WHY THE "NEW PLASTICS ECONOMY" MUST BE A CIRCULAR ECONOMY

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Every year Europe produces about 58 million tonnes of plastic, and we generate 25 million tonnes of plastic waste. Only 30% of this is collected for recycling, with 39% incinerated and 31% ending up in landfills. The problem lies not only in the amounts of plastic recycled, but also in the quality of the recycling and the resulting secondary plastic. In economic terms, 95% of the value of plastic packaging – worth some 105 billion euros – is lost to the economy every year.

The Plastics Strategy adopted by the European Commission in January 2018 set out how to get the economics right, presenting a vision for a smart, innovative and sustainable plastics industry. It argued that what is needed is a "New Plastics Economy" which must be a circular economy which eliminates waste, maximises value, and uses plastic efficiently. In doing so it will help protect our environment, reduce marine litter, greenhouse gas emissions and our dependence on imported fossil fuels.

Plastic is here today and it is here to stay. The Plastic Strategy clearly emphasizes the value of plastic in our households and in our economies; indeed it is at pains not to demonise the material, whilst drawing attention to the damage caused by our failure to manage it properly.

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From 1993 to 2004, Mr. Calleja worked in the cabinets of several Commissioners, including the President of the European Commission, advising on Transport and Competition matters, State Aids and the application of Community Law. Between 1999 and 2004 he was Head of Cabinet for both Commissioner Oreja and Vice-president Mrs. Loyola de Palacio, in charge of Transport and Energy.

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KEYWORDS

- CIRCULAR ECONOMY
- WASTE
- SINGLE-USE PLASTIC
- RECYCLING

INTRODUCTION

The European Union Circular Economy Action Plan[1], adopted in 2015, builds on several decades of European environmental legislation, and on a recognition that where Member States had been successful in meeting waste targets it was usually because they got the economics right. They had put in place the separate collection and landfill charging systems that made it viable to invest in recycling capacity. They had arrived at the point where waste was regarded as valuable, because it was collected and sorted.

The Plastics Strategy adopted by the European Commission in January 2018 is an integral component of the Circular Economy Action Plan, and put this material firmly in the circular logic. Building on the new legal obligation[2] to achieve 55% plastics packaging recycling by 2030, and targets to recycle at least 65% of municipal waste and landfill less than 10% by 2035, the plastics strategy set out how to get the economics right, presenting a vision for a smart, innovative and sustainable plastics industry. It argued that what is needed is a "New Plastics Economy",

1 http://ec.europa.eu/environment/circular-economy/index_en.htm
2 in the revised Packaging and Packaging Waste Directive

addressing all parts of the circle, from extraction to design and production, from use to re-use, from disposal to recycling and return to the economy as secondary raw materials. It also meant dealing with the plastic that escapes from proper circular management into our environment, particularly the marine environment.

THE NEW PLASTICS ECONOMY

The need for an economic approach is clear when you consider the economic importance of plastic, its relative cheapness, and its diverse externalities. Every year, Europe produces about 58 million tonnes of plastic, and we generate 25 million tonnes of plastic waste. Only 30% of this is collected for recycling, with 39% incinerated and 31% ending up in landfills. The problem lies not only in the amounts of plastic recycled, but also in the quality of the recycling and the resulting secondary plastic. In economic terms, 95% of the value of plastic packaging – worth some 105 billion euros – is lost to the economy every year. This is quite literally a wasted opportunity, and it is why the first axis of the Plastics Strategy is "improving the economics and quality of plastic recycling".

