



# CULTURE BEYOND PLASTIC

BECKY HAZLEWOOD

ENVIRONMENTAL SUSTAINABILITY  
PROJECT MANAGER

JULIE'S BICYCLE



Environmental  
sustainability

Arts &  
creative  
industries



# HOUSE KEEPING

- Raising hands
- Asking questions
- Recordings
- Audience



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# AGENDA

- Plastic Pollution- causes and effects
- Challenges and solutions to reducing SUP in the CA sector
- Innovation and inspiration from within and outside the sector
- Practical, Programming and Design case studies
- Guest Speaker: Bournemouth Arts by the Sea Festival
- Questions

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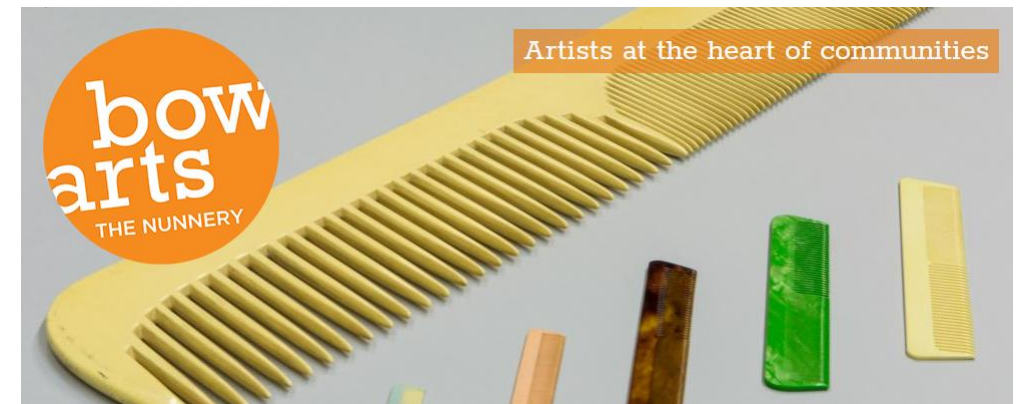
'Washed Ashore' at the Smithsonian Zoo  
Washington DC





# HISTORY OF PLASTIC POLLUTION

- Plastic was invented in its first form 'Parkesine' by Alexander Parkes in 1862 in Hackney Wick, London
- A recent exhibition by Bow Arts explored the history of plastics



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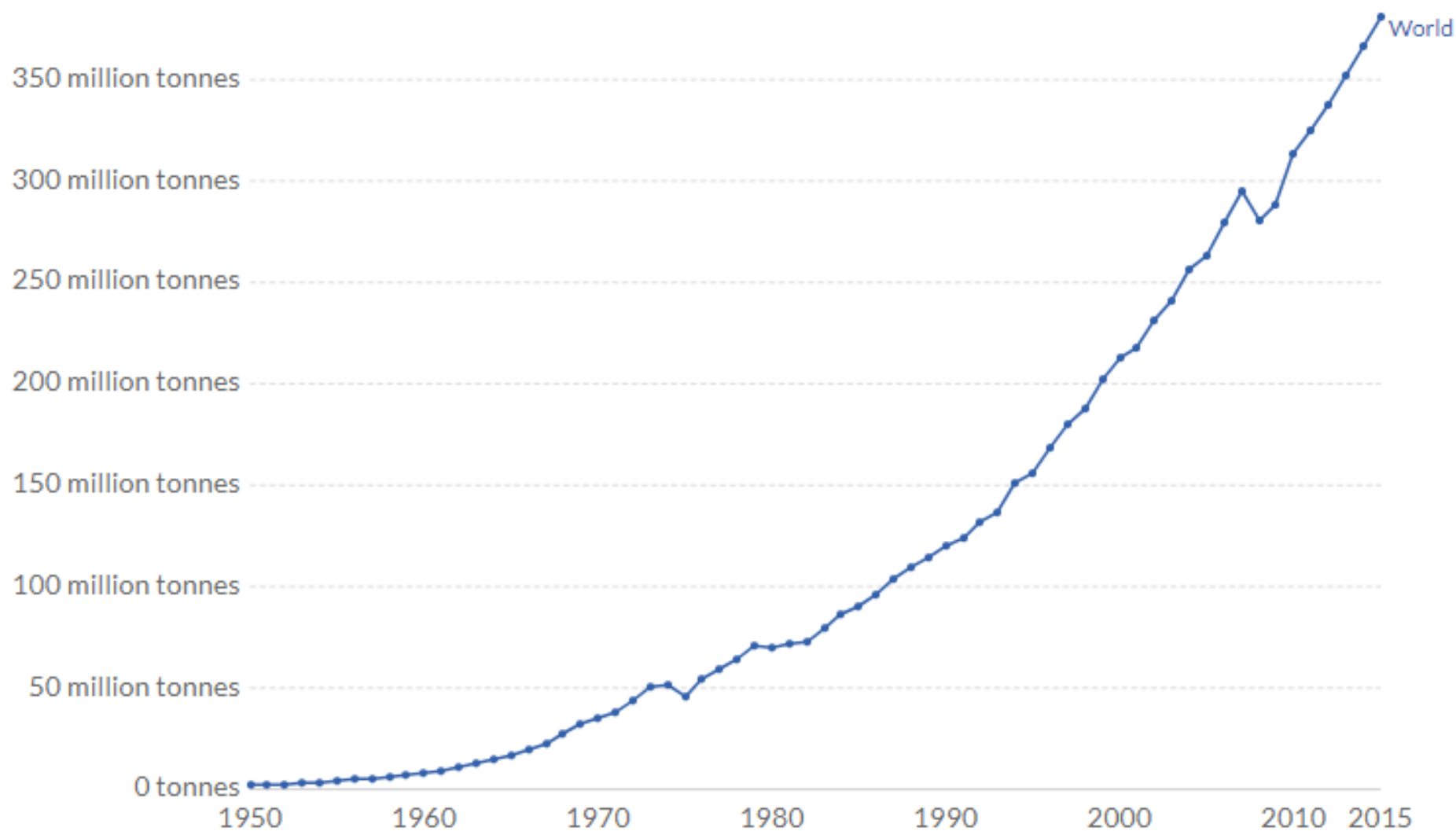
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# Global plastics production

Annual global polymer resin and fiber production (plastic production), measured in metric tonnes per year.

Our World  
in Data





# 153 YEARS IN EXISTENCE: >500 YEARS TO DEGRADE

- Around 80 million tonnes of plastic packaging is produced annually and this is expected to triple by 2050.
- 8-12 million tonnes enters the oceans every year.
- By 2050 it is predicted that the oceans will contain more plastic by weight than fish.



