How to prevent Plastics entering our oceans

Proposals to be put to UK government on behalf of members of the BPF Marine litter platform

Barry Turner
March 2018
Background

• A marine litter event was hosted on the 7\textsuperscript{th} Feb 2018 by the BPF due to:
  • A perceived lack of understanding of causes and sources of marine litter and waste
  • Possible lack of awareness of required interventions and how these may need to differ depending where in the world you are.
  • Lots of media profile but little in way of solutions
Background - Marine Litter Event

- Over 100 delegates
- Speakers with expertise from all over the world
  - included world renowned academics on marine litter, experts in behaviour change, waste management in the developing world, education, as well as leading companies in our industry and innovators in recycling
- Audience
  - included retailers, brands, trade associations e.g. FDF, NHC, BSDA etc, government officials from HMRC, DEFRA, WRAP etc.
- Purpose
  - to educate, show leadership and agree to create a forum to stop leakage of litter and waste into the environment.

Ocean plastic reduction
Pledge on marine litter

Due to the harmful effects of all litter and waste in our oceans we the attendees of the BPF marine litter event held on the 7th February 2017 agree to take collaborative action to reduce waste and litter entering our oceans.

This will include measures to:

• **PRN Reform:** Collaborate to ensure the revision of and the extension of the UK producer responsibility system supports the achievement of a truly circular economy, the elimination of waste and minimises the impact on the wider environment.

• **Littering & Environment:** Work with all relevant stakeholders to develop effective best practice measures to curb litter and the effects of its leakage into the wider environment. This will include support and collaboration on anti-littering and behavioural change and education initiatives.

• **Design:** Seek to collaborate to ensure our products are designed to ensure resource efficiency and end of life considerations are fully taken into account.

• **Waste management:** Openly share and develop best practice to improve waste management systems in the developing world.
COASTAL TOWN
#NEATSTREETS
CAMPAIGN IN BRIEF

ABOUT HUBBUB

ENVIRONMENTAL, SOCIAL AND FINANCIAL IMPACT

AMPLIFIERS

COLLABORATORS
As recently discussed at the SPF’s Marine Litter event, in summer 2017 we launched #StreetSAhead in Brighton & Hove in partnership with the council. It is a #RubbishStreet-style litter campaign tackling the specific challenges of a coastal resort.

Some #StreetSAhead highlights:

- 2,000+ local residents involved.
- 17 pieces of media coverage (broadcast, print, online and trade press) with a reach of 3.5+ million.
- 1,437 tweets with hashtag #StreetSAhead by 808 contributors, reaching almost two million people.

The campaign’s success has led to demand from other seaside towns for similar work. Most are too small to have a bespoke and long-term campaign on the same scale but have significant tourism. Southend attracts 6.6 million visitors per year, for example.
LOCATIONS

We believe this will be a popular offer and we have good relationships with several seaside towns.
我们将与以下地点合作:
- Southend (South East)
- Newquay (South West)
- Skegness (East Midlands)
- Scarborough (North East)
- Blackpool (North West)
- Bournemouth (South)
THE BENEFITS

This campaign gives BPF and its members the opportunity to build relationships and trust with local councils and the media and demonstrate a commitment to keeping our beaches free of litter. The BPF will:

- Demonstrate a commitment to finding creative new solutions to reducing marine litter.
- Build relationships with four to eight coastal town councils by enabling them to benefit from Hubub’s litter campaigns, improve their beach cleanliness and encourage residents and tourists alike to bin their litter.
- Back a high profile campaign which will receive exposure to millions of people local and national press attention in an authentic and meaningful way. As the first national campaign of its kind at a time when litter in the oceans is a key media issue we believe this campaign will generate enormous positive benefits for all stakeholders.
- Engage beach-goers throughout the UK with fun and engaging activities, while showing your commitment to a clean environment.

HOW WILL IT WORK?