A "New Plastics Economy" is needed, addressing all parts of the circle, from extraction to design and production, from use to re-use, from disposal to recycling and return to the economy as secondary raw materials

Improving the purity of waste streams and the quality of recyclates means going right back to the beginning of the circle: to the design and production of plastic products. This is even more important with plastic than most other materials, as its adaptability is based on a wide variety of polymers and additives that can make recycling particularly complex and challenging. That is why the Plastics Strategy set the strategic aim that by 2030 all plastics packaging will be reusable or recyclable. The legal framework will help here, with the on-going review of the "Essential Requirements" in the Packaging and Packaging Waste Directive giving the opportunity to set minimum basic rules for all packaging put on the EU market. Similarly the new obligation for all packaging to be subject to Extended Producer Responsibility (EPR) schemes by 2024 will incentivise better packaging design. Eco-modulation in EPR schemes has been demonstrated as particularly effective in internalising externalities of difficult-to-recycle substances and composites, ensuring that life-cycle impacts are also integrated into design decisions in a rational and proportionate way – and also in a more flexible way than by decree of legislators. The importance of this interplay between the material composition of a product, its functionality and its treatment at the end of its useful life has been more generally recognised by the Commission. Work is ongoing on the development of a European approach to address the "interface between chemical, product and waste legislation"[3] which will look at the options, both legal and economic, to dealing with pertinent issues for plastic, such as "legacy" substances and the balance between safety, hygiene and recyclability.

Everybody understands the importance of the balance between supply and demand in making markets work. On the supply side, new separate collection obligations and recycling targets will ensure a plentiful supply of plastics for recycling in Europe, particularly in the wake of the Chinese restrictions on imports of waste. But what about the demand side? Without a clear and dependable demand for recycled plastics, there will not be the necessary confidence to invest in recycling facilities. We estimated that in order to meet our objective of quadrupling plastics recycling capacity in Europe from 2015 to 2030, investments of between €8.4 and 16.6 billion will be needed. Yet today only about 6% of the plastic in new products comes from recyclates, and this is often limited to low-value or niche applications. We have called on the private sector to rise to this challenge by pledging, before 30th September 2018, to boost their uptake of recycled plastics in their products to a collective total of at least 10 million tonnes per year by 2025. We have received some good individual pledges and we are now assessing whether the pledgers will together reach the target we set, or whether we will have to go beyond such voluntary approaches to consider further, and perhaps regulatory, action.

Making sure that the recycling streams going to those facilities are clean enough to make recycling viable requires effective separate collection. Even if technology is being developed for faster and better sorting of waste at facilities, separate collection has generally proven to be more cost-effective, and an important precondition to viable recycling. As we move forwards, a combination of eliminating the worst substances from plastic products, of disincentivizing the bad ones through eco-modulation of EPR fees, of improved separate collection, and of optical and laser sorting, will drive the move to cleaner plastic waste streams. Combined with the roll out of better technology for chemical recycling, we will see greater confidence in the quality of recyclates and their increasing use.

The Plastics Strategy includes a specific axis concerning the investments and innovation that are fundamental to make plastics more sustainable. Getting the economics right means increasing private investors' confidence, but also tackling market failures through strategic use of public investment, particularly in research and innovation. The creation of a Strategic Research and Innovation Agenda for plastics in 2018 promotes funding of research and

3 See Communication adopted with the Plastics Strategy on 16th January 2018, COM(2018) 32 final

innovation in recycling, removal of hazardous substances and microplastics, and the development of feedstock alternatives. The Strategy also announced increased research investment from the EU Research and Innovation Programme Horizon 2020, with an additional 100 million euros. This will come on top of more than 250 million euros already invested so far. To raise awareness about these and other financing opportunities, and to improve the bankability of projects, the Commission has established in cooperation with the European Investment Bank, the Circular Economy Finance Support Platform.

The Strategy also set out to address the environmental and possible health risks of microplastics that pollute our soil and waters, and perhaps also the food chain and the air we breathe. The Commission has started work to restrict those microplastics intentionally added to products (such as in cosmetics, paints or detergents) by requesting the European Chemicals Agency to review the scientific basis for considering a restriction under REACH, based on a recently completed study.

For microplastics resulting from the use of products (such as tyres or textiles) or from primary plastic production (for example from spills of pre-production plastic pellets), we envisage focussed actions linked to standardisation, labelling, possible regulatory measures, as well as increased capture through wastewater treatment.

We will also tackle the so-called oxo-degradable plastics which do not biodegrade in open environment but rather fragment in tiny pieces exacerbating the microplastics accumulation in soils and water.

