



Stakeholder Conference: Rethinking Plastics – Closing the Circle

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Conference Report

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#PlasticsStrategy



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1 Introduction

The Rethinking Plastics – Closing the Circle stakeholder conference was hosted by the European Commission on 26 September 2017. The conference focused attention on the upcoming Plastics Strategy, currently being developed by the European Commission. It provided an opportunity for stakeholders to discuss the issues, challenges and opportunities that will feature in the new strategy, and to articulate key messages to the European Commission for consideration as it moves towards completion of the strategy.

The conference brought together nearly 270 participants from across Europe and beyond, representing a range of stakeholder interests. Over 30 senior figures from government, business, civil society and academia gave expert input through speeches and presentations. The event was also streamed online and recordings remain accessible to watch via the streaming links¹.

2 Key conference messages

Key messages:

- An ambitious Plastics Strategy is widely called for, positioning Europe as a global lead
- Market failures are holding back the rate of change, and intervention is necessary to foster the fundamental behaviour changes necessary
- A mix of regulatory, economic and voluntary measures are necessary
- Stakeholder groups must work in collaboration across the value chain

Call for an ambitious Plastics Strategy to make Europe a global leader

The conference participants broadly found consensus that the Plastic Strategy should be ambitious and not shy away from ambitious goals. However it was also recognised that such ambition should be grounded in a reality that would enable all stakeholder to not only support but deliver those goals. FVP Timmermans confirmed that the Plastic Strategy will be “ambitious”, to be pitched at a level “where we think we can get a qualified majority of Member States”.

It was widely noted that Europe is being ‘outperformed’ in its actions on plastic by countries without the same degree of financial and socio-political capital as Europe. An ambitious Plastic Strategy should strengthen Europe’s role as a global lead. This will both help drive forward action at the global level as well as create market opportunities for European business.

Market failures are holding back the rate of change

There are a raft of business strategies and other initiatives being pushed forward by stakeholders, in large part responding to customer/societal demand, many of which were presented by conference speakers. But there is an overriding impression amongst many stakeholders that there are market failures that cannot be resolved without intervention to create the right incentives to foster deeper and faster change.

¹ <https://webcast.ec.europa.eu/stakeholder-conference-on-plastics-0a> ; <https://webcast.ec.europa.eu/stakeholder-conference-on-plastics-0b> ; <https://webcast.ec.europa.eu/stakeholder-conference-on-plastics-0c> .

It was broadly agreed that addressing the plastics issues it is not a technical challenge. Rather it was frequently referred to as a moral and/or governance challenge. This was in recognition of the need for a fundamental change in business models, and the difficulty of doing so given such a long and interlinked value chain, as well as consumption patterns and pro-consumption lifestyles.

A mix of regulatory, economic and voluntary measures are necessary

Many stakeholders considered that a strong plastics economy would enable the R&D necessary to address many of the issues being debated – and that too much legislation may stifle this. But contrasting views were also widespread, wherein legislation was considered essential to provide sufficient incentive for R&D and the fundamental changes in behaviour being called for. Further, it was suggested that legislation will provide for a continued driver once media attention moves on, preventing backsliding on commitments and/or reversion to business as usual.

The point was widely made (by most types of stakeholder), that a mix of legislative and other measures are required – to create the right incentives for change. This was illustrated by Mr Jean Marc Boursier (President of FEAD, the European Federation of Waste Management and Environmental Services) with regards what is needed to further develop circular use of plastics:

1. Economic instruments e.g. EPR schemes to encourage real circular design
2. Labelling e.g. labels to demonstrate recycled content and recyclability
3. Legislative targets e.g. minimum recycling content at EU level
4. Green public procurement e.g. to support growth in market demand for products made using recycled plastics
5. Fiscal incentives e.g. lower VAT on recycled polymers or higher carbon tax, to better reflect external costs of materials
6. Standards and norms to create certainty and a level playing field

Working in collaboration across the value chain

There was recognition for a holistic strategy, addressing the multiple elements of the value chain. This echoes the collection action problem present in many of our major environmental challenges. Solutions were widely interpreted through calls for collaboration – between elements of the value chain, between industry and researchers/NGOs and extending to the consumer media – to bring about truly circular thinking.

Focusing on reduction as well as recycling

Whilst there was significant time in discussion devoted to the creation of a circular plastics economy through better recycling and use of recycled content via ‘closed loops’, there was also discussion about how to reduce plastic consumption. It was stated that “we cannot recycle our way out of the plastic challenge – we need to close the tap first” (Jean Marc Simon, Rethink Plastic Alliance); and there were a number of calls for incentivising a move away from high plastic consumption business models and lifestyles. This was a particular issue raised for single use plastic items and microplastics.

3 Conference Session Synthesis

3.1 Opening plenary

3.1.1 The need for action and a common vision for the future

Moderator: Katrina Sichel

Speakers:

- Frans Timmermans, First Vice President of the European Commission
- Xavier Bontemps, Senior Vice President, Total
- Alfred Stern, Executive Board Member, Borealis
- Thea Koning, Global Regulatory Affairs Director, Unilever
- Jean-Marc Boursier, President of FEAD, the European Federation of Waste Management and Environmental Services
- Joan marc Simon, Director of Zero Waste Europe, member of Rethink Plastic Alliance

3.1.1.1 Key messages

The environmental challenges caused by the uncontrolled use of resources, such as greenhouse gas emissions and climate change, were acknowledged by all. The ultimate goal of the society's efforts should be to leave a planet capable of sustaining a high quality of life for future generations. Session speakers called for an ambitious plastics strategy.

A circular economy presents significant economic opportunity, offering new product and service designs with many stakeholders standing to benefit; from polymer producers, plastics reproducers, converters and article manufacturers, service providers and consumers.

The waste hierarchy is not sufficiently respected. Reduction, reuse and preparation for reuse are neglected. Recovery of energy through incineration is erroneously placed on the same level as recycling, when it should be a last resort. Landfilling is still accounting for the end destination of too great a proportion of plastic waste. This is due to inadequate incentives for producers or consumers to become resource efficient and circular.