- British Plastics Federation & Hubub will partner with local councils and Business Improvement Districts to deliver the campaign.
- Hubub will provide project management, design and all the necessary tools to deliver the work. Councils will act as a local delivery partner and subsidise optional elements such as bin vans.
- BPF members’ local staff may, if available, lead co-ordination of local businesses and provide on-the-ground leadership and support.
THANK YOU
ALEX@HUBBUB.ORG.UK

COSTS

This project has flexibility to be scaled up or downsized to suit the IPP’s requirements.

Indicative costs are:

- Four locations: £80,000
- Eight locations: £80,000

Hubbub could also deliver a pilot campaign in one location as proof of concept. If you are interested in testing this approach at a smaller scale please get in touch with us to discuss.
The Future of Plastic Packaging: eliminating plastic waste

An independent, industry-led, multi-stakeholder working group

Purpose
To create an ambitious roadmap and vision towards eliminating plastic packaging waste from across the soft drinks supply chain within the UK. This will seek to inform policy development and drive ambitious, collaborative business action, both in the short and long term, and to identify the optimum pathways for achieving the desired vision.

Key activities and output
Over an initial six-month period, commencing February 2018, the Cambridge Institute for Sustainability Leadership (CISL) will convene a working group, bringing together multiple stakeholders from across the soft drinks supply chain. Working group members will be encouraged to take a leadership role in the process, through a meaningful, inclusive process to build consensus and engage with the soft drinks industry as well as the retail, packaging and recycling sectors.

The key activities will include:
- Analysing current landscape of activity across the soft drinks supply chain to establish a clear baseline
- Scoping, defining and establishing an agreed level of ambition on ‘eliminating plastic waste from soft drinks packaging’ that will form a proposed vision
- Developing potential future scenarios in consultation with working group members
- Undertaking a back-casting exercise using the scenarios to map out potential routes/pathways to achieving the vision
- Identifying and addressing the most significant gaps or unanswered questions to achieving the optimum pathway(s) in order to develop a clear plan of action for the soft drinks supply chain, including identifying opportunities to shape policy both in the short and long-term
- Publishing a report setting out the vision and roadmap with recommendations for next steps

Timeline

<table>
<thead>
<tr>
<th>Summary</th>
<th>Deadline</th>
<th>Jul</th>
<th>Aug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial roadmapping exercise - agree boundaries for a long-term vision</td>
<td>29/03/2018</td>
<td>Workshop</td>
<td></td>
</tr>
<tr>
<td>Research and consultation with individual members</td>
<td>25/05/2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working group calls (C)</td>
<td>25/05/2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collate working group/research outcomes into final draft</td>
<td>25/05/2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Finalise roadmap with members</td>
<td>08/06/2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roadmap finalised, designed and launched</td>
<td>20/07/2018</td>
<td></td>
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</tbody>
</table>

Members will be expected to review their own progress in this and commit to actions that support implementation of the roadmap.

Contact details
For further details, please contact:
Eliot Whittington, Policy Programme Director, CISL: eliot.whittington@cisl.cam.ac.uk
Beverley Cornaby, Programme Manager, CISL: beverley.cornaby@cisl.cam.ac.uk
We have a responsibility, everyone of us. We may think we live a long way from the oceans, but we don’t. What we actually do here...has a direct effect on the oceans—and what the oceans do then reflects back on us.”

Sir David Attenborough

An Upstream Battle
Tackling marine litter at source

A collaborative initiative from Keep Scotland Beautiful and RECOUP
March 2018
**Issue**

Globally, it is estimated that 12.7 million tonnes of plastic enters the marine environment every year. In the UK it is estimated that almost every river will contain plastic related litter which eventually ends up in our oceans.

**Key fact - 80% of all marine litter comes from land**

Washed into gutters, blown into streams, lost down drains, carelessly discarded: all the litter that is dropped in our neighbourhoods, towns and cities has the potential to end up in the sea. And, in reality, it invariably does.

Worryingly, based on Keep Scotland Beautiful research, we have seen a year on year increase in the volume of land based litter since 2015, which inevitably means more and more litter is swept out to sea.