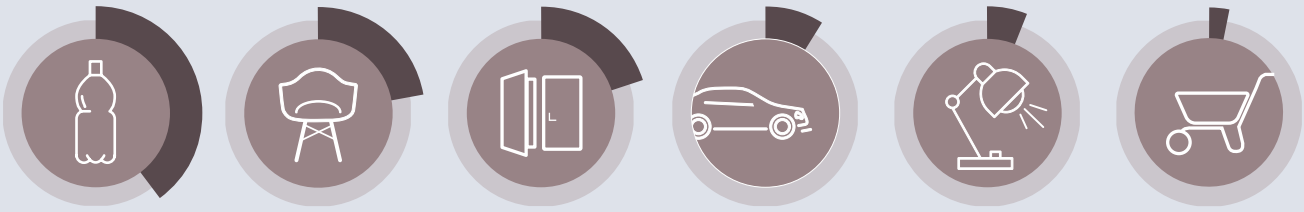
Reactions to the strategy, including an own-initiative report from the European Parliament[4], have been very positive. In the many debates and discussions that I have taken part in since adoption of the Strategy, I have heard the views of many stakeholders active at different parts of the plastic loop. All explicitly support the general objectives and circular approach of the New Plastics Economy. Then I usually hear that the real problem in achieving the vision is at another part of the circle: recyclers could recycle more and better if only product design were better, or separate collection were improved; producers could include more secondary plastic in their products if only the quality and supply were guaranteed; the waste management sector would be prepared to make the necessary investments if only there were legislative measures ensuring a significant uptake of plastic recyclates. These arguments are legitimate, but they serve to convince me that the circular approach is the right one because it is integrated and systemic. It recognises that the many loops that would make up a new plastics economy depend in turn on the many public and private players talking to each other and to find systemic solutions.

4 Report of MEP Mark Demesmaeker, adopted on 13th September 2018 http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P8-TA-2018-0352

Europe produces a huge amount of plastic

58 MILLION TONNES

EVERY YEAR



40%	22 %	20%	9%	6%	3%
packaging	consumer & household goods	building & construction	cars & lorries	electrical & electronic equipment	agriculture

Source: PlasticsEurope

It is reassuring to see just how consistent circular economy approaches are with our existing legislation on waste. The long-established waste hierarchy, enshrined in the waste directives, puts waste prevention at its pinnacle, and moving up the hierarchy of waste management options implies working throughout the production and consumption cycle. So in delivering circular approaches, including for plastics, it is important that the lawyers understand the economics and that the economists understand the law.

PLASTIC WASTE IN THE WRONG PLACE

We also have to deal with some waste that doesn't even make it onto the bottom of that hierarchy. It is said that litter is "waste in the wrong place", and when it comes to plastic there cannot be a worst place than in the marine environment. Single-use plastic products can easily be criticised from the perspective of circularity; their functionality and value to the economy are very limited in time, and when they are littered their value is totally lost. But what inflamed public opinion against plastic litter was not so much these wasteful consumption habits in themselves as the realisation of the longer term effects on marine life.

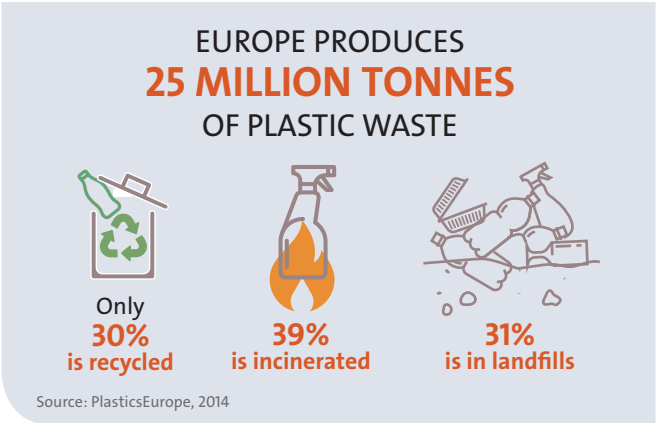
Every year, between 150 000 and 500 000 tonnes of plastic waste originating in the EU ends up in the oceans. Once littered, it remains in the environment for centuries. It has been widely repeated that globally, if we continue this way, there will be more plastic than fish in the ocean by 2050. But although public and political discourse has focused on the impact on marine life, in order to deal with these catastrophic effects, we have to address the wasteful consumption habits.