The economics of circular economy action is unfavourable. Incentivising eco-design, internalising external costs (e.g. by imposing CO₂ taxes on virgin materials), improving waste collection infrastructure and transparency of material content and quality were identified as options to improve market signals and stimulate market development.

Financial, technological and operational challenges were raised, but were not considered barriers in themselves. Cooperative action by all stakeholders was called for as necessary to deliver the solutions and move forward simultaneously on the many interconnected issues.

3.1.1.2 **Frans Timmermans, First Vice President of the European Commission**

FVP Timmermans welcomed the wide variety of stakeholders who were in attendance. He drew their attention to a petition signed by over 600,000 EU citizens, asking for an ambitious Plastics Strategy, driven by concern for the oceans. Stating that we existed in a 'post-paternalistic' society, he highlighted the importance of obtaining the input of all stakeholders for a co-produced Strategy; and good communication, to get all stakeholders, including the public, on board. In this spirit, he said that the Plastic Strategy will be "very ambitious – but where we think we can get a qualified majority of Member States".

The FVP went on to remind stakeholders that change, both environmental (climate change) and economic change ('the 4th industrial revolution'), would occur at unprecedented rates; and instead of being reactive and responding only to legislation, we are, as developed nations, in a strong position to be proactive – to exercise choice, and to lead.

He put to the floor that technological and financial issues were not barriers – they were challenges, but are not the problem per se. He saw arriving at a sustainable plastics industry as a problem of governance, to achieve consensus and action across many interconnected areas.

3.1.1.3 **Xavier Bontemps, Senior Vice President, Total**

Mr Bontemps explained the changing business focus of Total, having moved away from coal, and developing gas and renewables, (including biorefineries and biobased plastics) as a key area. Total is a producer of polymers and hence interacts with plastics converters and article manufacturers. In this role they were making the following key contributions:

- Implementing and auditing Operation Clean Sweep to prevent pre-production plastic pellet loss.
- Developed a PLA (polylactic acid, compostable biobased plastic) factory.
- Developing chemical boosters to help make virgin-equivalent products from recycled materials.
- Lightweighting of articles to save resources.

Mr Bontemps highlighted key issues for the circularity of plastics in the economy: availability of high quality material streams and hence achieving high levels of collection and sorting EU-wide; conflict between the function of some additives and recyclability, to be resolved by R&D; overcoming the low-quality image of recycled; obtaining food-grade packaging from recycled material streams owing to (sometimes conflicting) US and EU standards. He saw working in partnerships as essential for resolving these issues, and opportunities for those able to do so.

3.1.1.4 **Alfred Stern, Executive Board Member, Borealis**

Mr Stern pointed out, in the context of a changing climate, the greenhouse gas reduction benefits of plastics from averting food waste, reduction of water and energy use, including through lightweighting and increased transport efficiency. He asserted that the use of alternative materials would lead to worse outcomes in this regard.

He issued three calls to action for achieving a circular economy for plastics:

- Europe should be a global leader in managing and steering plastic waste streams. This represents a significant economic opportunity.
- Implement higher recycling targets in the EU. Economic incentives should align with the waste hierarchy; separate collection should be standardised across the EU, and landfilling reduced to zero.
- Encourage research and cooperation along the entire value chain. There should be design for circularity so that value and quality are maintained in the lifecycle of materials.

Mr Stern recognised potential barriers including the availability and quality of feedstock and poor economic incentives for circularity, including low and fluctuating oil prices. He called for a solid foundation and regulatory framework to realise the opportunity represented by the circular economy for plastics.

3.1.1.5 **Thea Koning, Global Regulatory Affairs Manager, Unilever**

Ms Koning presented the Unilever vision to “Make sustainable living commonplace”, which seeks to decouple Unilever’s environmental footprint from business growth. With 2 billion households using their products every day, they can have a significant influence. Unilever recognise that plastic packaging should be treated as a valuable resource - what cannot, in the first instance, be reduced or reused, should be recycled. Three pillars underpin the delivery of their strategy: (i) using recycled plastics, (ii) design to reduce and reuse, (iii) development of new technologies.

Unilever have set strategic targets for achieving sustainability. For example, by 2020 they undertake to halve the waste associated with the disposal of their products, and by 2025, achieve 25% recycled content for their plastic packaging.

Ms Koning recognised that there are a number of challenges in enabling the delivery of their strategy, and they cannot be overcome by working alone. Unilever are keen to share their knowledge with others, cooperating to enable innovation and delivery. Notably this includes working with consumers, whose awareness of plastic waste issues is increasing, to ensure they understand the benefits of their new approach and the actions required of them.

3.1.1.6 **Jean-Marc Boursier, President of FEAD, the European Federation of Waste Management and Environmental Services;**

Mr Boursier emphasised the urgent need for action to achieve a new strategy for plastics, reminding attendees that plastics production in the EU was approximately 50m tonnes/yr. Of the waste generated, roughly one third is recycled, one third is incinerated and one third is landfilled, and with 96% of plastic production in the EU from virgin materials. He suggested that EU needed to be less dependent on exports to China for its plastics recycling as import restrictions were leading to material being incinerated.

Mr Boursier stated that the economic advantages of the circular economy could be realised only if design for reuse, repair and recycling was put into action. The implementation of economic incentives is key to encourage this with e.g. a bonus malus modulated fee within EPR for good/poor design. Eco design criteria should include recycled content requirements (such as the Californian requirement of 25%) as well as recyclability. EU Ecolabel criteria should also be made consistent with these. Green public procurement should be used to create an emergent market for such packaging. Incentives to increase demand could also include a higher carbon tax or lower VAT on recycled plastic feedstocks. He concluded with the view that a

strong policy framework would provide certainty and encourage the necessary investment.

3.1.1.7 **Joan Marc Simon, Director of Zero Waste Europe, member of Rethink Plastic Alliance**

Mr Simon asserted that plastics were the fastest growing pollutant of our time and that Rethink Plastic – a new alliance of NGOs - wants to support change in how plastics are used. Prevention is more effective than a cure; and although recycling was welcomed he stated that “we cannot recycle our way out of the plastic challenge – we need to close the tap first”.