**Source to sea**

Understanding the ‘source to sea’ litter pathway is undoubtedly one of the most effective ways of reducing marine litter across the UK. But there is currently very little in the way of information and intervention to bring focus to this fact.

Whilst there has been a huge level of public and political interest in the environmental damage that marine litter causes our planet, how many people know:

1. How litter gets into the marine environment in the first place?
2. How to prevent it getting there?
3. The implication of their littering behaviour ‘downstream’?

Our initiative

From ‘source to sea’, this is the story of one of the world’s great iconic rivers, the magnificent River Clyde. Flowing through Glasgow and the Clyde Valley, it is intertwined with the lives of 1.9 million people, and is the symbolic bedrock of much of Scotland’s modern culture. Quite simply, the Clyde is of great strategic importance to Scotland.

From its source in the Lowther Hills close to the border with England, to the seaside towns which grace the Scottish Riviera, the Clyde has been the life blood of the country for centuries. Ship building began on its banks in the 15th century and it was at the heart of Scotland’s industrial revolution.

What has become obvious is that the very river which sustained us has become a vehicle for marine litter. As it winds through the communities along its length, the Clyde gathers litter and waste, delivering it to the Firth of Clyde, the Irish Sea and then on into the Atlantic Ocean.

An Upstream Battle

Shifting behaviours and environmental understanding

Over a period of 12 months, we will use the Clyde as the focal point to demonstrate to people that no matter the distance they are from the coast, littering of all items – including plastics, paper and packaging – contributes to Scotland’s marine litter problems.

We aim to:

1. Raise public and political awareness of the impact of littering on land as it affects our oceans.
2. Educate, inspire and empower people to change their littering behaviour.
3. Create a model of best practice that can be replicated on other major rivers and estuaries of the UK.
So, working in partnership, Keep Scotland Beautiful and RECOUP are joining forces to bring focus to this environmental issue. We will use our extensive experience, networks and capabilities to deliver a highly impactful and thought provoking initiative that will leave a legacy for future consideration.

We aim to raise awareness of the problem, inspire behaviour change, educate our people and, critically, to reduce the amount of litter and waste entering the seas. We are going to form a collaboration of stakeholders and give our nation’s key agencies the opportunity to connect with our ambition.
Our actions

Raising awareness

- We will use our extensive experience of managing public information campaigns to bring focus to the source to sea pathway.
- Following our highly successful ‘Sip Don't Tip’ exhibition, an engaging exhibit will be created and will travel to strategic locations along the Clyde, demonstrating the pathways of land based litter to the sea.
- The exhibit will be the first point of contact for local people and school pupils to connect with the initiative.
- A comprehensive communications plan will support the exhibition and opportunities will be available for partners and funders to engage with this.

Our actions

Inspire and empower

- People (a minimum of 50,000) will contribute to a major citizen science project collecting information about litter in the Clyde and on its banks using the Clean Europe Network Monitoring tool. The development of this tool was led by Keep Scotland Beautiful in collaboration with 12 other European partners.
- We will build an unparalleled database of common litter types and locations on the Clyde which will inform future actions.
- We will inspire volunteering and community clean up activity along the length of the Clyde.
- We will provide clean up kits, equipment, communications materials and health and safety information to 100s of volunteer groups within our networks.
- We will use our long standing relationships with the local authorities along the Clyde to support our interventions and voluntary action.
- In doing the above, each community will contribute to passing on a cleaner Clyde to the next community downstream.

https://ecsa.citizen-science.net/
Our actions

Educate

We will challenge young people in communities along the Clyde to research and propose solutions to stop litter entering our waterways. With outputs based on artworks or creative writing these will become a key component of the exhibit. RECOUP will provide experience based prizes to enhance pupils’ knowledge of the role of plastics in society and the operation of the circular economy. Our professional learning programme will improve teacher confidence in using litter and waste as a context for learning across the curriculum particularly through practical action, outdoor learning, philosophy for citizenship and STEM.

