMATE CRISIS, WITH ITS TRUE IMPACT FROM EXTRACTION TO POLLUTION OR INCINERATION RARELY FULLY CALCULATED. IF THE GLOBAL PLASTIC INDUSTRY WERE A COUNTRY, IT WOULD BE THE FIFTH BIGGEST EMITTER OF GHGS IN THE WORLD. ONLY CHINA, THE UNITED STATES, INDIA AND RUSSIA CREATE MORE GHGS THAN THE PLASTICS GIANTS.

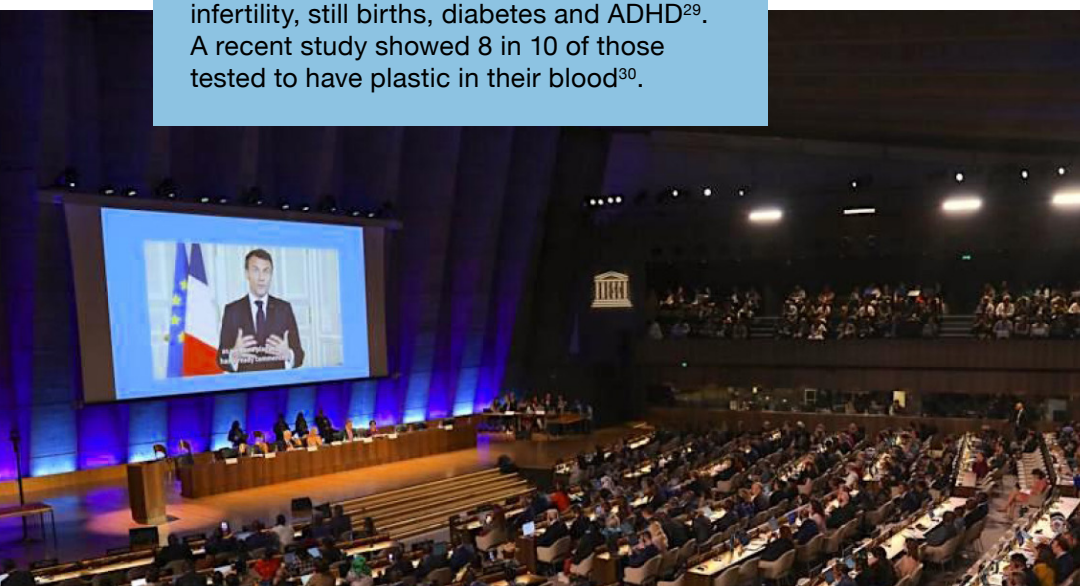
Just as the tide of plastic pollution continues to rise – covering our shores, streets, parks and peaks – so too does the evidence of a pernicious human health impact from plastic. The result of accumulated toxic chemicals from plastic is becoming clearer, with the problem linked by the UN Environment Programme to leukaemia and childhood cancers, autism, infertility, still births, diabetes and ADHD²⁹. A recent study showed 8 in 10 of those tested to have plastic in their blood³⁰.

The Global Treaty announced at UNEA 5.2 in Nairobi is an excellent start in delivering change. This unique Treaty will include 3 key points:

- The full lifecycle of plastic
- Plastic, chemicals, microplastics and nanoplastics impact on human health.
- The Treaty will be legally binding, unlike the Paris Agreement.

Many countries are already hosting National Action Plan Dialogues to contribute to the UNEA Plastic Treaty process.

By taking the measures this paper sets out domestically, the UK can place itself at the forefront of driving this process, leading the charge for legally binding worldwide commitments to reducing plastic production at source.



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ENDNOTES

- 1 UN Environment Programme, [Chemicals in Plastics](#), 2023, p. 5
- 2 [ACS Sustainable Chem. Eng.](#) 2023, 11, 3, 965–9787, quoted in “Advanced” Recycling of Plastic Using High Heat and Chemicals Is Costly and Environmentally Problematic, A New Government Study Find’ in [Inside Climate News](#), 19 January 2023
- 3 [Climate impact of pyrolysis of waste plastic packaging in comparison with reuse and mechanical recycling](#), Oeko-Institut, Zero Waste Europe, page 17,
- 4 One million single use vapes thrown away every week contributing to the growing e-waste challenge in the UK, [Materials Focus](#), 15 July 2022,
<https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>
- 5 Are Disposable Vapes Bad For The Environment?, The Eco Experts, 20 December 2022, <https://www.theecoexperts.co.uk/blog/disposable-vapes>
- 6 Are Disposable Vapes Bad For The Environment?, The Eco Experts, 20 December 2022, <https://www.theecoexperts.co.uk/blog/disposable-vapes>
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