He highlighted that action should be taken to encourage re-use. He cited an Ellen McArthur Foundation report which estimated that 50% of plastic packaging demand (which accounts for 40% of total plastics demand) could be reduced by re-use and redesign - a 20% re-use target is deemed achievable. On single-use plastic items he suggested that, where alternatives exist, these should be used and for others reduction targets are appropriate.

He concluded by recognising that developing nations are already taking important actions, such as plastic bag bans in Kenya and a 20% marine litter reduction target in India. He said the EU can and should be ambitious.

3.2 **Second plenary**

3.2.1 **Stakeholders views on priorities, challenges and ongoing commitments to action**

Moderator: Katrina Sichel

Speakers:

- Karl-Heinrich Foerster, Executive Director, PlasticsEurope
- Ton Emans, President, Plastics Recyclers Europe
- Claire Dadou Willmann, Director, 2ACR
- Clarissa_Morawski, Director, ReLoop

3.2.1.1 **Key messages**

There were calls for a number of mechanisms and targets to stimulate action, principally for encouraging increased recycling and use of recyclates. A combination of push and pull incentives were identified as necessary. Mechanisms to address issues of recyclate quality and consistency of supply – including EPR and design guidelines to improve recyclability, targets such as zero plastics to landfill, and investments in collection and sorting technologies/infrastructure – and also to grow the market for recyclates – including minimum recycled content requirements and financial incentives, such as tax breaks and mechanisms to internalise environmental costs. Case examples of the successful use of economic incentives to drive behaviour changes to reduce consumption of single use items were provided.

Voluntary measures, such as those prepared by PlasticsEurope, are being implemented. However legislative measures were also considered necessary. These need to reflect a level of ambition above that is currently being attained.

Mechanisms to promote a level playing field were called for. But it was also cautioned that there is no one-size-fits-all solution across areas of industry or Member States. A need for multi-stakeholder engagement and collaboration was widely called for as necessary to enable change.

Members of the audience raised the issue of microplastics, which all agreed was an important issue. It was suggested that we need to agree a definition of microplastics in order to support working towards solutions.

3.2.1.2 Heinrich Foerster, Executive Director, PlasticsEurope

Mr Foerster opened the session by stating that the plastics industry are fully supportive of action on circular economy as part of a broader need to improve resource efficiency. He highlighted that plastics make an important positive contribution to the achievement of big societal goals – notably the climate goals, where plastic solutions (e.g. light weighting of vehicle materials) can help improve efficiency and reduce carbon emissions.

Mr Foerster identified the two key plastics issues as being (i) leakage into the environment and (ii) a low rate of recycling. He stated that ‘zero plastics to landfill’ is the ultimate goal and a key demand. This would require better waste management infrastructure and a change in mind-set across the value chain (to see plastic waste as a valuable resource), supported by improved citizen awareness. But he cautioned that there was no one size fits all solution across areas of the industry and Member States.

Mr Foerster highlighted a number of actions that PlasticsEurope has been helping deliver. These include a guidance paper and workshops on eco-design, conferences on new recycling and recovery technologies, Operation Clean Sweep, and, for the global dimension, the setup of The World Plastics Council.

He closed his speech stating that there is momentum in the right direction, a need for multistakeholder engagement, and inviting everyone to “team up with us, engage with us and together we can make this better”.

3.2.1.3 Ton Emans, President, Plastics Recyclers Europe

Mr Emans opened by stating that “recycling first is a fake message... rather, prevention and reduction come first, followed by reuse”.

PRE’s vision is for all plastic to be recycled to save resources. Recycling is the right thing to do, but we need to create new products containing recyclates. He highlighted that total plastic production capacity is 60 million tonnes, but less than 45% is collected and only 25% is collected for recycling.

There is significant unmet demand for recycling. There are a number of barriers which must be addressed in order to meet this demand, including competition from landfill and incineration and uncertainty – an image problem – of recyclate quality. He highlighted that there is currently no legislation that is addressing these barriers.

Fundamentally, Mr Emans stated that the recycling industry cannot turn plastic waste into a new resource if the waste is not recyclable. To generate pure, high volume, reliable, cost-effective recyclates, there is a need for a global design guide for recycling, improved and harmonised collection infrastructure, Europe-wide standards, and investment in new recycling technologies. But this must be coupled

with demand side support – minimum mandatory content of recyclates in products, financial incentives that encourage the use of recyclates (e.g. via VAT breaks or carbon levies), and market demand from green public procurement.

He closed by stating that a recycling target of 55% is not an ambition, noting that some countries have already achieved it. Rather we should be taking further action.

3.2.1.4 Claire Dadou Willmann, Director, 2ACR

Speaking on behalf of the Association for Action on Chemicals and Recycling (2ACR), Ms Dadou Williams explained the commitment of 2ACR members and their actions to work towards making recycling of plastic waste a real opportunity for economic development and to optimize resources for a more "circular" economy.

She explained that the 2ACR process in France has brought all of the value chain stakeholder around together around the table, whilst also working closely with the Ministry of Environment. A key area of work was the development of a financial support mechanism named Orplastto to cover the cost gap between the virgin and secondary raw materials for plastics.

2ACR propose a single mechanism to promote the production and use of recycled plastics across Europe in order to promote resource efficiency by closing the virgin-to-secondary raw material cost gap. It would utilise "recycling certificates" issued by European recyclers to their customers, then redeemable by the purchasing companies. The certificates would state the quantities of recycled plastic sold to the converters, and the associated environmental benefits: avoided CO2 emissions, and more generally, greenhouse gases, as well as energy savings linked to the regenerated tonnes. It would require the setup of a European fund and a regulatory monitoring centre. The mechanism could be imposed at the national level with transmission of the certificate to national financial authorities. 2ACR's objective is to double the use of recycled plastic – equating to growth of 10% per year over 7 years; and they estimate that an EU fund of €500m would be required to achieve this.

Successful implementation of such mechanisms requires a collaborative environment. 2ACR have already managed to do this in France and hope to do so in Europe. To support this, 2ACR have developed a knowledge-provision social network (www.frplast.org), delivered workshops, and conferences, supported by working groups and research studies.