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# The pathway by which plastic enters the world's oceans

Estimates of global plastics entering the oceans from land-based sources in 2010 based on the pathway from primary production through to marine plastic inputs.

**Global primary plastic production: 270 million tonnes per year**

**Global plastic waste: 275 million tonnes per year**  
It can exceed primary production in a given year since it can incorporate production from previous years.

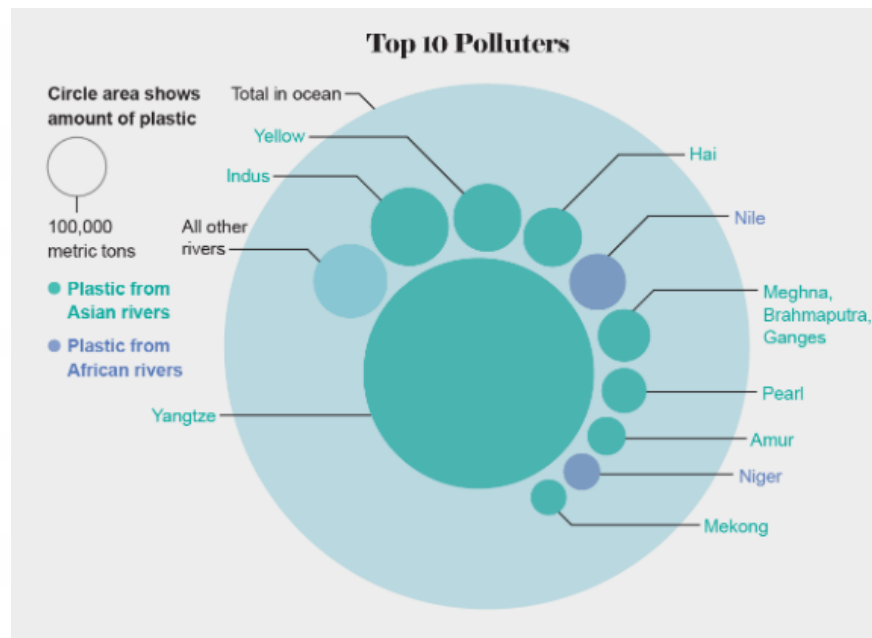
**Coastal plastic waste: 99.5 million tonnes per year**  
This is the total of plastic waste generated by all populations within 50 kilometres of a coastline (therefore at risk of entering the ocean).

**Mismanaged coastal plastic waste: 31.9 million tonnes per year**  
This is the annual sum of inadequately managed and littered plastic waste from coastal populations. Inadequately managed waste is that which is stored in open or insecure landfills (and therefore at risk of leakage or loss).

**Plastic inputs to the oceans: 8 million tonnes per year**

**Plastic in surface waters: 10,000s to 100,000s tonnes**  
There is a wide range of estimates of the quantity of plastics in surface waters. It remains unclear where the majority of plastic inputs end up — a large quantity might accumulate at greater depths or on the seafloor.

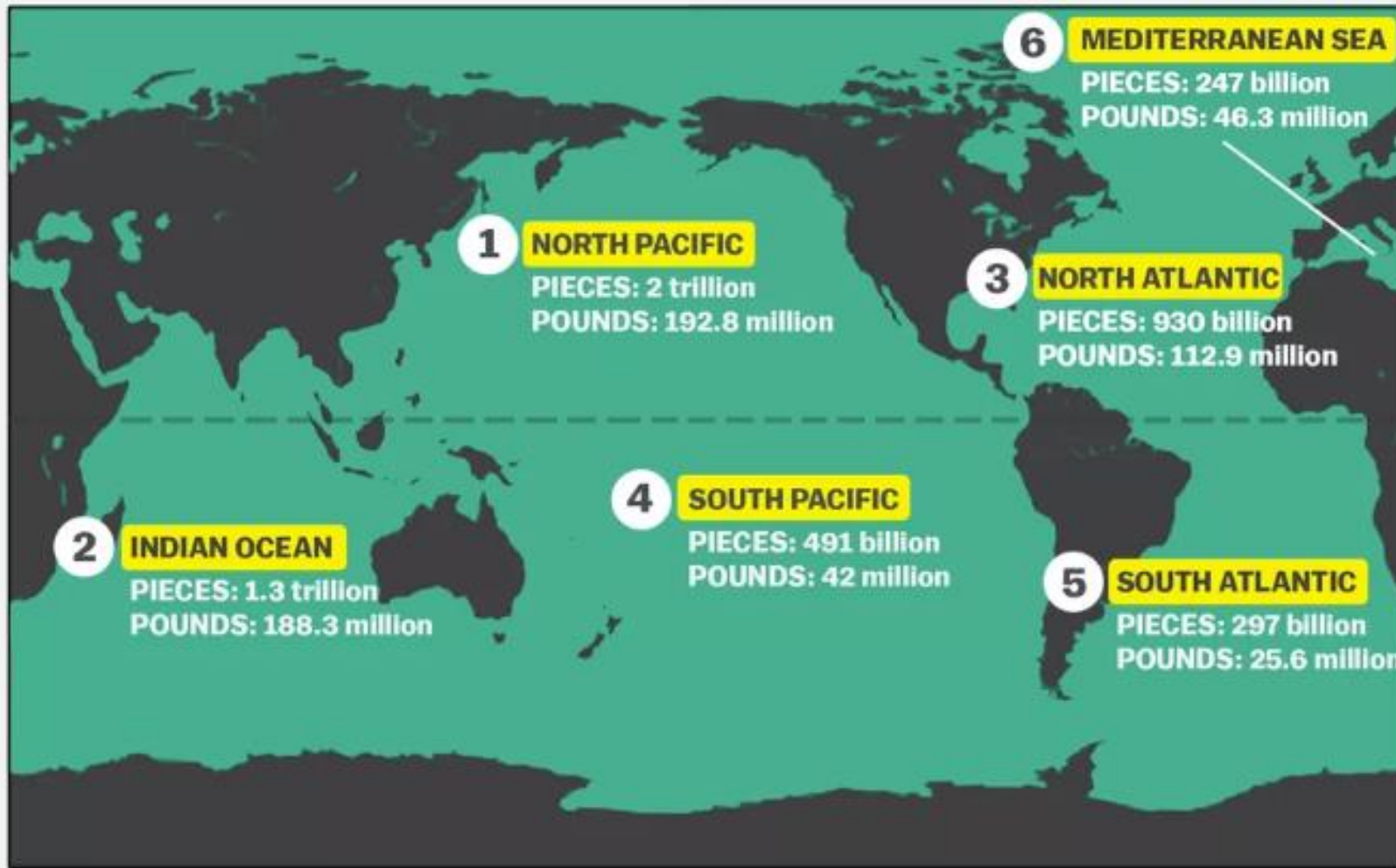
2 billion people living within 50km of coastline



