



The Reusable Bar Cup Guide is a free resource published by RAW Foundation, a not-for-profit organisation committed to educating people to move towards sustainable consumption, in partnership with the Association of Independant Festivals (AIF) and Kambe Events, a sustainable event management consultancy.

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**SUPPORTED BY** 

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# **1 INTRODUCTION**

Single-use is SO yesterday. At last society is facing up to the devastating and wide-ranging environmental impacts of pointless plastics, and unnecessary resource use generally. There is a significant focus toward reuse solutions in the UK festival and events sector, with almost all parts of the industry taking action. Centre stage are single-use plastic drinks bottles and disposable bar cups and hot drinks cups. This quick guide to reusable cups will help you to consider how to successfully implement a reusable cup system at your event(s).

This guide has been produced by RAW Foundation as part of the resources created to support the Association of Independent Festivals (AIF) Drastic on Plastic Campaign (2018). It has been funded by the Event Industry Forum (EIF).



# <sup>2</sup> WHAT KIND OF BAR CUP?

Until recently there was limited information published specifially on envionemental benefit comparisons of resuable versus disposable cups at events in the UK. In 2013 a study based on Swiss festival Open Air St. Gallen [1] suggested that if a cup were used more than 2.5 times, it was better than a disposable plastic cup. A more recent study conducted in Belgium [2] compared the relative impact of many different types of cups (and other single-use materials for eating) at events, using a meta-analysis of Life Cycle Analyses (LCA's).

The results strongly favour reusable cups as the best environmental solution, but it must be acknowledged that each event situation is different, and critically, the benefit of a reusable cup initiative is dependant upon the number of cups reused across the entire stock of cups at any given event or held by a supplier. For example the study of cups at Open Air St. Gallen is based on their actual cup loss rate of 10-13%, taken as an average over the 5 years of data. With a higher loss rate the benefit of reusable cups would be less in comparison.

Comparison of reusable cup vs other materials	Cup uses at which impact is less per use than disposable*
(PP) reusable cup compared to paper/cardboard single-use cup*	9 - 14 times
(PP) reusable cup compared to single-use PET/Polystyrene*	3 - 5 times*

\* Scenario based on single-use cup being incinerated.

A very recent UK based fact sheet [3] pitches the tipping point at 3+ uses, based on current data of how cups are used in the UK. See the box to the right for more information about the fast sheet and see the table above for a comparison of 'tilt points' – the point at which each use of a reusable cup causes less environmental impact than a disposable one.

For cases where reusable cups cannot be avoided, using rPet cups and recycling them shows to be the least worst option, as long as the vast majority of cups are successfully captured, separated and recycled. If you have to use disposable cups, refer to the guidance provided in the Making Waves: A Guide to Plastic Free Festivals p.16 on disposal to minimse the impacts associated with their processing.

## WHAT IS LIFE CYCLE ANALYSIS?

Life Cycle Analysis is a technique to assess environmental impacts associated with all the stages of a product's life – including raw material extraction, materials processing, manufacture, distribution, use, repair and maintenance, and disposal or recycling.

# FACT SHEET ON REUSABLE CUPS VS DISPOSABLE CUPS

#### THE SIZE OF THE PROBLEM ...



A recent UK study on bar cups jointly produced by Hope Solutions and ZAP Concepts (UK & Ireland) stated that 100 million+ plastic cups are used every year in the UK festival and live events industry, most of which are sent for incineration or to landfill.

They state that even when they are recycled, single-use cups have a significantly higher environmental impact due to the cumulative impact of manufacturing, than reusable cups.

Their research revealed that reusable plastic bar cups can be used 75+ times, and their assessment claims a benefit for the environment after less than 3 uses compared to disposable plastic cups.