3.2.1.5 Clarissa Morawski, Director, Reloop

Reloop bring together industry, NGOs and municipal government to strengthen the economic model for recycling and reuse. She highlighted four key areas for priority action: smart targets, meaningful measurement, recyclability requirement and economic instruments.

Smart targets: Ms Morawski called for smart, more meaningful targets – such product-specific and minimum content targets. She cited that experience shows that minimum content targets have had a dramatic impact on the pull-through effect on recyclates, increasing their value. She propositioned that Europe will not get movement without those basic content requirements in place.

Meaningful measurement: Ms Morawski explained that targets need to be underpinned by meaningful measurement. This doesn't need to be the status quo weight based targets, which are not helpful for plastics. Measures could be product unit based, or more progressive such as carbon footprint data could be considered.

Recyclability requirements: were identified as another factor. She explained that a product may be technically recyclable, but questioned whether it is really recyclable if citizens cannot access it into recycling infrastructure. She explained that there is a direct link to Extended Producer Responsibility – if producers want to claim that their product is recyclable then they must also be responsible for ensuring that the mechanisms are in place to allow that recycling to take place.

Other economic instruments: play a key role in success. Deposit-return are one, which are known to work, which can be applied to a broad range of materials, such as commercial fishing nets. Levies, taxes and fees can incentivise reduction of consumption, which are again known to work e.g. plastic bag tax, which could be applied to other single use products.

She responded to a question saying that voluntary measures have not matched expectations and legislation is necessary. Compliance with the new regime would stimulate the necessary innovation.

3.2.2 The plastics strategy as a driver for growth and innovation

Speaker:

- Elżbieta Bieńkowska, Commissioner for Internal Market, Industry, Entrepreneurship and SMEs

Ms Bieńkowska explained that a central part of the EU's industrial strategy is to move towards a circular economy that combats climate change and pollution. It requires a wholesale shift in how we produce and reuse, supported by changes in consumer behaviours. It means big changes for European businesses – a shift in the current model. The plastic strategy is a key part of this.

But Ms Bieńkowska stated that the strategy cannot create jobs and force innovation – but it can create a supportive policy framework. In this regard the plastic strategy focusses on three key areas:

- Reducing the use of fossil based feedstock
- Boosting the market for recycled materials
- Increasing the sustainability of plastics

Ms Bieńkowska recognised that a “holistic” approach across the value chain, which is very long in the plastic industry, is necessary - it must all fit together, which means everyone working together. She closed by inviting all conference participants to take an active part in the discussion to agree on strong conclusions for the Commission to take into account as they develop the strategy.

3.3 Parallel sessions

The session covered six topics relevant to the plastics strategy, across two sets of parallel sessions. Each topic session focused on the challenges to be addressed, what is already being done, and the drivers and support required to deliver action at scale across the EU.

3.3.1 Instruments to encourage design for circular plastics

Context: The role of plastics, in terms of its function, is very important in a number of applications, for example, in helping to reduce food waste. However, the use of plastics, particular for packaging purposes, takes on a variety of forms and makes use of a variety of polymers, sometimes combining these with other materials in combinations. As such plastic products and packaging are often designed in such a way that it is difficult to reuse or recycle.

Moderator: Sarah Nelen, European Commission

Panelists:

- Carlos de Los Llanos, Director of Sorting & Recycling Department, Citeo
- Rauno Raal, General Manager, Estonian Deposit Organization
- Rob Opsomer, Lead, New Plastics Economy, Ellen MacArthur Foundation

The discussion:

It was asserted that good design was essential for the Circular Economy to work. The Ellen MacArthur Foundation had evaluated the waste reduction potential of design for reuse (20%) and recycling (50%). The remaining 30% was considered a target for innovation. Reuse and recycling had been estimated to represent \$10bn and \$1.1-1.6bn dollars' worth of opportunities respectively.

The first instruments discussed for encouraging design for circularity fell under the extended producer responsibility concept. It was proposed that the production of more recyclable and reuse-friendly items could be incentivised by changing the charging structure of tariffs such that they are proportional to both weight and item number. Fee modulation according to recyclability and reusability, accompanied by guidance on good design was also suggested. The French bonus/malus system, which also penalises items on the basis of their poor characteristics for recycling such as the use of opaque PET or mixed materials was put forward as an existing example.

The important role that DRS, another element of EPR, can play in facilitating reuse was highlighted. This role stems from the fact that reuse necessitates a high rate of return for items, in good condition, which DRS is able to incentivise. It is therefore a component to consider in the design of a system centred on reuse. It was pointed out that DRS requires more stakeholders (both retailers and manufacturers) to work together than other types of EPR, but in response, it was stated that all EPR systems have pros and cons, and it was important for them to be used such that they could work together.

Minimum requirement for packaging and minimum requirements for EPR schemes were mentioned as a way of encouraging design for re-use and recycling; in terms of which way of implementing EPR was appropriate, it was stated that it was very hard to assess EPR performance in different locations on a comparable basis, but that EPR should provide both a level playing field yet also have the flexibility to adapt to local conditions.

The Ecodesign Directive and product footprinting were raised as avenues for encouraging design. The Commission is working on both. Additionally, stimulating demand for recycled plastic would help influence the prevalence of design for recycling. Designing to yield equivalent quality for secondary raw materials and standards for certifying this would also help demand.

Once items had been designed for reuse, their preferential use over single-use and similar items should be incentivised, e.g. by a charge on non-reusable items.

For items which were not currently deemed recyclable, the example of an innovation prize, such as the £2m prize launched by the Ellen MacArthur Foundation and the Prince of Wales Trust.

Lightweighting was defended on the basis that avoiding the use of one unit weight of material had the equivalent benefit of recycling that weight of material three times. However it was held by others to exacerbate the problem of loss to the environment, and only to slow rate of increase in consumption rather than reduce consumption; it did not address the full lifecycle of an item.