Credit: Amanda Montañez; Source: "Export of Plastic Debris by Rivers into the Sea," by Christian Schmidt et al., in *Environmental Science & Technology*, Vol. 51, No. 21; November 7, 2017



# The Scale of the Problem...Plastics in the World's Oceans



- 24 expeditions (2007-2013) across all five sub-tropical gyres
- 5.25 trillion particles weighing 268,940 tonnes
- Every year 8.5 tonnes settles to the ocean floor
- 92% of the 5.25 trillion particles are estimated to be microplastics

# Problems associated with Plastic Pollution





# PLASTIC PROBLEMS: WILDLIFE

- 1 million seabirds and 100,000 marine mammals die from plastics and entanglement each year (WWF)
- Impacts on terrestrial species that are key to functioning ecosystems.
- Plastic ingested by any animal can obstruct digestive tracts and puncture internal organs, causing long term suffering and death.
- 98% of Laysan Albatross have ingested some sort of plastic.

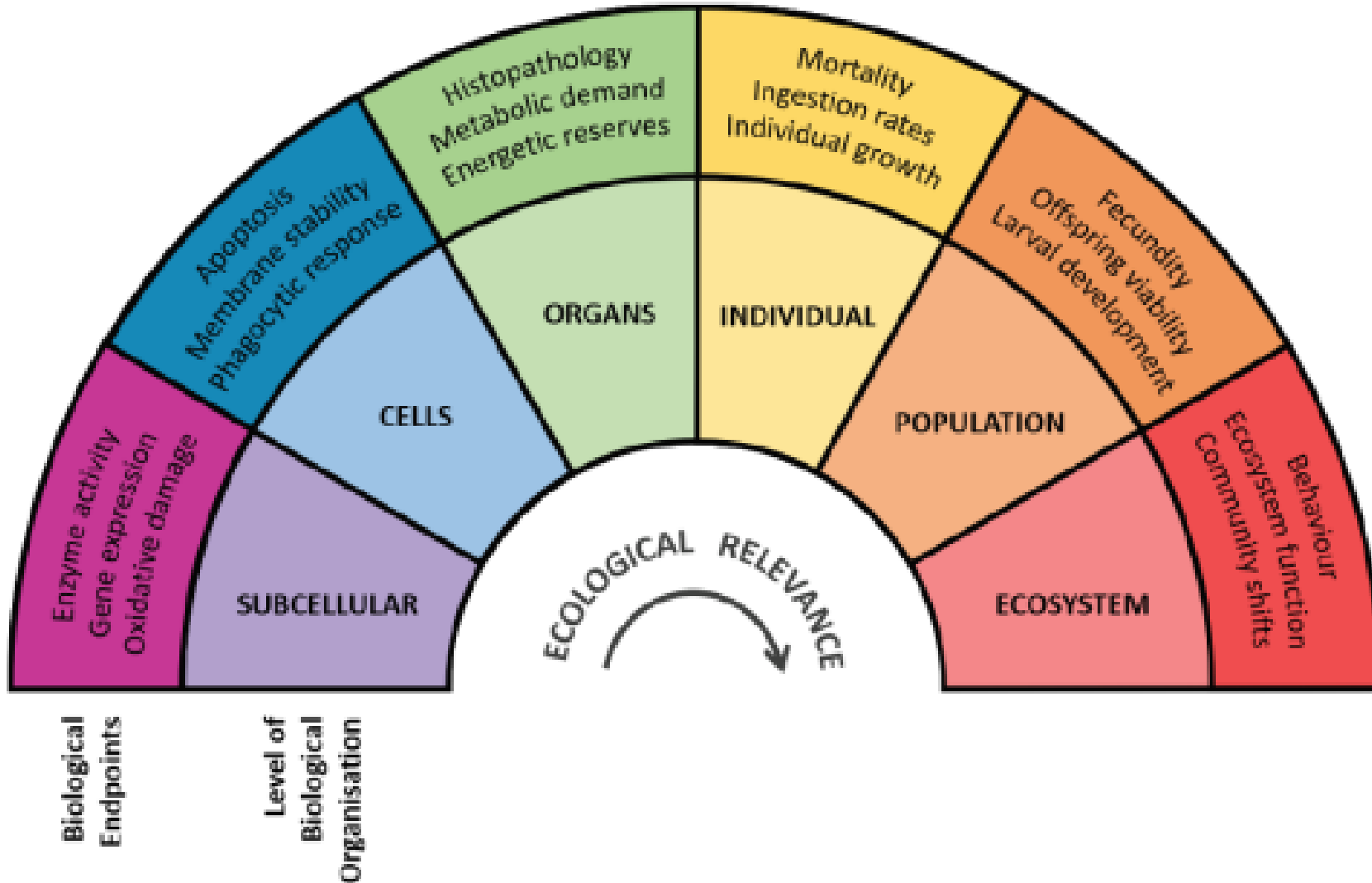


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# Reported impacts of nano and microplastics on biota at various levels of biological organisation



- In controlled experiments, high concentrations of these particles have been shown to cause physical harm to the environment and living creatures, including inducing inflammation and stress.
- Limited studies on impact of nano-particles and of plastic particles at community or ecological level

Ref: A scientific perspective on microplastics in nature and society  
SAPEA, 2019



# PLASTIC PROBLEMS: CHEMICAL AND HEALTH IMPACTS

- PET e.g. bottles- act as molecular sponges for toxins
- POPs Lipophilic- attracted to fatty tissues and oily substances
- Plastic particles in the WPGP are one million times more toxic than the ambient seawater they float in
- Additives in plastic are linked to numerous, serious health impacts



**TOXINS ACCUMULATE OVER TIME**  
ONCE AT SEA NURDLES ATTRACT HARMFUL TOXINS TO THEIR SURFACE. THESE CHEMICALS DO NOT BREAKDOWN, THEY DO NOT GO AWAY.