#### See the full fact sheet at https://www.hopesolutions.services/resources/

[3] It Doesn't Stack Up: How Disposables Compare to Reusables (2018), Hope Solutions and ZAP Concepts (UK & Ireland)

<sup>[1]</sup> Screening LCA: Comparison Single Use Cups and Resusbale Cups, Open Air St. Gallen (2013), Quantis

<sup>[2]</sup> Study scenario for drinking and eating utensils at events - final report (2017), Danny Wille, OVAM

# ③ WHY USE REUSABLE BAR CUPS?

# ENVIRONMENTAL BENEFIT

The majority of the environmental impact, usually around 90% from any type of cup (including PLA 'compostable' cups), occurs as a result of manufacturing. This includes raw materials, water, energy and long-distance transportation.

Other impacts include local transport, washing and what happens to the cup after it has been used.

Although each event and scenario is different, there is now a body of robust research that demonstrates that a reusable cup is the better environmental option compared to a disposable PET cup after more than 3 uses in many cases, and around 9-14 uses compared to cardboard [1]. A recent UK based study found that the generic hard plastic (PP) reusable cups stocked and used by a UK company, Green Goblet, had been in use 75 times, demonstrating the longevity of the material [2].



PET plastic, the material most commonly used to make single-use cups, is commonly recycled in the UK. However, industry research suggests that only 32% of materials are recycled at UK festivals [3]. In addition, unlike metals which can be recycled infinitely, plastics lose some of their properties each time they are re-processed, becoming a lower grade of material each time. This is known as 'down-cycling'. It is also the case that every piece of plastic which has not been burned or recycled still exists in the wider environment because plastic does not decompose. The far-reaching impacts of this can be seen in oceans around the world. Whichever way you look at it, using fewer resources and producing less plastic will benefit the environment.

Plastic that is sent to landfill or incinerated still poses signiifcant risk of leaching toxins into the environment, despite advances in technology and regulations. For more detailed information about the impact of plastic in the environment check out the Making Waves Plastic Free Festival Guide at www.rawfoundation.org/

# REPUTATION AND BRAND

Pointless plastic is firmly on the agenda for society, the festival industry and festivalgoers, and most events have taken action or are considering what steps they can take to reduce disposables. It has become such a high-profile media topic and festivals not taking action, risk bad press and feedback from audiences keen to see changes.

In many cases, events using reusable cups choose to brand a percentage of their cups, which can extend their brand-reach, and satisfy sponsor requirements. However, this needs to be balanced with the percentage of generic cups to ensure re-use to realise the environmental benefits.

# AUDIENCE EXPERIENCE

Single-use plastic bar cups are typically one of the most significant sources of litter for events, along with drinks bottles/cans and food serve-ware. Organisers using reusable cups report very positive audience feedback about the dramatic reduction in litter. In addition, events can experience a multiplier effect whereby the reduction in litter makes it feel unacceptable to drop litter. This is referred to as a 'behaviour tipping point'.

Anecdotal evidence suggests that audiences generally prefer the experience of drinking from more solid reusable cups compared to flimsy plastic or paper disposables.

[3] The Show Must Go On Report (2015), C. Johnson, Powerful Thinking

<sup>[1]</sup> Study scenario for drinking and eating utensils at events - final report (2017), Danny Wille, OVAM

<sup>[2]</sup> It Doesn't Stack Up: How Disposables Compare to Reusables (2018), Hope Solutions and ZAP Concepts (UK & Ireland)

# RESUABLE CUPS ARETHE BETTER ENVIRONMENTAL **OPTION AFTER AS** FEW AS 3 USES

1

# MANAGING REUSABLE BAR CUPS

# A BRIEF INTRODUCTION

For those completely new to resuable cups; festivals usually work with a resuable cup company, and are typically provided with enough cups to serve all drinks throughout their event, with all the dirty cups being taken at the end of the event to be washed off site. Some larger events, or those near to washing facilities, may install washing stations onsite or wash daily offsite.

Audiences either pay a deposit or a non-returnable one-off charge for their first cup, and then exchange dirty cups for clean one's each time they purchase another drink.

Resuable cups are primarily being used in bars, but also for juices and in some cases for hot drinks at concessions across site.

# DECIDING HOW TO MANAGE YOUR BAR CUPS

There are a few things to consider when choosing how to manage reusable bar-cups at your event.