We will inspire curiosity to explore the issue of marine litter, as well as the implications for the circular economy. We will promote critical and creative thinking about the role of packaging, waste minimisation and how Scotland secures a sea change in our contribution to marine litter.
Target partners

The Scottish Government*
Marine Scotland*
Education Scotland*
The General Teaching Council
British Soft Drinks Association*
Marine Conversation Society*
Scottish Environmental Protection Agency*
Zero Waste Scotland*
Scottish Natural Heritage*
British Plastics Federation*
Foodservice Packaging Association*
Local authorities*

Convention of Scottish Local Authorities*
Clyde Marine Planning Partnership and Firth of Clyde Forum
Clean Europe Network*
Major tourism businesses –New Lanark, Riverside Museum, Glasgow Science Centre, Vikingar, Waverley Trust
Packaging Recycling Group Scotland*
Business Improvement Districts Scotland*
River Clyde Fishing, Clubs and Associations
Scottish Council for Development &Industry*
Clyde Rowing Club
RSPB*

Packaging Federation*
Scotland’s Towns Partnership
Greenspace Scotland*
Community Safety Glasgow*
Strathclyde Country Park*
The Quay Entertainment Venue
Braehead Shopping and Leisure Centre
Caledonian MacBrayne Ltd*
Caledonian Maritime Assets Limited*
Western Ferries*
Visit Scotland*
Scottish Canals*

*signifies those agencies/organisations that Keep Scotland Beautiful and RECOUP already engage with.
Shared ambition

- **Work in partnership with two of the UK’s leading environmental behaviour change charities.**

- **Support genuine innovation to tackle marine litter at source.**

- **Increase your understanding of the impact of land based litter on marine pollution.**

- **Share in the journey, as part of your company’s commitment to corporate, social and environmental responsibility.**

- **Take the opportunity to shape the PR story through media engagement and social networks.**

- **Help us to inspire, empower and educate people to change their littering behaviour.**

- **Stimulate engagement in what will be the largest citizen science project undertaken in Scotland.**

- **Demonstrate alignment with current political ambition in relation to environmental policy.**
Budget

Costs for An Upstream Battle are based on delivering the entire project, supporting both the proposed activities and the legacy aspects.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Budget</th>
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<tbody>
<tr>
<td>Major exhibition that will travel to a significant number of important, strategic locations along the Clyde</td>
<td>£25,000</td>
</tr>
<tr>
<td>Awareness raising – community engagement, behaviour change campaign, citizen science app development</td>
<td>£40,000</td>
</tr>
<tr>
<td>Communications, political engagement, social media, marketing and PR</td>
<td>£19,000</td>
</tr>
<tr>
<td>Curriculum based education programme for children and Professional Learning Programme for teachers</td>
<td>£66,000</td>
</tr>
</tbody>
</table>

The budget for the programme is £150,000. This is inclusive of the following:

1. Programme management and co-ordination.
2. Pre and post project environmental benchmark surveying.
3. Stakeholder engagement and partnership development.
4. Intervention materials and collateral.
5. Programme evaluation and measurement of outcomes.
6. Insurances, indemnities and corporate administration.

International context

An Upstream Battle addresses the following United Nations Sustainable Development Goals:

The vision of the Global Goals international action plan is to set out a positive vision for the future - to tackle poverty and inequality and promote sustainable development across the world.

There are 17 Global Goals which form the basis of a global partnership for sustainable development.
Our experience

Drawing upon the complementary experience of Keep Scotland Beautiful and RECOUP, An Upstream Battle will be the flagship project in reducing Scotland’s marine litter.

Keep Scotland Beautiful is one of the UK’s leading environmental charities.

We inspire 100s of thousands of people annually to engage in positive environmental action through our national campaigns, programmes and interventions.
We co-ordinate the national community engagement and clean up campaigns for Scotland’s local communities, beaches and public parks.
We advise the Scottish Government’s policy and practice on Marine Litter as members of the Marine Litter Strategy Steering group.
We deliver annually, Scotland’s litter and environmental quality auditing service, bringing together best practice from across all of Scotland’s local authorities and private land managers.
Our environmental education and learning for sustainability programme, Eco-Schools, is delivered into all of Scotland’s schools.