<chem>ClC1=CC=C(C(C1)Cl)C2=CC=C(Cl)C=C2</chem>	<chem>ClC1=CC=C(Cl)C=C1C2=CC=C(Cl)C=C2</chem>	<chem>ClC1C(Cl)C(Cl)C(Cl)C1</chem>	<chem>CC(C)C(C)C1=CC=C(O)C=C1</chem>
<b>DDT</b>	<b>PCBs</b>	<b>HCH</b>	<b>NPEs</b>

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# SOURCES OF PLASTIC POLLUTION IN THE CREATIVE ARTS SECTOR



## Catering:

- Cups
- Plastic bottles
- Food trays
- Cutlery
- Packaging
- Straws

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- CDs,
- Merchandise
- Travel/packaging
- Personal goods/cosmetics



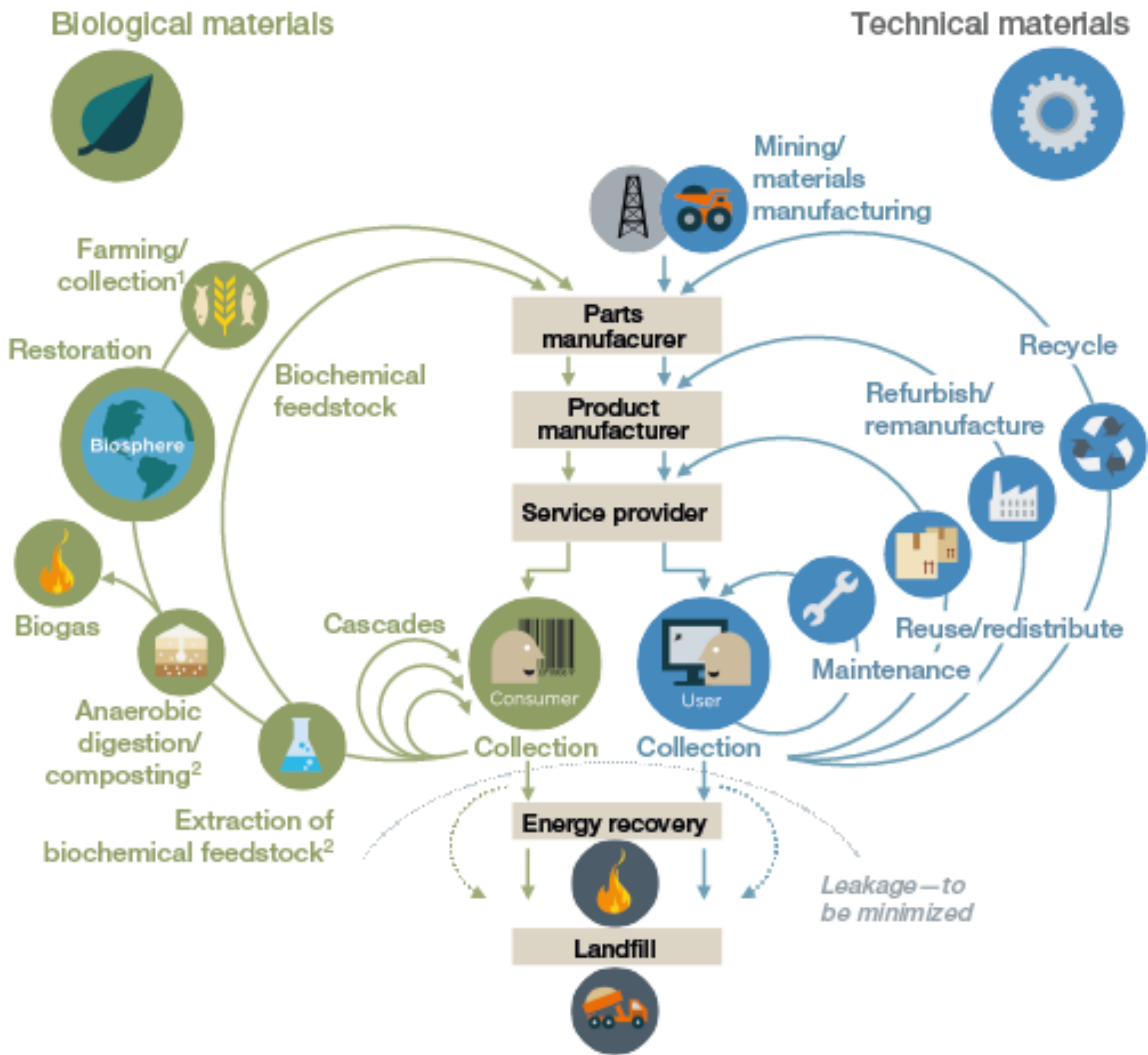
## Production:

- Props
- Scenery
- Costumes
- Exhibition materials
- Merchandise
- Signage





# REDUCING IMPACTS- CIRCULAR AND LIFECYCLE ANALYSIS



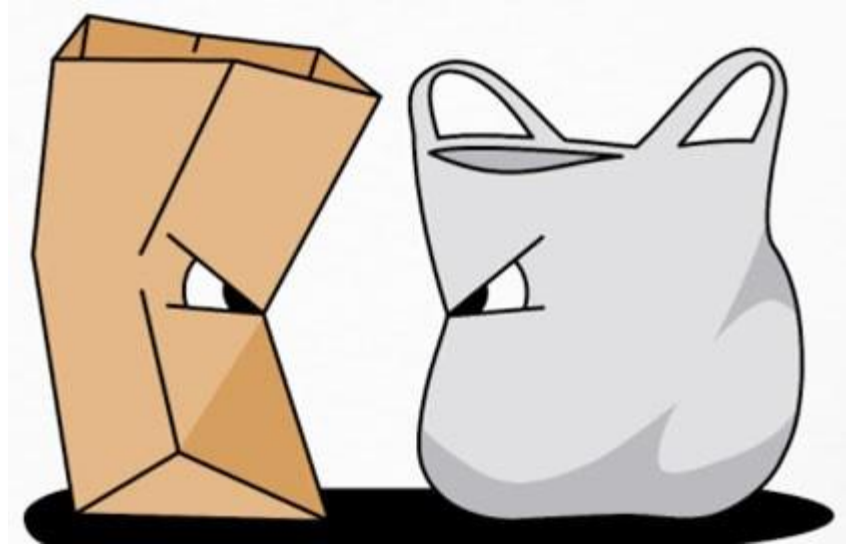
## Responsible Waste Management Hierarchy



waste4change



# CHALLENGES FOR THE CREATIVE ARTS SECTOR



- Choosing the lowest impact materials
- Understanding recycling and disposal options



- Venue H&S and policies
- Consumer expectations and habits



- Financial concerns e.g. loss of sponsorships
- Difficulty engaging suppliers, supply chains and waste contractors