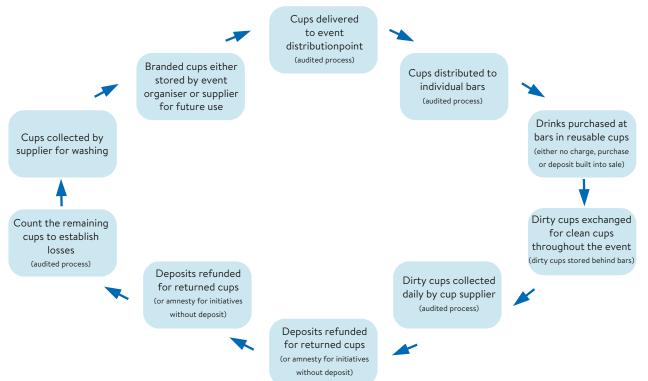
Generally the aim is to retain a significant percentage of the bar-cups so that they can be re-used. This is more easily achieved at events where:

- Multiple drinks are likely to be ordered
- There is a defined boundary for the event e.g. a fenced site or venue
- There is overall control or management of the bars, or at least the types of bar-cup being used throughout the site

Re-useable cup suppliers generally offer a range of options including the provision of generic or branded bar-cups, washing the cups on or off site daily, or for smaller events, washing all cups after the event in bulk.

# A TYPICAL MANAGEMENT PROCESS

The following diagram illustrates an example of the steps which may be included when implementing a re-useable cup system.



# BUY OR RENT CUPS?

- Most event organisers choose a 'service' model with their supplier; renting cups as part of a contract which includes washing.
- Other options include buying a stock of generic or branded cups, to service multiple events, or an event as part of a multi-year deal.
- The decision to buy cups, rather than rent, usually depends on the number of events that the cups will be used at, and/or the confidence that you will be using them for more than one year.
- Financial savings will be increased and environmental impacts will be reduced the more times each cup is used compared to disposable options.

# GENERIC OR BRANDED CUPS?

Event organisers may choose for a percentage of the re-useable cups to be printed with branding from their event or sponsors. It is usually the case that the cup supplier will manage and wash the branded stock on an event's behalf along with generic rented cups.

The balance between the number of branded and generic cups is an important consideration for both a financial and environmental perspective. Branded cups are more likely to be kept as souvenirs by visitors than the generic stock. A carefully managed deposit system will reduce losses.

# WASH ON OR OFF SITE?

Larger events may choose to set up in-house washing facilities on-site, or invite the cup supplier to do so. Most commonly, washing is provided by the supplier off-site, either on a daily basis or all together at the end of the event.

In the model where cups are all washed at the end, the cup supplier will provide enough cups to accommodate the total number of drinks likely to be sold at the whole event.

Whilst generic cups may only be used once at your event, they will be used many times throughout the season at other events, which further reduces the environmental impact in comparison to disposables.

# FINANCIAL OVERVIEW

The business case for using reusable cups varies considerably depending on scale and type of event, and the service provider, but in most cases there can be costs savings and/or revenue gain, proving a net gain compared to using disposable cups. This will, however, very much depend on the arrangements in place, for example if the cups are provided at no cost by the bar contractor or sponsor, there will not be an associated saving. The balance depends on:

- The savings made from not needing to purchase disposable cups
- Reduced waste management costs
- Revenue from deposits (or levy) on cups which are not returned
- The purchase and service costs of the cups

Most events are aiming to find the right balance between covering the costs of managing the re-useable cup system, satisfying sponsors if they have them and retaining the majority of cups for re-use. Experience suggests that the optimal system is one where a deposit is charged for the first cup used and a small percentage of branded cups are provided compared to the generic stock; most of which will be retained by the audience, and thus covering service costs and realising an environmental benefit overall.