RECOUP is the UK’s leading authority on plastics waste and resource management.

We work across sectors so have a unique understanding of the whole supply chain.
We are acclaimed for delivering high value behaviour change interventions focused on plastics recycling.
We undertake research and analysis to identify good practices and remove barriers to the development of efficient plastics recycling systems.
We provide educational material and local promotional services to increase consumers’ use of current plastic collection facilities and to encourage reduction in littering.
We have successfully delivered the national Pledge4Plastics® initiative across England for many years.
We have close links with OPRL, WRAP, local authorities, Government bodies and trade organisations both in the UK and Europe.

http://www.pledge4plastics.co.uk
Join us

Keep Scotland Beautiful
Your charity for Scotland’s environment
www.keepscotlandbeautiful.org

RECOUP
RECyling Of Used Plastics Limited
www.recoup.org
We are taking action on sustainability by using our business and our brands to build a better future.

We'll collect all of our packaging so more can be recycled and none ends up as litter or in our oceans.

We'll lead the way in pioneering sustainable packaging – including renewable materials and smart new ways to reduce packaging waste.

Sustainability Action Plan

The Coca-Cola Company
Sustainable Packaging through Innovation

https://www.youtube.com/watch?v=sgUWxQG4r04

Lisa Foster
Sustainable Packaging Manager
Coca-Cola European Partners GB
lfoster@cokecco.com
Compostable Packaging: Confusion

Designing Packaging

Compostable Packaging: Challenges

Collection
Confusion
Contamination
Cost

Compostable Packaging
Compostable Packaging: Strategy

Strategy B
Ban on using compostable material for hot and cold beverage cups to be made from fibre + PE only

Why:
- Consumers are very confused
- Minimise compostable contamination in recycling streams
- Maximises value for fibre + PE extracted
- Send a clear message to consumers that these can be mechanically recycled

Compostable Packaging: Benefits

Use of renewable resources
Preserves finite resources for higher value applications

Shows responsible leadership
Lower end of life impact
Decouples growth from finite materials
Meets consumer demand

Compostable Packaging: Confusion

Compostable Packaging: Strategy

Strategy A
Mandatory use of renewable material for specific types of packaging that is not widely recycled in the local environment, using compostable material where technically viable
- flexible packaging
- contaminated food packaging
- fast food packaging

Why:
- Minimises impact on oceans and countryside (bio-based drop ins don’t solve)
- adds volume to a potential identifiable stream in the future
- potential increase in demand may offer affordability for developed and developing world
Anti-Disposable: Refill Systems

Worbarrow Bay, Dorset: UNESCO World Heritage Site

Compostable Packaging: What We Need

- Ban on use of ‘biodegradable’ and ‘degradable’
- Defined name for renewable and compostable materials
- Better collaboration between LA’s and organic waste processing plants
- Consistent, clear standards
- On the go collection stations
- One single logo to clearly identify home compostable packaging - ban on own brand logos
- Regulated, consistent marketing
Anti-Disposable: Successful Refill Systems

tracy@root-innovation.com

www.root-innovation.com
Guidelines for packaging technologists and developers who use plastic packaging

First edition 2006 – Seventh edition 2017
- Includes contributions from members and contacts across the packaging and recycling chain
- LINPAC
- INCPEN
- MILK
- RPC
- RPC BR
- Remma & Amut
- Velpak
- Acton
- WEAP
- Nordelk
- Legioplasta
- Enval

This essential guide for all those involved in the development and design of plastic packaging.
Guidelines for packaging technologists and developers who use plastic packaging

First edition 2006 – Seventh edition 2017

- Includes contributions from members and contacts across the packaging and recycling chain

- LINPAC
- INCPEN
- Milliken
- RPC
- RPC BPI
- Renmar & Amut
- Valpak
- Axion
- WRAP
- Nextek
- Logoplaste
- Enval

The essential guide for all those involved in the development and design of plastic packaging.
Recyclability Tables for each Polymer reviewed and revised by RECOUP on a regular basis
STREAMS & DESTINATIONS FOR PACKAGING DISPOSED ‘AWAY FROM HOME’