The question was raised of how to incentivise design to reduce emission of plastics to the environment, with the example of the non-detachable can ring-pull given. The answer was given that aside from physical means such as the example given, designing products to have intrinsic value (e.g. a bottle versus a sachet) was a good way forward.

The importance of achieving the proper onus on all different levels of the waste hierarchy was acknowledged by more than one speaker; whether in the spirit of increasing waste prevention or in the spirit of the fact that 'real' recycling would have limits, at which point recovery via EfW (energy from waste) would be necessary.

The need to bring together all of the 'pieces' of the puzzle, with all stakeholders working together, was the final point made.

Measures that stakeholders would like to see in the Strategy:

- EPR with tariffs set by weight and item number
- Modulated fees such as the bonus/malus system for good/poor potential.
- Improvement of minimum requirements under the PPWD
- Deposit refund systems to complement design for reuse
- Include design for recycling/reuse criteria for plastic materials under the Ecodesign Directive
- Standards certifying equivalent quality for secondary plastic raw materials
- Funding for R&D
- Strengthen implementation of the waste hierarchy

3.3.2 Limiting microplastics' uses and releases

Context: Microplastics used either intentionally in products (such as exfoliating components in cosmetics, in detergents, or as industrial blasting abrasives); generated during the life cycle of products (for example, during production of plastic articles i.e. from pellets, through tyre wear, washing of clothes); from fragmentation of larger pieces of plastic waste.

Concern about the potential environmental and human health effects of microplastics has deepened significantly over the last ten years as the scale of issue

has become better understood. However our understanding is still evolving. As a relatively new issue, there is limited regulation or other measures in place to encourage innovation and investment in microplastic product design, use and emission management.

Moderator: Bjorn Hansen, Head of Unit (B2), DG ENV, European Commission

Panelists:

- Tanya Cox, Marine Plastics Project Manager, Flora & Fauna International
- Heather Leslie, Senior Researcher, Institute for Environmental Studies VU University Amsterdam
- Roberto Scazzola, Scientific and technical affairs Director, International Association for Soaps, Detergents and Maintenance Products (A.I.S.E.)

The discussion:

It was suggested that the Plastics Strategy needs to be more than a plan about recycling, anti-litter and bio-based solutions – it needs to be a ‘long term transition strategy’. It was broadly agreed that now is the right moment for action and that given there are so many different microplastics sources, multiple measures are necessary.

Contrary to other areas of the plastic strategy, for microplastics, action on recycling is not sufficient – ‘closing the loop’ will not solve the problem with microplastics. Action to prevent microplastic emissions reaching the environment, whilst relevant, are also insufficient. It was suggested that the burden cannot be placed on waste water treatment plants to remove microplastics – not only because of the technical challenges of doing so but also the potential costs involved, which would need to be passed on to consumers.

Responsibility should lie with producers of microplastic emitting products – drawing on the polluter pays principle to tackle the issue at source. There should be a focus on phasing out products and material combinations that are guaranteed to release microplastics. This reflects a need for precautionary action and better design to avoid the development of products without consideration of their likely microplastics emissions.

To support better product design and prevent new microplastics emitting products reaching the market, greater transparency and collaboration is required. It was suggested that if companies could work with academia and NGOs earlier in the product development process, microplastic (and other environmental) issues could be addressed before the product is launched.

Successful collaboration of this kind was recognised as hard to achieve. The biggest challenge is to generate trust and hence openness between collaborators. This takes time. More open dialogue and more transparency from business, particularly regarding product ingredients, were suggested as necessary to enable better collaborations.

Related to this, better definitions of microplastics is essential – to ensure that all stakeholders are talking about the same thing and avoid action focussing on too narrow an issue.

Microplastics is a relatively new issue. As such many areas of industry have only recently become aware of it. It was reported that the detergent sector, whilst contributing only a fraction of microplastics releases (estimated at 0.0015% of total annual EU releases) was already investing in alternatives and phasing out where

possible. It was recognised that the cosmetics sector have been taking voluntary action, which has supported a reduction of microplastics in cosmetics.

In this light, the benefit and role of voluntary measures was noted - they can potentially be implemented faster than legislative measures and can act as precursors to anticipated legislation (voluntary action in the cosmetics sector is expected to be backed up by regulation e.g. the UK is committed to ban microplastics in personal care and cosmetic products). However, it was also recognised that pressure from the consumer and media cannot be relied upon to stimulate voluntary change. It was suggested that there are markets failures and that a regulatory driver is necessary.

A solid legal framework is necessary for the long term: to ensure that voluntary commitments are respected, to ensure that activities of companies outside of trade associations are addressed, to create a level playing field between all producers, and to push for deeper change than might otherwise be the case.

Measures that stakeholders would like to see in the Strategy:

- Better definitions of microplastics
- Action to support greater transparency on product ingredients
- A focus on unintentionally added microplastics (given the scale of releases from such products)
- Third party standards

3.3.3 Bio-based plastics and biodegradable plastics: sustainable solutions

Context: Bio-based products are wholly or partly derived from materials of biological origin. Biodegradable plastics degrade under certain conditions in the environment or when treated in waste management facilities. Not all biodegradable plastics are bio-based and not all bio-based plastics are biodegradable.

Although still a small segment of the market, production of biodegradable plastics operates today at industrial scale capacity. However, there are concerns regarding the extent of biodegradability claims and impacts of such materials on the marine environment.

There is an emerging market for bio-based plastic, which can decouple plastics production from virgin fossil fuel feedstock. However there are concerns regarding the land resources required to produce bio-based plastics. Further, bio-based plastics do not directly address issues of end of life management of plastic waste.

Moderator: Rana Pant, Team Leader Directorate Sustainable Resources - Bio-Economy Unit, JRC

Panel members:

- Kristy-Barbara Lange, Deputy Managing Director Regulatory Affairs, European-Bioplastics
- Nina Maier, Executive Secretary of the Interest Group on Plastics, European Network of the Environment Protection Agencies
- Catia Bastioli, CEO, Novamont

Discussion:

The potential benefits of using bio-based plastics were considered – can bio-based feedstock help address the issue of fossil fuel use and greenhouse gas emissions? How sustainable are bio-based feedstocks over the longer term if they start competing for space with food production? The potential for biodegradable plastic waste as a feedstock needs careful consideration.