In the Plastics Strategy, we announced legislative action to tackle plastic marine pollution. And a draft Directive "on the reduction of the impact of certain plastic products on the environment"[5] was tabled by the Commission already in May of this year. Despite this tight time limit, and despite the many emotions raised by marine pollution, the proposal is a well-balanced, evidence-based, targeted and proportionate. It is based on the best data and analysis we have, a comprehensive impact assessment and full stakeholder consultation. It targets the main items responsible for the problem in a proportionate way, and it tackles each according to the particular pathways that they arrive in the marine environment.

We know from 276 beach counts across the EU (the best indicator we have for marine litter) that single use plastic items constitute about 50% of such litter, while fishing gear represents a further 27%. For Single Use Plastics, the Commission proposal focused on the 10 most found single use items. Together these constitute 70% of all marine litter items. The rules we set out in our legislative proposal are proportionate and tailored to get the best results. This means different measures will be applied to different products. Together, the new rules will put Europe ahead of the curve on an issue with global implications. Concretely, the new rules will introduce:

- **A plastic ban for certain products:** Where alternatives are readily available and affordable, single-use plastic products will be banned from the market. The ban will apply to plastic cotton buds, cutlery, plates, straws, drink stirrers and sticks for balloons which will all have to be made exclusively from more sustainable materials instead. Single-use drinks containers made with plastic will only be allowed on the market if their caps and lids remain attached;
- **Consumption reduction targets:** Member States will have to reduce the use of plastic food containers and drinks cups. They can do so by setting national reduction targets, making alternative products available at the point of sale, or ensuring that single-use plastic products cannot be provided free of charge;

5 COM(2018) 340 final of 28.05.18 http://ec.europa.eu/environment/circular-economy/pdf/single-use_plastics_proposal.pdf



- **Obligations for producers:** Producers will help cover the costs of waste management and cleaning-up, as well as awareness-raising measures for food containers, packets and wrappers (such as for crisps and sweets), drinks containers and cups, tobacco products with filters (such as cigarette butts), wet wipes, balloons, and lightweight plastic bags. Industry will also be given incentives to develop less polluting alternatives for these products;
- **Collection targets:** Member States will be obliged to collect 90% of single-use plastic drinks bottles by 2025, for example through deposit refund schemes;
- **Labelling Requirements:** Certain products will require a clear and standardised labelling which indicates how waste should be disposed, the negative environmental impact of the product, and the presence of plastics in the products. This will apply to sanitary towels, wet wipes and balloons;
- **Awareness-raising measures:** Member States will be obliged to raise consumers' awareness about the negative impact of littering of single-use plastics and fishing gear as well as about the available reuse systems and waste management options for all these products.

For fishing gear, the Commission aims to complete the existing policy framework with producer responsibility schemes for fishing gear containing plastic. Producers of plastic fishing gear will be required to cover the costs of waste collection from port reception facilities, and its transport and treatment. They will also cover the costs of awareness-raising measures.

Through these actions the proposal deals with almost 90% of all single use plastic items found on Europe's beaches. According to our calculations its implementation would reduce by more than half the littering in our seas of these ten single use plastics, it would avoid the emission of 3.4 million tonnes of CO_2 equivalent and avoid environmental damage with a benefit equivalent to €23 billion in 2030. It would result in savings for consumers of around €6.5 billion and the creation of around 30 000 jobs.

These figures are impressive. Some have sought to sow doubt about the accuracy and validity of data or the calculation methods used in our impact assessment, but these were based on the best available data and on disinterested expert analysis. Challenges have (not surprisingly) been levelled at findings that are inconvenient for those that have particular interests. But even if the impact assessment exercise requires some choices and assumptions, it is important to understand that it is subject to the Commission's rigorous and transparent Better Regulation process, and that it is built on objective analysis of evidence, not emotion or interest.