Primary Streams
- Litter
- Street Clean
- General Waste
- Recycling

Destinations
- Natural Environment
- Landfill
- Energy Recovery
- Recycling

Consumption

Considerations:
- Materials
- Size
- Colour
- Adhesives
- Components
- Labels

Pack reviews and independent recyclability assessments

Consumer Role In RBD
Will the consumer follow instructions? What effect will this have?
Recyclability By Design - Case Studies

Examples of rigid plastic packaging, assessed for capability of recycling

Easily recyclable and could be better
Tray below 40mm ht.

We have to be aware that some small trays are part of the packing process. Simply cannot pack without them.

This may be one of those.

Need to trial to establish how much of an issue this is.

Clear rPET tray (clam shell pack), removable sleeve, price label

Price label added (in store?) direct to tray (not to card sleeve)

Removable sleeve, removable top film

Clear PET tray, removable top film, recyclable card sleeve

Removeable sleeve

Clear PP pot with no additional labelling
Recyclability by Design - 'Away From Home' Packaging - best approach tbc.

- Case studies?
- Category reviews?
- Bespoke guidelines?
- Beyond Plastics?
- Which systems?

- Funding Support
- Become a RECOUP Member
- In Kind Support

Recyclability By Design 2018 programme plan

- Spring 2018
  - Summary / simplified version
  - Version for Product Developers
- Late 2018
  - "How to be a good recycler" - recyclability for the public
  - Review of recyclability of non-food packaging

PVC Shrink Sleeve

May prevent the bottle from correct sorting.
If PVC is included with PET bottles, this is a major contamination.
Big Count litter survey results

Litter recorded in 3 categories:

**Micro or meso plastics** – fragments smaller than 2.5cm
- Found in 84% of all quadrats surveyed
- In just one survey we found over 3000 pieces of micro plastic

**Sewage related** – sanitary towels and baby wipes
- Found in 81% of all quadrats surveyed

**Food related packaging** - food wrappers, bottle tops, cutlery and straws
- Found in 61% of all quadrats surveyed
TACKLING PLASTIC WASTE AT SOURCE IN DEVELOPING COUNTRIES

Mike Webster

Sources of marine plastics

Up to 70% plastics in the ocean is from mismanaged municipal solid waste in low-income countries

2 Billion (25%)
3 Billion (40%)

Where are the world’s largest dumpsites?

- Projection: Peter’s
- Data: Redrawn from ISWA Roadmap to Closing Dumpsites
Multiple benefits of plastics recycling

- Reducing pollution
- Improving health
- Providing income

Circular economy?

HEALTH IMPACTS

Nutritional malabsorption
Stunting - 4.5cm shorter by 8 yrs old
Doubled levels of diarrhoea
Educational underachievement
Six times the level of respiratory illness

The Gambia, 2015
Low value materials
Appropriate technology
Useful products
Local markets
Community-led
Enterprise building

Waste to Resource!

WasteAid’s mission is to transform lives by sharing recycling skills with the world’s poorest communities.

We work with partners and influence decision-makers to maximise our impact.
wasteaid supporters make it happen

Together we can make lasting change

TRASHMAN
@nasawasta

With the aid of @WasteAidUK tool kit and videos we have successfully trained 37 women on effective waste management. We are coming to your neighborhood “waste is Gold”

1-4 May - 13 Mar 2016 - Twitter for Android

Supported communities in 9 countries

Developed 34 community recycling facilities

Trained 363 recycling entrepreneurs

Impacted 124,000 lives

Toolkit inspiring another 13,300 people in 160 countries

Kenya 2016

Responsibility
Accessibility
Advocacy
#teamwork
SAVE THE DATE!