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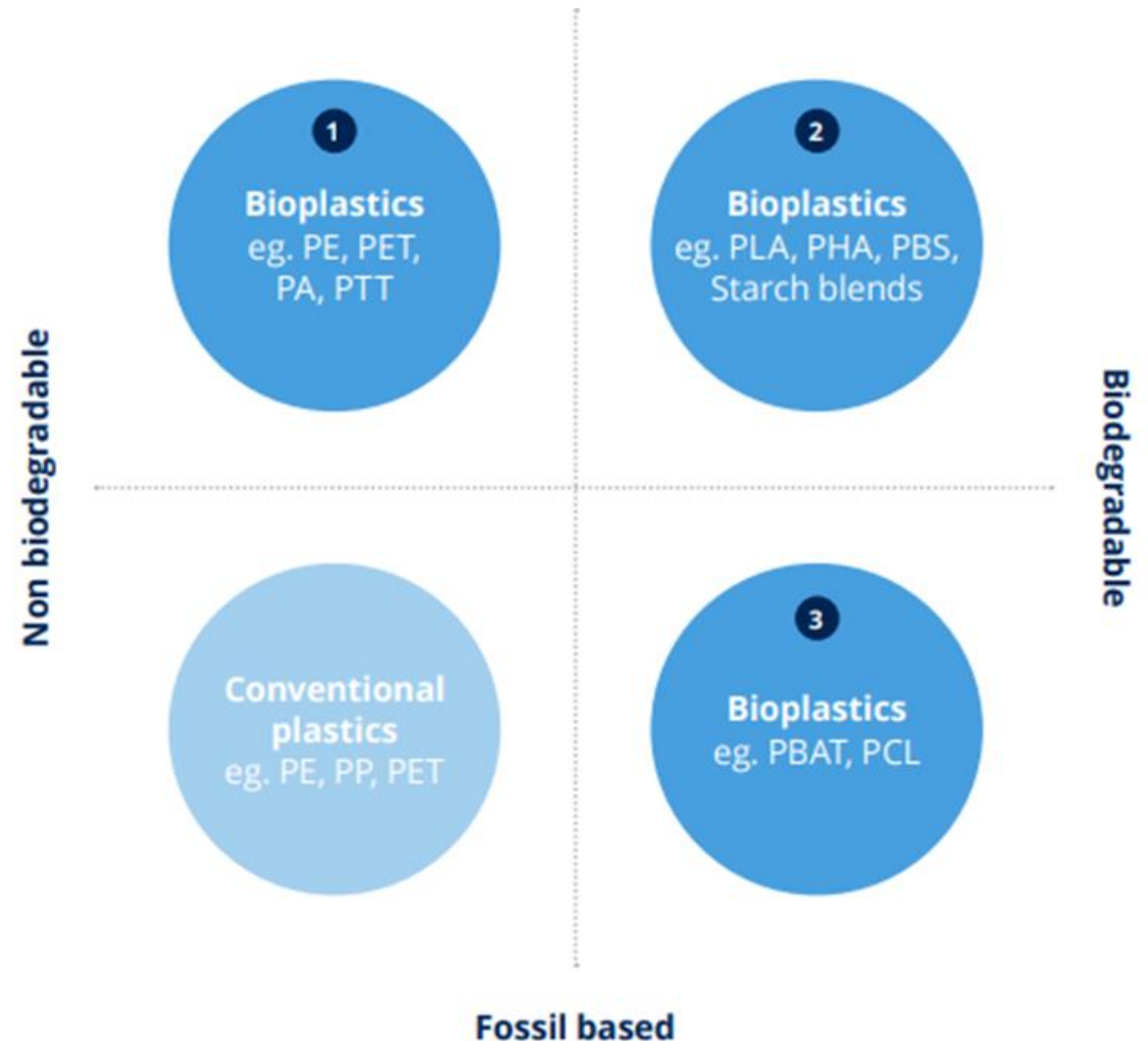




# UNDERSTANDING TYPES OF PLASTICS AND ALTERNATIVES

	Non-biodegradable	Biodegradable	Compostable
Recycling	✓	✗	✗
Energy from waste	✓	✓	✓
Landfill	✓	✓	✓
AD	✗*	✗*	✗***
Composting	✗	✗**	✓

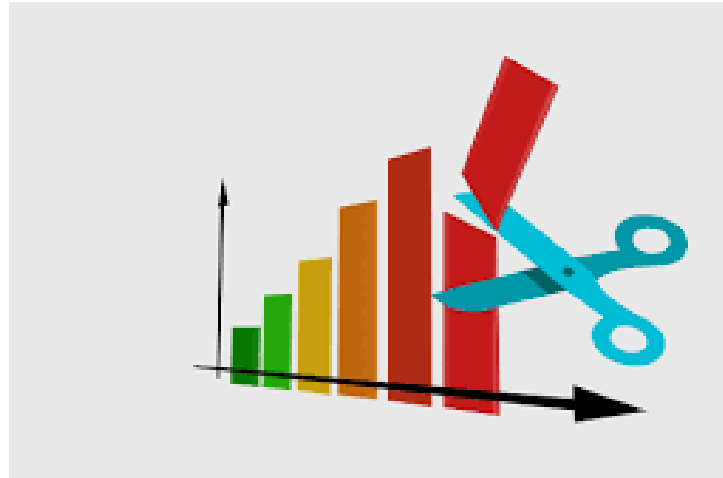
Plastic packaging is made from seven different types and some are recycled more often than others



# OPPORTUNITIES



- Audience engagement
- Reputation benefits
- Artistic programming
- Staff wellbeing and motivation



- Reducing waste management costs
- Increasing sustainability
- Future-proof against legislation changes



- Innovation
- New circular business models
- Partnership opportunities e.g. Start-ups,





## OPPORTUNITIES: WHERE TO START?

- Start with an audit to assess what plastics are being used where, why and how and then:
- **Avoidable** – can it be avoided in the context within which it is being used?
- **Replacement** with reusable or alternative options
- **Design** – selecting the type of plastic, design and manufacture to increase recyclability (using recycled content where practicable)
- **Investment** in labelling, messaging and collections/recycling infrastructure to boost retrieval and recycling
- WRAP: eliminating problem plastics

# CONSIDERATIONS



- Available waste management contractor options

- Controlling waste streams

- Small scale/onsite options

- Environmental impacts of material choices e.g. Competing land for crops

- Carbon content

- Engaging staff, audiences and stakeholders





# CASE STUDIES- BEST PRACTICE: FESTIVALS

- Plastic Challenges: Costumes, glitter, cups, catering, packaging, tents, staging, scenery...