10 most common plastic objects found on European beaches

Source: Based on JRC report

The evidence base has the important effect of targeting our efforts to ensure the maximum benefits from our actions. Such targeting also limits the costs. Of course there will be costs, but business compliance costs such as the commercial washing of multi-use items and refill schemes (estimated at around €2.4 billion) and waste management costs (estimated to increase by €0.8 billion) remain in a different order of magnitude compared to the far more substantial benefits.

The Commission's proposals are now being negotiated by the European Parliament and the Member States in the Council and we await the results of this democratic legislative process. Yet already we see further evidence that we got the balance right, with a high degree of consensus on both the level or our ambition and the approach taken. To our evidence-based proposal we see the co-legislators adding political judgement and taking account of citizens' concerns. The case for action has been found compelling.

THE GLOBAL RACE TO THE TOP...

Worldwide, this proposal is the most comprehensive legal instrument to date addressing marine litter. The EU is once again showing its leadership in the environmental area, but we are also working with global partners to tackle what is a global issue. Studies showing that between 88 and 95% of marine pollution comes from 10 rivers – eight of which are in Asia and two in Africa[6] – are not reason for inaction in Europe. They are reason for Europe to act in parallel and in conjunction with our global partners, who are themselves already taking action. That is why in September 2018, at an event during the 73rd UN General Assembly, the European Commission's First Vice President launched along with the United Nations Environment Programme the challenge of a "global race to the top" in tackling plastic marine pollution.

Studies have shown that the plastic on Europe's beaches and in our seas originates overwhelmingly in Europe, and our substantial plastic waste exports to Asia suggest that much of that which is found in other seas of the globe may also originate in Europe. The most effective solutions in Asia and Africa, where waste management is less developed, will differ from those in Europe. But Europe must not be complacent; we need to clean our own house before asking the same to our neighbours.

... STARTS ON OUR DOORSTEP

Going from the global level, literally to our own house, the European Commission has itself a duty to set a good example, even if the impacts of such individual initiatives seem just a "drop in the ocean". At the "Our Oceans" Conference in 2017, the Commission pledged to phase out single use plastic cups first in its vending machines serving hot drinks, then in all catering activities. This should result in saving 9 million cups per year, equivalent to 25 tonnes or roughly 1kg per staff member: so still quite a big "drop". This is in addition to many other initiatives implemented already by the Commission in the context of the Eco Management and Audit Scheme (EMAS).

SO WHAT ABOUT THE FUTURE?

Plastic is here today and it is here to stay. The Plastic Strategy clearly emphasizes the value of plastic in our households and in our economies; indeed it is at pains not to demonise the material, whilst drawing attention to the damage caused by our failure to manage it properly.

Circular economy approaches are about retaining the value of materials in the economy, which is why they are so pertinent to plastic. Plastic is the only material – so far – specifically addressed in the context of the EU's circular economy approach. This treatment is justified because of its ubiquity, its unique characteristics and the urgent need for an approach that integrates all parts of its life cycle. The "New Plastics Economy" must be a circular economy which eliminates waste, maximises value, and uses plastic efficiently. In doing so it will help protect our environment, reduce marine litter, greenhouse gas emissions and our dependence on imported fossil fuels.

EDITOR'S NOTE:

The European institutions reached, in December 2018, an agreement on the "Single Use Plastics directive" proposed in May 2018 by the Commission. The final text will include: a separate collection target for plastic bottles of 77% by 2025 and 90% by 2029; a mandatory recycled content of 25% for PET bottles from 2025 onwards, 30% recycled content for all plastic bottles in 2030, calculated on average per country. This measure was added during the legislative process in order to increase the demand side of plastics recycling markets. Formal adoption by the European legislators and publication in the Official Journal should take place before the end of the mandate mid 2019. The text will then have to be transposed into national law within two years.

6 https://pubs.acs.org/doi/abs/10.1021/acs.est.7b02368