#### SAVINGS AND INCOME (compared to disposables)

- Purchase of disposable cups
- Litter-picking
- Reduced volume of waste sent to landfill or recycling
- Retained deposits from cups not returned (deposit system)
- Sponsor income

### COSTS (of reusable systems)

- Hire of cups and washing service, including delivery
- Cup branding / printing (if used)
  - Storage tent onsite for distribution and audit

## FREE TO USER, PURCHASED BY USER, OR DEPOSIT SYSTEM?

The decision of how to manage the cups on-site is crucial from a financial and environmental perspective, in terms of revenue gain and realising the environmental benefits. Here are the three typical systems:

- Cups can be provided to audiences for free. This is generally done if there is confidence they can be retained onsite, for example within a stadium with collection points on exit.
- 2. Most cup systems are based on a cup deposit, which encourages users to return cups. This system offers the highest return rate, but that depends on effectiveness of communication, availability of drop off points and audience demographic.
- 3. A third popular option is to charge a non-refundable deposit, or levy. This means that either users are paying a one-off fee for 'using the service' or effectively buying the item, depending to an extent on how the system is communicated and whether it is a branded cup.

# DEPOSIT SYSTEM

Buyers pay a deposit on their first cup, and then exchange dirty cups for clean ones each time they buy a drink, to ensure standards are met. When they no longer wish to purchase another drink, the deposit is normally returned at the bar or sometimes at another location or exit point.

Charging a deposit (or levy) increases the percentage of retained cups, and ensures that the costs can be recovered for the purchase of each cup that is not returned. Generally the cost of a lost cup charged by the supplier is less than the deposit to users, providing a margin.

Some events have successfully implemented an amnesty on exit without offering a financial incentive, for example a free ticket raffle, to encourage people to return cups.

# HOW MUCH DEPOSIT SHOULD BE CHARGED?

If an event chooses to charge a cup deposit, it should reflect the audience demographic i.e. so as to be effective in encouraging cups to be returned. A £1 or £2 deposit is common amongst UK events which have implemented reusable cups initiatives however organisers of events with more affluent visitors may consider charging more.

The critical factor is likely to be less about the price point and more about how effectively the initiative is communicated to users. Many events have completely failed to communicate the basics of their reusable cup initiatives either in advance or at the bar, leading to reusable cups being left throughout site and audiences feeling over charged. It's not rocket science however - good communication in advance with the audience, signage at the bars and bar staff briefings are required to clearly explain it to users.

# FACT BOX: WASHING CUPS

The norm is for a cup service company to take dirty cups away for washing off-site, but some small events also choose to wash their own onsite. Time scale is an important factor. Cups should be washed as soon as possible after use to avoid risk of mould establishing, that is harder to wash satisfactorily.

Professional facilities wash with two cycles - a pre-wash at 80 degrees with detergent, and a rinse at 60 degrees. It is also important to ensure that cups are dry before storage to avoid mould. Cup companies request cups to be returned as quickly as possible after events, to avoid mould and ensure that the maximum number of cups are washed and reused.

Q. Is it illegal to serve a drink into an unwashed cup or a cup provided by a festivalgoer? A. There is no law that states that you cannot serve a drink into an unwashed re-used cup as long as there is no risk of cross contamination - ie contact between a dirty cup and the bar tap. This does mean multi-pour systems would not qualify as safe. However The Weights and Measured Act 1985 requires that the sale of alcohol be measured by either the container (e.g. bottle), bar cup (CE marked pint to the line cup) or the pouring method (e.g. MDU). This means that if there is any doubt about the cup(s) being presented for reuse at a bar, ie if it is not CE marked, the bar is responsible for ensuring the correct measurement of liquid.

# **SFAQ'S**

Q. Are reusable cups always better environmentally than disposable cups?

A. Yes, but only if they are used at least 3 times.

#### Q. Will it cost more to use reusable cups?

A. If you buy them they are likely to become cost neutral after around 10-15 uses, depending on the purchase price and washing costs. If you hire them or choose a company to service your event, and charge a levy or deposit that is more than the cost of the cup, you will save money on the purchase of the cups, and bring new revenue to the event, leading to a profit after covering losses of cups.