Differing views were raised over the biodegradability potential of bioplastics and whether these are an effective solution to address the problem of marine litter. Stakeholders have, for example, pointed to several studies demonstrating the lack of degradability of bioplastics in the environment (as opposed to results from lab tests). Industry representatives also expressed concerns that bioplastics might end up contaminating waste streams.

Standardisation of measurement of biodegradability is needed – under ‘real life’ conditions – as well as clearer definitions of the terms “bio-based” and “biodegradable” plastics. Furthermore, a robust life cycle assessment of bio-based plastics is necessary to understand their effective impact on the environment.

It was noted that separate collection of biodegradable plastics is essential as these are often ill-adapted to the classical waste collection and treatment process. There is also a need for separate collection of organic waste and plastic waste. Industry representatives highlighted “they don’t want plastics to end up in compost”. Good governance and collaboration across the value chain is also necessary for biodegradable plastics to work in practice. There is a need for further research on different feedstocks for plastic production while ensuring a level-playing-field regarding sustainability criteria for fossil and bio-based feedstock.

Measures that stakeholders would like to see in the Strategy:

- The important role that bio-based plastics could play should be recognised
- Underline that bio-based resources combined with recyclability are key criteria for efficient product design
- Avoid broad use of biodegradable plastics unless they degrade fast in natural conditions (both land and marine)
- Take concrete actions to limit the harmful impacts of oxo-degradable plastics
- Ensure uniform definitions and standards for biodegradable plastics
- Include action towards separate collection of biodegradable plastic waste and organic recycling

3.3.4 Prevention of marine litter: addressing single use plastic items

Context: Single-use plastics are commonly identified as being problematic, mainly from the perspective of their presence in litter (on land and at sea), but as well in the difficulties that can be faced in recycling such items. Single-use plastics include items such as: plastic packaging for on-the-go food consumption (e.g. EPS clamshells); single-use takeaway cups and lids; drinking straws; disposable cutlery and crockery; crisps and sweet wrappers; cigarette butts; cotton bud sticks and ‘wet wipes’. The prevalence of single use items has steadily increased. But experience with single use plastic bags regulation suggests that significant progress could be made if suitable actions are implemented. Discussions were also welcomed on other items associated with marine litter, such as fishing gear.

Moderator: Michel Sponar, European Commission

Panel members:

- Monica Verbeek, Executive Director, Seas at Risk
- Stefanie Werner, Co-Chair, MSFD Task Group on Marine Litter
- Eamonn Bates, Secretary General, Pack2Go Europe

Discussion

The point was made that some of the items included in this discussion were packaging items, and some were not. Some had re-usable or truly biodegradable alternatives and some didn't. Different measures would be appropriate for different items. However if action was not taken, bans on items were still emerging, especially outside Europe, and the pressure to implement these will increase.

Data from the MSFD Technical Group on Marine Litter showed that in terms of harm to wildlife and the environment, single-use plastic items and fishing gear were having the most impact. Other data was presented that showed the consumption of single-use plastic items in Europe was at very high levels; with consumption rates roughly correlated to the relative prevalence of different items in beach litter.

To arrive at the 50% marine litter reduction target that the European Parliament have voted for, it was put forward that an ambitious EU-wide strategy was necessary. However it was also suggested that the marine litter target would be too hard to measure, and action to put in place policy measures was required rather than targets.

Because of the relationship between consumption and littering, and the priorities according to the waste hierarchy, a consumption reduction target was proposed. This could be implemented using amendments similar to the Plastic Bag Directive, targeting other items. It was commented that binding targets needed to have achievable time-frames associated with them.

Mandating green public procurement and including avoidance of single-use items in GPP guidance for food and catering was suggested as a way of improving the market for alternatives.

Life without single-use plastics was considered possible; single-use plastics serve comfort but not survival. It was also pointed out that there was public support for measures to reduce use and reduce loss to the environment. Providing incentives for the use of alternatives – that were also convenient (e.g. cotton bags) – was put forward as an effective approach that was well received.

It was suggested that as well as targeting the items themselves in a broad sense, sources and pathways for litter should also be analysed to produce appropriate measures. An action plan should take care to address both land-based and sea-based sources – ultimately, one stakeholder commented that all marine plastics were from land-based sources.

The importance of getting consumers to stop littering through education and awareness was stressed. This led to discussion about the effect of public awareness campaigns. On one hand, it was held that there was a limit to the effectiveness of public awareness campaigns and that effects were not often demonstrable. It was responded that campaigns had not been properly resourced over a sustained enough time period for them to be fully effective. Although it was further noted that where funding under Green Dot type EPR had been used for providing consumer information (€25m spent every year since 1992) it alone had not been able to obtain the required results.

Another key issue was the provision of the right infrastructure and opportunities to recycle – for example, ensuring that the items in question would be accepted in mixed dry recyclables.

The appropriate balance between different tactics – reduction, reuse, and DRS for high collection rates should be struck; each tactic should be used where appropriate. It was pointed out that DRS was considered a ‘low hanging fruit’ in terms of benefits. For some items, completely phasing out plastic use and substituting truly biodegradable materials – such as cotton buds – was seen as the best approach. Further, there was thought to be potential in avoiding consumption by design improvements; and also improving recyclability.

There was a call for shared responsibility amongst all stakeholders, and that manufacturers should not be made responsible for all of the costs; but they should pay for communication to the consumer. It was not accepted by a stakeholder that consumption statistics were a proxy for littering and it was asserted that solutions should be even-handed. They should avoid unfair discrimination against certain products; and care should be taken that issues were not addressed though the hurry to implement ‘quick fixes’.

The omission of enforcement in the discussion was noted – it was responded that revisions requested to the Waste Framework Directive would require littering to be made a criminal offence in all Member States.

On fishing gear, the existing recycling plants needed end markets for their raw materials, as well as a stable input of feedstock. The right stakeholders needed to be on board.