Hard Cups, DGTL, 2017

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## Circular food court

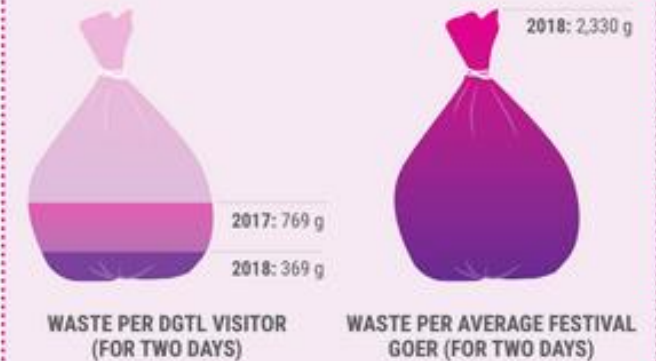
- Sustainable sourcing
- Resource collection point
- Innovative composting
- Closed loop food system
- Audience visits and workshops at urban farms

## Resource street

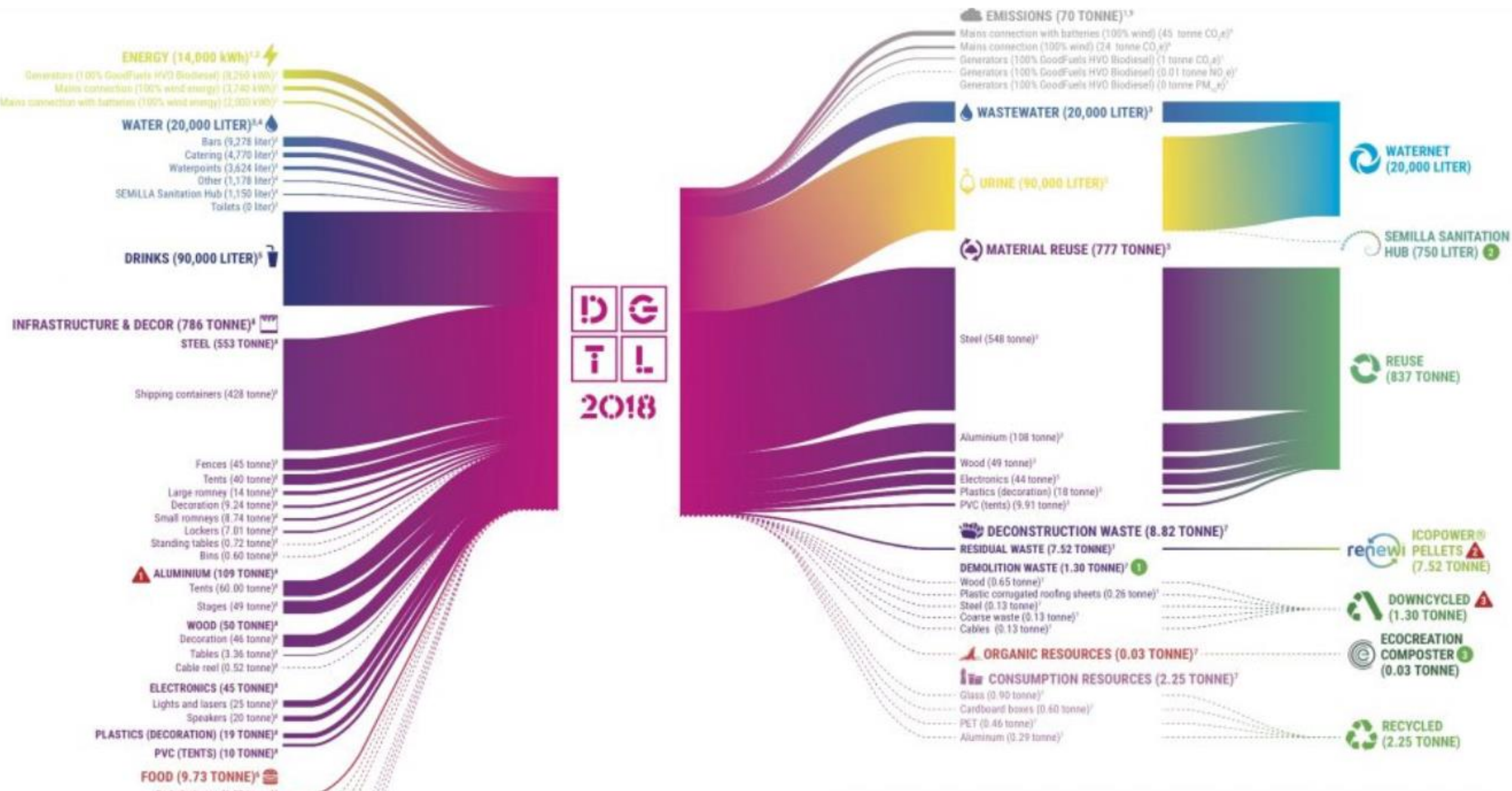
- Reusable cups and deposit scheme
- On-site recycling hub
- Innovative recycling – urine to drinking water and fertilizer, bottle caps to oil



IN 2018, THE AVERAGE FESTIVAL GOER PRODUCED 7X MORE WASTE THAN A DGTL VISITOR. COMPARED TO 2017, DGTL VISITORS CUT THEIR WASTE IN HALF THIS YEAR.





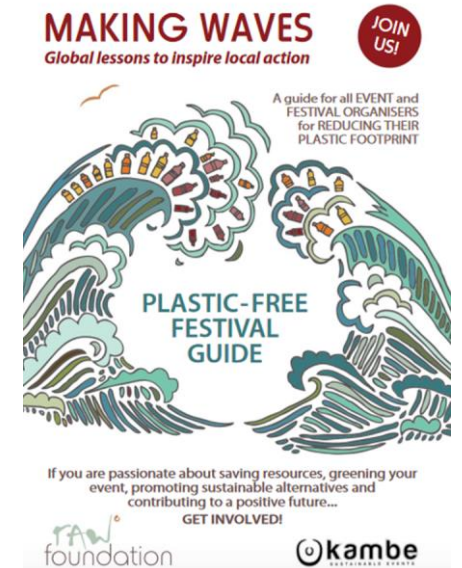




# SHAMBALA FESTIVAL AND RAW FOUNDATION: SUP FREE FOR 4 YEARS

- Marine litter instillation, film screenings and workshop spaces.
- Petition to end the use of 'toxic plastics everywhere by 2030'.
- Bring a bottle campaign
- Re-useable bar cups
- Reusable coffee cups- BYO or pre-order/buy a Shambala Eco-bamboo cup on arrival
- Banned sale of disposable plastics
- Next: feminine supplies, glitter, audience choices

“Many lifecycle analyses find that reusable plastic bar cups used 3 times have a lesser environmental impact than a typical single-use cup despite the transportation and washing impacts.”