# Q. Are the logistics of managing reusable cup complicated

A. There is more involved in managing reusables compared to single-use cups, as you intend to get the cups back and audit them, rather than 'say goodbye' at the point of sale. You will likely need storage space centrally and behind each bar, and a system in place. But given bars already manage stock and money – it's what they do - it should not be a problem.

# Q. My drinks company claims that reusable cups affect the pouring / quality of delivery. Is that the case?

A. No. Drinks companies use reusable cups in other territories and market sectors without issue, therefore it is not a quality issue and more likely about honouring existing commercial agreements with disposable cup suppliers, or control over branding.

# Q. Wouldn't it be better to just use composable or biodegradable cups?

A. PLA, or 'bio-plastic' cups are practially the same in their make-up as plastic. The same evidence and logic applies as with plastic single-use cups: Resuables are better for the environment.

# Q. Is it better to recycle cups than using reusables due to the transport emissions and energy involved in washing them?

A. No. The case is well and truly evidenced that reusable cups are the better option compared to single-use cups even if they are being recycled. This is based on the fact that the majority of impacts arise from the manufacture.

# Q. Do the hard plastic cups shatter causing a safety hazard and clear-up problem?

A. Most resuable cups are made from Polypropylene (PP), which does not shatter. Cups most likely to shatter are made of Polystyrene (PS) or Polycarbonate (PC).

Also, due to reusable cups being returned to the bar, discarded cups are typically less of a problem!

#### Q. If we use a deposit system and the cups are worth £2 on return, won't they get stolen by people to make cash?

A. Maybe, but it hasn't been reported as a prevalent issue. Events can seek to prevent this by limiting the amount of cups that can be redeemed each time, or apply a deposit amount that suits the demographic.

# Q. Shouldn't we be trying to avoid plastic altogether?

A. When considering environmental impact, the aim is to find the cup type with the least impact overall. Currently the most practical and affordable option is a durable, reusable hard plastic cup, which can be used many times.

# Q. If cups are branded, and used once then taken away, is the environmental benefit realised?

A. Not at the festival. There is a case that it may be reused other times, but if festivalgoers are just collecting merchandise from every event to keep in the cupboard, it is likely not to be a better environmental option. Organisers should consider carefully the balance of branded vs generic cups.



# **INSPIRATION**



### 1. DOWNLOAD USE REUSABLE CUPS ON A LARGE SCALE

Green Goblet supplied over 425,000 branded and generic reusable cups to Download in reusable, stackable boxes, and installed an experienced team onsite to manage the cups across the nine busy bars. Each customer paid a £2 deposit when buying a drink, and each time they bought a new drink the cup was exchanged for a clean one.

Over the festival more than 500,000 drinks were consumed in reusable cups, preventing the use of 4,500kg of plastic disposable cups! The benefits for Download were:

- The site was cleaner and clean up time was reduced significantly.
- There was no delay in bar service, and attendees enjoyed sturdy, reusable cup.
- £25,000 was directly saved on disposable cups.

### 2. PORT ELLIOT EMPLOY A THIRD PARTY TO MANAGE CUPS ONSITE

Port Eliot started using reusable cups in 2016. They invested a lot of time into communicating the message to their audience, and were pleased by how quickly people connected with the process: "They weren't phased at all by having to pay £1 or carry a cup," commented Poppy, Festival Director, "we quickly saw the benefits: not only in how clean it left the site, but also in the reduction of the amount of waste we sent to landfill."

Auditing of the cups was a challenge in the first year, as they have 11 independent bars rather than a central provider. In their second year, with a more robust and dedicated management team, they were able to audit more accurately which enabled the project to become cost neutral. They are now heading into their third year of using reusable cups and there's no looking back.

#### 3. FIRE IN THE MOUNTAIN WASH ALL BAR CUPS AND CROCKERY ONSITE

Fire in the Mountain, a 2000 capacity festival in Wales, became disposables-free in 2017. They purchased enamel camping plates, bowls, cups and cutlery and created a large wash station onsite.

Disposable serveware was banned, and caterers were asked to all bring one extra member of staff to wash up in return for the free use of their plates etc., effectively exchanging the savings on disposables for labour. Some traders (e.g. wraps and pizzas) only served on a single sheet of paper, but used metal cups for drinks.