Walk for WasteAid
Bridging the Global Recycling Gap
London Bridges
23 June 2018

Supporting WasteAid

Professionally: producer responsibility, CSR, creating shared value
Financially: sponsor, fundraise, donate, payroll giving
In-kind: advocate, volunteer, partner

zoe@wasteaid.org.uk
The problem in the developing world

The sources of marine litter

Of the plastic that comes from land:

- Asia: 82%
- US & Europe: 16%
- Rest of the world: 2%

60-95% of plastic in the ocean comes from just 10 rivers

The most likely items to be found in the West

<table>
<thead>
<tr>
<th>Items found on beaches</th>
<th>Items found underwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nets + ropes</td>
<td>Fishing line</td>
</tr>
<tr>
<td>Plastic caps and lids</td>
<td>Plastic fragments</td>
</tr>
<tr>
<td>Cigarette butts</td>
<td>Fishing sinkers, lures, hooks</td>
</tr>
<tr>
<td>Crisp and sweet wrappers</td>
<td>Plastic food wrappers</td>
</tr>
<tr>
<td>Lolly sticks</td>
<td>Beverage cans (aluminium)</td>
</tr>
<tr>
<td>String and cord &lt; 1 cm diameter</td>
<td>Beverage bottles (glass)</td>
</tr>
<tr>
<td>Cotton bud sticks</td>
<td>Glass &amp; ceramic fragments</td>
</tr>
<tr>
<td>Plastic drink bottles</td>
<td>Plastic bags (grocery/retail)</td>
</tr>
<tr>
<td>Plastic food containers</td>
<td>Plastic spoons, plates, forks, knives</td>
</tr>
</tbody>
</table>

The problem

- Developing world...arises from the lack of waste management systems and open dump sites.
- Developed world...arises from careless or irresponsible disposal of packaging used for food and drink on the go and flushing of items not designed to be flushed and from litter left on our beaches.
- Common factors waste lost at sea from fishing or by those transporting materials or goods across the oceans.
Pledge on marine litter

Due to the harmful effects of all litter and waste in our oceans we the attendees of the BPF marine litter event held on the 7th February 2017 agree to take collaborative action to reduce waste and litter entering our oceans.

This will include measures to:

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• **Design**: Seek to collaborate to ensure our products are designed to ensure resource efficiency and end of life considerations are fully taken into account.

• **Waste management**: Openly share and develop best practice to improve waste management systems in the developing world.
Microplastics

- Small pieces of plastic 5mm or less in size
- Sources of microplastics

Source: Summary, 2016 Plastics in the Marine Environment: Where do they come from? Where do they go?

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- **Waste Management**: Openly share and develop best practice to improve waste management systems in the developing world.
What the Pledge will lead to

- By setting up a forum to bring experts together from all stakeholders to coordinate action in the 4 areas: First workshop meeting happening on 16th March 2018.
- Ensuring future producer responsibility is more strategic in directing funding and supports the changes we all need to see.
- Co-ordinated actions on education, littering, waste and behavioural change.
- For those items most likely to be littered examining whether there are better alternatives or designs and if so taking steps to migrate to those and reducing the use of non recyclable single use items.
- Promoting effective interventions in waste management to developing nations as well as in the UK to stop plastics entering our oceans.

Information about the event held on the 7th Feb 2018 can be found at
http://www.bpf.co.uk/media/download.aspx?MediaId=2933

Could the pledge be used as an example of best practice elsewhere?

- The pledge could be promoted as an example of best practice to CHOGM to be adopted by former commonwealth nations.
What is the recommendation to Government

- We being the plastics industry, retailers and brands and as part of the BPF Marine litter platform recommend that UK government for preparation for CHOGM the following regarding plastic waste and marine litter:
  - The establishment of forums in each country to enable collaborative interventions including:
    - A platform to be established in each country, whose purpose would be to understand each countries contribution to marine litter leading to effective proven interventions to capture litter and waste before it enters oceans in each country.
    - The platform would involve all stakeholders in each country and would enable the sharing of information and effective interventions between former commonwealth countries.
    - As the UK plastics industry has already established a forum in February this year in the UK which is supported by the the UK plastics industry, retailers, brands and other stakeholders such as experts in waste management, education, innovative recycling technologies and behaviour change, this could be used as a template of best practice.
    - Due to the UK having a well proven household and business collection system and being a leading recycler of plastic waste in Europe (no 7 out of 30 countries) and is developing chemical recycling to ensure more plastics can be more cost effectively recycled together with planned future interventions to improve further the consistent collection and recycling of plastics waste the UK can be showcased as having best practice in waste management of plastics.