# CASE STUDIES: VENUES, PROMOTERS AND CAMPAIGNS: WORLD RISE & TAIL AND TWIST



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THIS VENUE  
HAS SAID **NO**  
TO SINGLE USE PLASTIC

[NØ PLASTIC  
MOR= FUN]

#targetplasticfree



A project by:  WORLDRISE

with the support of:  OFF  
OCEAN FAMILY  
FOUNDATION

 [www.worldrise.org](http://www.worldrise.org)

 @worldrise

 @worldrise\_omlus



# ZOOLOGICAL SOCIETY OF LONDON #ONELESS

- Community of organisations leading change
- Science-based Thames plastic bottle monitoring programme with Thames21
- Nearly 50% of plastic removed from the Thames were water bottles.
- Partnership with Mayor of London and fountain supplier MIW Water Cooler to install 28 drinking fountains across 11 London boroughs saving 155,000 single use plastic bottles in <1 year with a pledge from the Mayor to install 100 more fountains.



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# CREATIVE REPOSSES





# STRAWPOCALYPSE BY VON WONG



- Raise awareness of single use plastic pollution in the ocean
- 10ft tall 36 feet long made of 168037 straws
- Built over six months in Vietnam
- Collected from Starbucks and local clean up groups



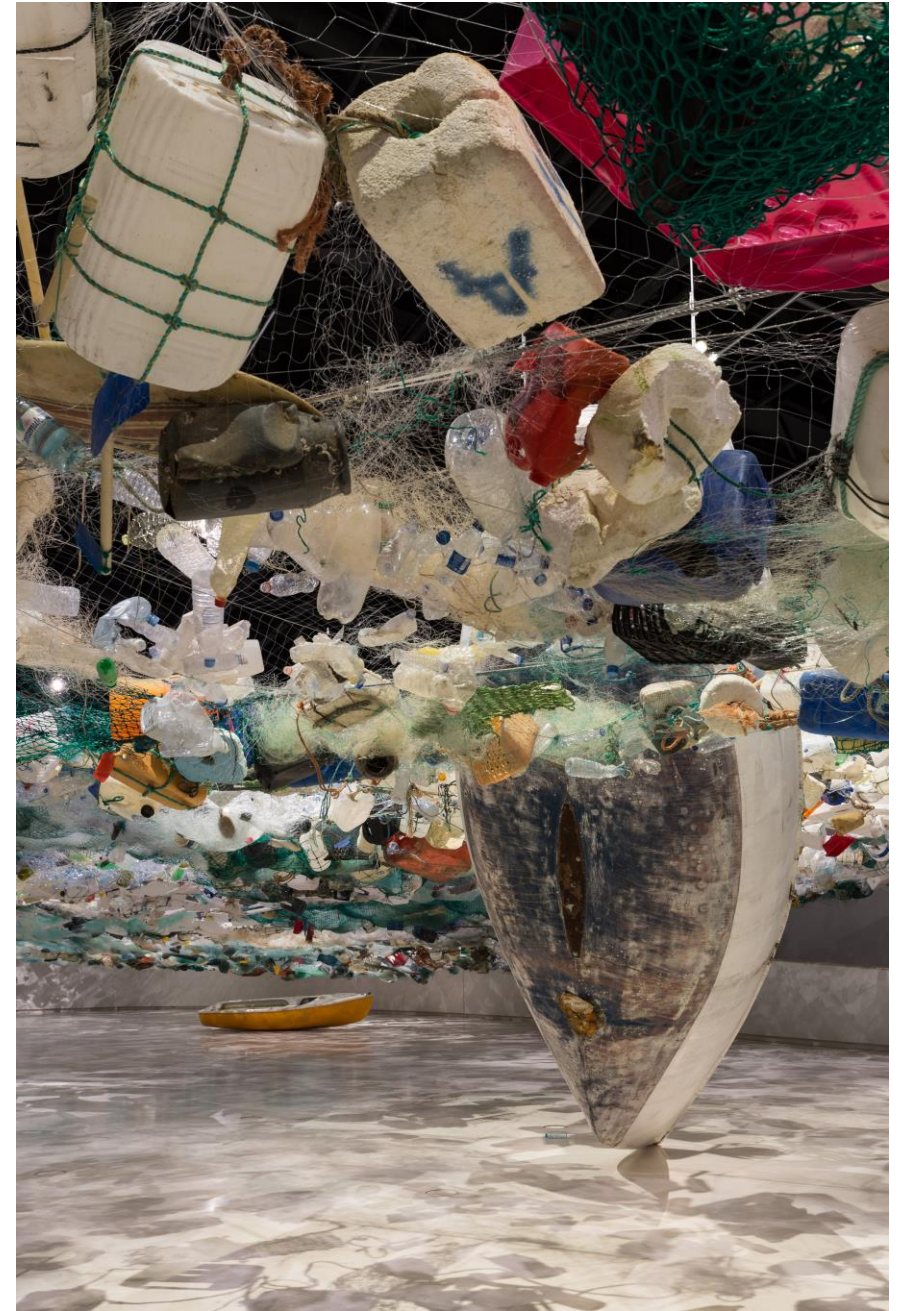
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'OVERFLOW' BY TADASHI KAWAMATA,  
MUSEUM OF ART, ARCHITECTURE AND  
TECHNOLOGY, LISBON





# @THAMESPLASTIC AND THE EXPLORATION OF FUTURE DUST, MARIA JOSÉ ARCEO



Photograph: Arthur op den Brouw, Recycling To



Participate in an art installation and science workshop  
exploring plastic pollution in the river Thames



© Susana Sanroman



[www.thamesplastic.com](http://www.thamesplastic.com)

River Terrace, Somerset House  
London WC2R 1LA  
6 - 9 June | 16:00 - 18:00  
10 - 11 June | 11:00 - 18:00



GOMI- 'NON-RECYCLABLE' PLASTICS  
INTO LASTING, CHERISHED GOODS



NICK MULVEY- FIRST OCEAN PLASTICS  
RECORD



# LEEDS MUSEUMS AND GALLERIES

## Beavers to Weavers Exhibition



- Recycled paint; recycled and recyclable alternatives to foam board;
- Old bobbins and cotton reels as plinths; printing some labels with Leeds Industrial Museum's Albion printing press;
- Homemade paper from waste materials as a community activity, and using this for labels;
- Materials sourced from Scrap, a creative-reuse supplier for learning activities;
- Cushions from recycled coffee sacks and foam offcuts.

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# DESIGN ALTERNATIVES: PLASTIC ALTERNATIVES AND INNOVATION

- **MarinaTex:** Fish Based Plastic Film Alternative made of a combination of fishing by-products combined together with agar- a product made from red algae.