Return baskets for 'dirties' were placed on stalls, and extra volunteers were recruited to keep the momentum going for washing up at a central station. Fire in the Mountain organisers found that people responded positively to being given a 'proper' plate, and although there were some losses, most were handed back. They saved time and money on cutting out disposables, waste management and skips, and plans are in place to repeat the initiative in 2018.

#### 4. GLASTONBURY INTRODUCE 200,000 METAL CUPS ACROSS 10 BARS IN 2016

After three years of trial and research, Glastonbury Festival launched a sustainable, recycled stainless steel pint cup for use on a major scale at the 2016 event. Over 200,000 cups were in circulation in ten major bars across the site, with customers paying a £5 deposit when they buy their first pint.

For the Festival, the question of how to reduce the amount of waste – in particular pint beer cups – has always been a challenging one. But the stainless pints are the first of their kind and are made of food grade 80 per cent recycled British stainless steel. When Festival-goers need a refill, they will be able to swap their cup for a fresh one.

Overall the stainless steel cups were well received, and are said to be an even better environmental option than resuable plastic cups. However there are logistical challenges such as moving heavier boxes around site, and stack-ability.

The initial purchase price may be a barrier for organisers generally and no service supplier has entered the market yet.



### 5. SHAMBALA GOES DISPOSABLE PLASTIC FREE

Shambala committed to being disposable plastic free in 2014, and took their first steps by removing all sales of drinks in disposable plastics and introducing reusable cups behind all bars. They work with a bar services provider, Refresh West, who manages the volume bars and acts as DPS and wholesales to a number of micro-bars.

They hired cups from a third party, who delivered to a central storage tent, from where the cups were counted and audited out to all the bars by a member of their staff. All the bars were stocked upfront – based on estimated sales - for the duration of the event to minimise logistics during the event as far as possible.

Festivalgoers were charged a £1 levy for a new cup, or exchanged a dirty cup for a clean cup free of charge. All bar managers were provided a clear briefing so that staff could explain how the system worked and why the festival was doing it, and all bars had prominent signage about the initiative (see picture).

Shambala chose to brand 15% of cups, to balance the desire for souvenirs (cup retention leads to costs recouping and increased revenue/profit to the event) whilst maximising the reuse to realise environmental benefits. The printed cups included messaging to reinforce the initiative, for example bringing the cups back to the bar.



At the end of the event, the incentive to return the cups was effectively lost, as people no longer could buy another drink from the bar. To help encourage festivalgoers to bring cups back, there was an amnesty at the festival exit gates with raffles for free tickets the next year. In addition, all festival teams were briefed to collect cups on Monday to help retain as many as possible, including offices, teams, and the recycling company.

Overall, around 20-30% of cups have been kept by festivalgoers each year over the five years of the initiative. In the beginning auditing the cups and £1 levies between many independent bars was a



challenge, but now the bar contractor directly manages the cups, and an effective audit system has been developed.

One innovation that helped to prevent loss of collected levy's was to add the £1 as default on the till system against any order, so that staff were required to remove the levy for an exchanged cup. There is greater incentive not to mistakenly charge a levy than to forget to add the levy for both the bar staff and the purchaser.

The audience understood the initiative easily and were very supportive due to the environmental rationale and the experience of using a hard cup rather than a flimsy disposable. Feedback also identified the cleanliness of the site as a major positive factor.

The festival saved the costs of purchasing disposables, in the region of £10,000 in the first year, and also profited a small percentage of the levy from the cups that were retained by festivalgoers. The majority/remainder of the levy went to the cup provider to cover costs of hire, transport and washing. Some minor costs were incurred in providing a storage tent and staff to audit the cups.

Overall using reusable cups for Shambala has been positive for their audience, reduced their environmental impact and saved on costs. Over 100,000 cups are no longer used once and discarded each year.