Measures that stakeholders would like to see in the Strategy:

- EU-wide legislation
- Consumption reduction targets and/or charges to incentivise reduced consumption, where appropriate
- Mandating GPP and including avoidance of single-use items in GPP guidance for food and catering
- Industry funding of education and awareness to prevent litter
- Deposit refund systems
- Provision of right infrastructure for recycling
- Shared responsibility for littering under EPR

3.3.5 Quality and pricing for recyclates

Context: The market for recyclates remains underdeveloped, hampered by issues of scale, quality and price. Supply is often constrained by a lack of access to large quantities of high quality materials, as well as by limitations in sorting and recycling technologies. On the demand side, virgin polymer plastics are typically cheaper than recycled ones (depending on oil prices) dis-incentivising the use of recycled plastics. Even where the costs are even, recycled materials present a higher risk in terms of poor or uncontrolled quality affecting manufacturing processes and potential product failures or customer complaints. Collection systems for plastics, especially packaging, are low quality leading to a high level of contamination and losses across the system. There is a need to develop high quality supply alongside increasing

demand in a step-by-step way that provides the right market signals to all players, encouraging investment and innovation.

Moderator: Luisa Prista, Head of Unit (D2), DG GROW, European Commission

Panelists:

- Markus Helftewes, Managing Director, DSD
- Timothy Glaz, Head of Corporate Affairs, Werner & Mertz
- Myriam Tryjefaczka, Sustainability and Public Affairs Director EMEA, Tarkett

The discussion focused on the obstacles currently faced and why the market for recycled plastics remains underdeveloped. The main obstacles were identified as the quality and quantity of input for recycling. This included issues linked to the availability and transparency of information on the origin of materials and their traceability, the lack of certainty on the volume of recycled materials available, and the costs of recycled materials. All of these issues need to be addressed.

It was widely agreed that the price of recyclates and of virgin materials has to reflect the environmental benefit (for recyclates) and/or the environmental costs (fossil based virgin materials) i.e. the external costs need to be internalised in order to provide the right price incentives for market development.

It is possible to have high quality recyclates. However this may take time to provide the necessary infrastructure, change in practices and market assurances to generate the confidence necessary.

It is necessary to have sorted collection and the infrastructure to deliver it. To support the effectiveness of this, education and awareness raising of consumers and local authorities is needed on the value of plastic waste and need for sorted recycling.

Transparency and traceability is to be incentivised in order to guarantee the quality of recyclates in the future, providing the assurances necessary to encourage investment and market growth.

Achieving economies of scale was considered a necessary condition – if the volume being handled increases then the costs of recycling will decrease.

The market alone will not solve the issue. Therefore, intervention will be needed.

Measures that stakeholders would like to see in the Strategy:

- Differentiated taxes for recycled / virgin materials (reflecting their external costs)
- Balanced push and pull measures
- Harmonised and effective EPR schemes
- Eco-design measures to provide high quality input for recycling and to secure volumes
- Minimum recycled content for some products and applications
- Standards for plastics to increase quality
- Demand side measures such as use public procurement
- Recycled content and recycled plastics to be in green public procurement
- Measures on traceability and transparency of plastics

3.3.6 Interface between product, waste and chemical policy: how to balance phasing out legacy substances with higher recycling rates?

Context: Increasing restrictions on the use of hazardous substances can create a considerable burden for the plastics recycling industry due to the often unknown origin of the plastic waste being processed and the presence and concentration of chemical substances of concern. The long lifetime of some plastic products (e.g. 2 years to 20 years) means that there is a long delay between producing an article and the moment when it reaches its end-of-life stage, where the materials can be captured, separated and recovered for recycling or re-use. By the time the product end-of-life is reached, the use of some of the substances of concern present in the recycled material may have been banned or otherwise restricted even though they were legitimately used when first producing the material. In such situations, or based on updates of hazard classification, the plastic material may have to be treated as hazardous waste. There is currently a lack of a clear horizontal approach on how to deal with legacy substances in recycled plastic.

Moderator: Enrique Garcia-John, European Commission

Panel members:

- Tobias Bahr, Director, European Automobile Manufacturers Association
- Ninja Reineke, Senior policy adviser, Chemtrust
- Nicolas Humez, Chairman of Hazardous Waste Europe

Discussion

The problem of legacy substances was outlined with respect to the automotive industry. It was explained that as long lived products, automotive vehicles, waste processes need to identify substances that were introduced 15 to 20 years ago, legitimately, but now are not permitted and would contaminate the recycled plastic waste stream. The automotive industry voluntarily introduced the IADS in 2000, which requires material manufacturers to disclose all material inputs listed in the 'global automotive declarable substance' list. This list changes over time due to the classification of new legacy substances. It was explained that there are limits to the level of information that can be recorded on the IADS, and that improving separation technology is necessary. To reduce the problem of legacy substances in the first place, better information is necessary to avoid 'regrettable substitution' (changes from one substance to another that may in the future become a legacy substance) to 'sustainable substitution'.

The risk to public health and the environment of the production of recycled products that contain toxic substances was highlighted; as well as the fundamental risk to the recycling market if public trust in the safety of products made using recyclates is undermined.

It was highlighted that the Commission's preparatory study for a non-toxic environment strategy, published in September, stated that harmful chemicals in products are inadequately regulated. Accelerated implementation and enforcement of chemical regulations is necessary – whereby recycled materials are compliant with chemical legislation, and the use of product exemptions reduced or eliminated. Such exemptions not only create the risks previously outlined but reward the old business/products rather than making space for development of the new technologies required for the future. In this regard, recycling targets must be re-

coupled with quality criteria to avoid the use of exemptions to aid achievement of recycling targets.

A clear distinction should be kept between the hazard based approach for assessing waste and risk based approach for products, to enable a balance between safe and efficient use of plastic waste resource. Investment in sorting technologies and implementation (recognising the limitations) of controlled loop recycling was considered necessary to avoid contamination across recycling waste streams.

It was suggested that recyclers need better information. It was recognised that there are new tools that can help build databases and provide more transparency of what chemicals are used in products. But decision support tools are also required to better support decisions that lead to sustainable (rather than regrettable) substitution.