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# DESIGN ALTERNATIVES: PLASTIC ALTERNATIVES AND INNOVATION



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SOLUTIONS FOUNDED IN NATURE





# BOURNEMOUTH FESTIVAL BY THE SEA: GUEST SPEAKER: LEIGH HAYLER



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# Plastics in the Cultural Arts Sector

**Leigh Hayler**

Senior Business Support officer & Engagement Officer Arts by the Sea Festival



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# What I will Cover today

- Background to the Arts by the Sea Festival
- Our Sustainable Journey
- 2017 theme Plastic Beach
- Collaboration and Partnership Work
- Challenges and Learnings
- Statistics on Outcomes, Impacts & Engagement
- Importance for the Arts/creative Community to Address Plastic Pollution
- Next Steps for the Arts by the Sea Festival



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# Background to the Arts by the Sea Festival

- While the Arts by the Sea festival is primarily a combined arts festival, bringing high-quality, diverse and accessible free performances to our audience, we are also rooted in our unique park and seaside location.
- This has a direct impact on our programming and on the environmental sustainability message that underlies the festival every year.
- We have been a National Portfolio Organisation since 2015.
- Footfall for the festival has steadily increased with 130,000 attendees over the three days of the 2019 festival (27<sup>th</sup> to 29<sup>th</sup> September).
- 2020 will be our 10 year anniversary.

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# Our Sustainable Journey

- 2016 – Environmental Policy & Action Plan
- 2017 – Theme Plastic Beach
- 2018 – Embedded the Green Hub into the Festival
- 2019 – Metal Refillable Water Bottles for our Volunteers
- 2020 – Cultural Hub Project on the Environment



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# Plastic Beach

- Green Arts by the Sea on our Website
- Refill, Recycle, Sustainable Travel
- Artists – performances and Installations
- Engagement Activities



## Green Arts by the Sea

Arts by the Sea recognises the natural beauty of Bournemouth and the work already taking place to safeguard the natural environment in our local area. We aim to build on this, becoming more sustainable, reducing our own environmental impact and using our experience to encourage other organisations to do the same. We'll use our programming to raise awareness of global environmental issues and support green projects and partners, helping artists, residents, businesses and visitors become more environmentally friendly too. We also pledge to show our support for farmers and producers in developing countries by promoting Bournemouth's Fairtrade Town status.





























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# Collaboration and Partnership Work

- Sonification of Tipping Points – Bournemouth University
- BCP Recycling team
- Dr Bike
- Fairtrade Team
- BCP Seafront Services – Leave Only Footprints









## Green Hub Information

We'd love you to travel to the festival as sustainably as possible. Cycle to the festival and you can get your bike MOT'd for FREE by Dr Bike in the Green Hub. Saturday 28th and Sunday 29th September 12:00 – 17:00. Otherwise, take a look at the special offers provided by our Travel Partner Yellow Buses and come to the festival by bus. Or if you do have to use the car, bring some friends and carshare!

In 2019 we're working with our Gold Sponsor BU who are bringing the immersive sound installation Sonification of Tipping Points to our Green Hub.

### Sonification of Tipping Points

**Saturday 28th and Sunday 29th September, Lower Gardens, 12:00 – 18:00.** Experience a natural Dorset soundscape in this immersive audio experience, expressing scientific research through art. This installation provides an insight into new ecological research into 'tipping points' and an intimate opportunity to connect with nature.

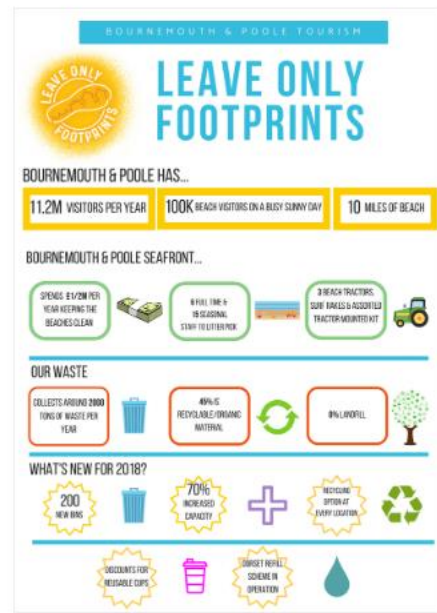
### Dr Bike by Bike-fixed

Bikes will have a basic check which will include things like gear & brake adjustments, cable, brake pad or inner tube replacement and basic wheel truing. Each bike will have a quotation/repair sheet detailing any repairs and recommendations and an estimated cost of repair which can be booked in on the day for a future date.





## Environmental Projects



**Recycle**  
 Recycling is tricky in the town centre as bins often become contaminated by unrecyclable waste. In 2018, Bournemouth Council's Seafront team introduced 200 new bins along the prom with clearly marked Recycling and General Waste labels. Please recycle here, or do your bit by taking your waste with you and recycling at home. [Find out more information here.](#)

**Refill**  
 We've partnered with Litter Free Coast and Sea to promote their amazing Refill scheme. We're asking friendly cafes, shops, hotels and businesses to welcome you in to refill your water bottle with good old tap water – for free! Simply look for the eye-catching sticker and ask in store. If your business would like to partake in the scheme, go to Litter Free Coast & Sea website here. We're also promoting Refill-Here's scheme to reduce the waste from takeaway paper cups for hot drinks. As a customer, you can receive discounts and special offers at businesses that support this campaign – [go to their website for more information.](#)

**Sustainable travel**  
 We'd love you to travel to the festival as sustainably as possible. Our local bus companies are [Yellow Buses](#) and [Morebus](#). You can also car share find out here or better yet, cycle to the festival. We've marked all the cycle parking in the town centre and near festival venues on our map above – click on the cycle symbol to find out how many bike stands are at each location.

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# Challenges and Learnings

- Open site Festival
- 2017 Theme
- Storm Brian



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# Statistics on Outcomes, Impacts & Engagement

- 38 people have used the bike MOT since 2017
- Seafront team pleased to have their Leave Only Footprints campaign shared through our marketing with a wider audience.
- 630 children who took part in the Litterbugs project and 2000 children took part in Scrap store workshops.
- Generally aim to raise awareness, change behaviour in our artists, suppliers and audience.

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# Importance for the Arts/creative Community to Address Plastic Pollution

- It allows audience to talk about difficult issues in a safer environment.
- It can help people see things from a different perspective.



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# Next Steps for the Arts by the Sea Festival

- Cultural Hub project themed around the Environment

[Leigh.hayler@bcpcouncil.gov.uk](mailto:Leigh.hayler@bcpcouncil.gov.uk)





Thank you for attending!  
The Plastics Briefing will be  
released next week...

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Any questions?