Possible solutions in the developing world

- Many developing countries lack effective waste management systems for this reason a range of measures are required in those countries including:
  - If no collection systems exist implement rudimentary collection systems that are proven to work including models including those being operated by
    - Plastic Bank.
    - Waste Aid.
    - Engineers without borders Using Booms to stop floating debris entering our oceans.
  - Using booms to collect waste in most polluted rivers and stop it entering our oceans.
  - Ensuring landfill sites are correctly located and do not pollute rivers and oceans...
  - Implementing producer responsibility schemes if none exist to help fund the roll out of comprehensive collection and recycling of all materials...
  - Then using monies from producer responsibility scheme to aide in developing and investing in comprehensive collection and recycling systems.
  - Ensuring waste management systems are designed to recover as many items placed on the market as possible both currently and those envisaged to be placed on the market in the future.
  - Adoption of best practice in terms of handling raw material i.e. OCS.
WFO’s Mission:
Transforming Ocean Plastic

Raising Awareness
Fishing for litter & Beach clean ups

Closing the Loop projects

The most likely items to be found in the West

<table>
<thead>
<tr>
<th>Items found on beaches</th>
<th>Items found underwater</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nets + ropes</td>
<td>Fishing line</td>
</tr>
<tr>
<td>Plastic caps and lids</td>
<td>Plastic fragments</td>
</tr>
<tr>
<td>Cigarette butts</td>
<td>Fishing sinkers, lures, hooks</td>
</tr>
<tr>
<td>Crisp and sweet wrappers</td>
<td>Plastic food wrappers</td>
</tr>
<tr>
<td>Lolly sticks</td>
<td>Beverage cans (aluminium)</td>
</tr>
<tr>
<td>String and cord &lt; 1 cm diameter</td>
<td>Beverage bottles (glass)</td>
</tr>
<tr>
<td>Cotton bud sticks</td>
<td>Glass &amp; ceramic fragments</td>
</tr>
<tr>
<td>Plastic drink bottles</td>
<td>Plastic bags (grocery/retail)</td>
</tr>
<tr>
<td>Plastic food containers</td>
<td>Plastic spoons, plates, forks, knives</td>
</tr>
</tbody>
</table>

#BPFMarineLitter
Macro Plastics litter and waste reduction solutions in the UK

- Those solutions will require
  - Better co-ordinated anti-litter campaigns
  - Improved attention to design of packaging used for on-the-go beverage and food and reduced use of non-recyclable single-use items.
  - More consistent provision for the collection of recycling of on-the-go food and drink packaging.
  - A more circular approach to plastic packaging overall.
  - The utilisation of new emerging recycling technologies to complement and enable the cost-effective recycling of virtually all plastic packaging.
  - More support to enable improved collection of plastic from households and business and the roll out of new recycling technologies.
Microplastics

- Small pieces of plastic 5mm or less in size
- Sources of microplastics

Solutions Microplastics

- Several areas need examining however there is no doubt that the environmental impact of manufacturing man made textiles is far lower than alternatives but they shed fibres at a greater rate. Interventions are therefore required
  - To stop the fibres shedding
  - In filters in use in washing machines
  - In the way these man made fibres are washed see http://guppyfriend.com/en/
- Improved more effective filters in water treatment plants to stop microplastics and small items of plastics reaching our oceans
- The universal adoption of best practice in handling raw material through Operation Clean Sweep or similar initiatives.
- Examine if further measures are required.
Information available

www.polymerzone.co.uk

www.marinelitterthefacts.com

Operation Clean Sweep®

- Industry led initiative to ensure plastic flakes, pellets and powders are contained within sites.
- UK leads Europe with 220 manufacturing sites participating

34 Countries are signed up to Operation Clean Sweep