The only sustainable circular economy is a clean one. The plastic strategy and non-toxic environment strategy must work together to this end.

Measures that stakeholders would like to see in the Strategy

- Information tools that provide improved traceability along the value chain
- Decision support tools and incentives that support and encourage sustainable substitution
- Better implementation of chemicals legislation, improved compliance of recycled materials with that legislation and reduction in use of exemptions
- Re-coupling of recycling targets with quality criteria
- Cooperation and support for investment in sorting technologies
- Coherence between the plastic strategy and non-toxic environment strategy

3.4 Closing plenary

3.4.1 Taking forward action

Moderator: Katrina Sichel

Speakers:

- Karmenu Vella, Commissioner for Environment, Maritime Affairs and Fisheries
- Ligia Noronha, Director Economy Division, UNEP
- Ado Lohmus, Estonian Presidency of the European Council
- Sirpa Pietikainen, Member of the European Parliament

3.4.1.1 Karmenu Vella, Commissioner for Environment, Maritime Affairs and Fisheries

Commissioner Vella spoke on ‘the way forward for the EU strategy’. The Commissioner stated he felt that ‘we are well on our way to delivering an ambitious plastic strategy’. He stated that ‘ambitious’ means a blend of measures – legislative and enabling measures and voluntary commitments. That an ambitious strategy requires financial backing, and that there will be funding to foster investment and innovation from Horizon 2020, Cohesion policy, EFSI and the Life programme.

The Commissioner stated that there are three clear principles: prevention, recycling and recovery, which he went on to discuss. We must do a better job at tackling the

problem before it begins – better product design and new materials; eliminating planned obsolescence; design for easier reuse, repair and recycling. Industry representatives have given him confidence that this is central to their thinking as well. Proportions of plastic waste recycled must increase towards those achieved for glass and metals. The Commission already proposed (in 2015) to ban landfill of separately collected plastic waste with a 55% recycling target for packaging – so the Strategy will include additional measures. The Commissioner would like to see Member States improving EPR systems, promoting products that are easier to recycle and using recycled plastic content. He cited that the strategy will promote uptake of recyclates and harmonise standards for secondary plastics.

He cited the finding of microplastics in drinking water, sugar, beer and honey stating that “we know we are part of the problem, but the problem is now literally becoming part of us”. There is no option but to significantly reduce single use plastics, foster their recycling and promote more sustainable alternatives. Both the Council and Parliament are recommending very strong measures against marine plastic pollution and microplastics. The political will is strong and growing.

He closed by noting that tackling the issues will depend also on what happens outside the EU and that there has never been a better time to implement new measures.

3.4.1.2 Ligia Noronha, Director Economy Division, UNEP

Ms Noronha was interviewed by the conference moderator about the global context for the Plastic Strategy. Ms Noronha noted that the ideas behind the strategy fit very well with what the UN is doing to work towards a “pollution free planet”. Pollution is not just about plastics, but there are many commonalities, such as the need for a value chain approach. There is a collective action problem – it cannot be solved individually, or just in Europe. It needs a cross-nation approach. What is really of concern is that it is not a technical problem, or even technical challenge – it’s a moral challenge – an issue of leadership. How do we improve on behaviour and leadership in reality?

In terms of taking things forward, Ms Noronha said that from the UN’s perspective there are a number of gaps. Waste management and collection infrastructure, notably in the developing world, is one. Another is knowledge, which is a prerequisite for creating the pressure for change at the political level. Finally, and very importantly, the alignment of private and external costs. Unless you have an internalisation of environmental impacts into pricing then nothing is going to change. As an extension to this idea, Ms Noronha also called for the media and companies to reduce pro-consumption messaging, and to internalise environmental costs into messaging. She cited that this has been done with tobacco for health impacts, and could the same principles can be applied for the environment.

Ms Noronha explained that she supports the combined use of legislation, market instruments and voluntary action to deal with plastics. You need legislation but also market instruments. If you only look at regulation without market instruments then you won’t enable the transition. Finally she pointed attendees to the United Nations Environment Assembly website that is asking for voluntary commitments to take forward voluntary action – so that those already showing the way forward can help those who would like to.

3.4.1.3 Ado Lohmus, Estonian Presidency of the European Council

Mr Lohmus began by echoing the problem of governance raised by other speakers, stating that plastic as a material is not the problem, but our mismanagement of it is. It should be in our minds that we are not tackling pollution once it is there, but are preventing pollution. The Estonian Presidency has set as a priority tackling and bringing together climate and circular economy policy. A comprehensive approach across resources, pollution, energy and climate change is necessary and a key enabler can be eco-innovation. The Estonian Presidency will prepare, starting with the first meeting of the council, conclusions on eco-innovation which will cover many important issues raised at the conference today. This includes (i) on transparency of products and information on hazardous substances and materials, (ii) creating the market for secondary raw materials and providing the financial incentives – not just financial instruments but reduction of value added taxes, and incentives for consumers e.g. deposit-refund systems; and (iii) better using ICT to create the tools that can support actions by producers and consumers. Ministers will have a first exchange of views on the Plastic Strategy on 19th December in the European Council.

3.4.1.4 Sirpa Pietikainen, Member of the European Parliament

Ms Pietikainen opened by echoing a key conference message – that "we have the technology, we know what the problem is, but the hurdle is the 20cm between our ears". She recognised that the circular economy is one of the toughest issues, but that plastics aren't bad materials. Rather there are just materials in the right places and the wrong places. She explained that we are so used to linear thinking – making plastics thinner, recycling better, and trying to do what you are doing slightly more effectively. But with the resource efficiency challenge, we need circular thinking and a real performance economy. This is a big challenge for all of the plastic related industries and producers.

Ms Pietikainen cited a number of issues that make circular plastics so challenging – from toxic substances to the multitude of different types of plastics – and the unresolved question on creating high level reuse processes and arresting emissions of microplastics. She closed by stating that the challenge was there and that if it cannot be solved then a "gloomy picture is ahead of us". She called for Europe to become a leader on the issue, noting that "if Europe doesn't take the lead, who will?"