# **O SUPPLIERS**

### Stack-Cup

As well as being washable, durable and reusable, what makes Stack-Cup<sup>™</sup> unique is its patented handle design that enables spiral-pattern stacking for easy portability and zero waste as no cup carrier is required. Stack-Cup<sup>™</sup> is proven to increase drink sales by 8 to 15% and reduce clear up times.

http://stack-cup.com Matthew Cove matthew@stack-cup.com

### Enviro-Cup An innovative metal cup provided by UK company APS

Manufactured from UK-sourced food-grade recycled stainless steel, the Enviro-Cup is the ultimate solution to reducing plastic drinking cups at festivals nd events. It successfully debuted at Glastonbury in 2016 as part of a deposit initiative on selected bars and since introduced at several other UK Festivals. It is a highly durable option, proving an alternative drinking experience to plastic. Enviro-Cup meets all British Standards, is 100% recyclable, is brandable, and comes with a range of innovative accessories.

enquiries@enviro-cup.co.uk www.enviro-cup.co.uk

### Green Goblet Leading UK provider of reusable cup solutions

Green Goblet produces a wide selection of branded and unbranded reusable cups ideal for stadiums, festivals and sporting arenas. They also offer a full service from start to finish, from a purchase and service option to washing drying and storing the cups. They provide to Kendal Calling, Bluedot, Round the Island, Cowes, Port Eliot, GoldCoast, Oceanfest, Download, Glastonbury (backstage), End of the Road and many sports venues (football, rugby, cricket, horse racing etc).

info@green-goblet.com www.green-goblet.com







# 8 RESOURCES AND LINKS

## **KEY RESOURCES**

Drastic on Plastic Campaign https://aiforg.com/drastic-on-plastic/

It Doesn't stack up: How disposable compare to reusables https://www.hopesolutions.services/resources/

# RESOURCES, BLOG AND MORE INFORMATION

www.raw-foundation.org.uk www.youtube.com/channel/UCVSs70jtxnpeZDgI5CPICyg

#### VIDEOS

The Story of Bottled Water: The Story of Stuff Project www.storyofstuff.org/movies-all/story-of-bottled-water/

Charles Moore: Seas of plastic www.ted.com/talks/capt\_charles\_moore\_on\_the\_seas\_of\_plastic

Chris Jordan: Pictures some shocking stats http://www.ted.com/talks/chris\_jordan\_pictures\_some\_shocking\_stats

Chris Jordan: Midway www.youtube.com/watch?v=PLkTTJW4xZs

Ellen Macarthur Foundation: The Circular Economy www.youtube.com/watch?v=zCRKvDyyHmI

Janine Benyus: Biomimicry in Action www.youtube.com/watch?v=k\_GFq12w5WU

Sylvia Earle: Protect our oceans www.ted.com/talks/sylvia\_earle\_s\_ted\_prize\_wish\_to\_protect\_our\_oceans

City to Sea: Plastic Free Periods https://www.citytosea.org.uk/our-latest-video-tops-1-4-million-views-in-a-week/

City to Sea: Switch the Stick https://www.citytosea.org.uk/switch-the-stick-success-film/

### **FILMS**

Sir David Attenborough: Blue Planet II

Trashed: An award winning film by Blenheim Films with Jeremy Irons. www.trashedfilm.com/

A Plastic Ocean: Plastic Oceans founded by Jo Ruxton and Sonjia Norman in 2009. http://plasticoceans.uk/

Albatross: A film by artist Chris Jordan, is a powerfully moving love story about birds on Midway Island. In the heart of the great Pacific, a story is taking place that may change the way you see everything. www.albatrossthefilm.com/

### BOOKS

Watson, M. (2009), 'Materials Awareness' in A. Stibe (ed) (2009) The Handbook of Sustainability Literacy: skills for a changing world. Totnes: Green Books.

http://arts.brighton.ac.uk/stibbe-handbook-of-sustainability/chapters

# GET IN TOUCH

If you are concerned about plastics and ready to take action, please join us. There is no time to waste.

For further information please contact the RAW Foundation team who will be happy to discuss any opportunities with you.

email: info@rawfoundation.org

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