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# Preventing plastic pollution

**Catering outlets in sporting venues**



France (Channel Manche) England

European Regional Development Fund





## Environment Agency

We are the Environment Agency. We protect and improve the environment.

We help people and wildlife adapt to climate change and reduce its impacts, including flooding, drought, sea level rise and coastal erosion.

We improve the quality of our water, land and air by tackling pollution. We work with businesses to help them comply with environmental regulations. A healthy and diverse environment enhances people's lives and contributes to economic growth.

We can't do this alone. We work as part of the Defra group (Department for the Environment, Food and Rural Affairs), with the rest of government, local councils, businesses, civil society groups and local communities to create a better place for people and wildlife.



European Regional Development Fund



## Preventing Plastic Pollution

Working in partnership with 18 organisations from across France and England, Preventing Plastic Pollution seeks to understand and reduce the impacts of plastic pollution in the marine environment. By looking at the catchment from source to sea, the project will identify and target hotspots for plastic, embed behaviour change in local communities and businesses, and implement effective solutions and alternatives.

The €14m Preventing Plastic Pollution project was approved by the Interreg France (Channel) England Programme, which has committed €9.9m in funding through the European Regional Development Fund.

*To find out more about the Preventing Plastic Pollution project visit [preventingplasticpollution.com](http://preventingplasticpollution.com)*

The project work across seven pilot sites: Poole Harbour, Medway, Tamar, Great Ouse, Brest Harbour, Bay of Douarnenez and Bay of Veys catchments.

The information gathered from research in these areas allows the cross-Channel partnerships to tackle some of the 12 million tonnes of plastic that enter the environment every year.



Make your pledge!

Join others and make your pledge to reduce avoidable plastic.

**CLICK HERE TO MAKE YOUR PLEDGE**

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# Why be concerned about plastic pollution?

Over the past few years there has been rising concern and awareness of the impacts of plastic pollution. It is estimated that 12 million tonnes of plastic enter our environment each year (Jambeck et al., 2015). That's equivalent to a bin lorry load every minute. When used correctly plastic can have many useful applications, however, some plastic can be avoided. Of all the plastic produced 50% is for single-use plastic items (Garside 2019), things that are used for only a few moments and then thrown away.

Plastic has been found everywhere, from Everest (the highest point on earth) to the Mariana trench (the deepest point on earth). It has even been found in the Arctic and

***“We are at a unique stage in our history. Never before have we had such an awareness of what we are doing to the planet, and never before have we had the power to do something about that.”*** Sir David Attenborough

Antarctic. While the long-term effects of plastic pollution are not yet known, animals of all sizes have been found to eat plastic and get tangled in it (Pavani and Rajeswari, 2014). Ongoing research has also found that humans consume plastic and breathe it in during our day to day lives. The health impacts of this are being studied.

Plastic is linked to the climate emergency. It is made from oil which is a non-renewable resource and has to be drilled for, transported (often across the world) before it is made into plastic. At the end of its life, the recycling, disposal or incineration of plastic also releases greenhouse gases into our atmosphere, contributing to climate change.



# Why sport?

Everyone has a part to play in minimising their avoidable plastic consumption and carbon footprint to help conserve the natural world. Whether you visit, compete at, work in or manage a sports venue, you have an impact and the ability to make choices to reduce your impact.

Sport is in the unique position of being able to influence millions of people worldwide. Sport has a huge fan base who can be influenced by what they see in the stadiums and venues they visit, by the way athletes are perceived by the media and by how other fans behave. By leading the way in sustainability and setting a good example, sporting venues can influence others to do the same at home, in their work place and at other venues.

## Benefits of minimising plastic consumption

### **Economic**

While the initial investment may cost a little more, in the long term money will be saved on waste disposal and by not having to buy single-use products over and over again.

### **Social**

Helping the environment makes people feel good! By encouraging others to follow your lead and by spending time outside watching sport, wellbeing will be improved.

### **Environmental**

Using less plastic means that less plastic is made and disposed of, reducing the chance it will enter the environment and cause damage. Less plastic production also means less carbon being produced, reducing the impact on the climate.

# The waste hierarchy

Before purchasing anything, it is important to consult the waste hierarchy. Try to minimise avoidable plastic items where possible and work your way down the waste hierarchy if this is not possible.



# Which changes have been implemented?

Use this list to mark what you have done already and keep track as you make more changes to minimise avoidable plastic and prevent plastic pollution.

Replace single-use cups with a deposit return scheme

Remove condiment sachets in favour of refillable pumps

Offer a discount to fans bringing their own reusable cup

Introduce water fountains for athletes and fans to refill

Reduce the amount of single-use packaging food is served in

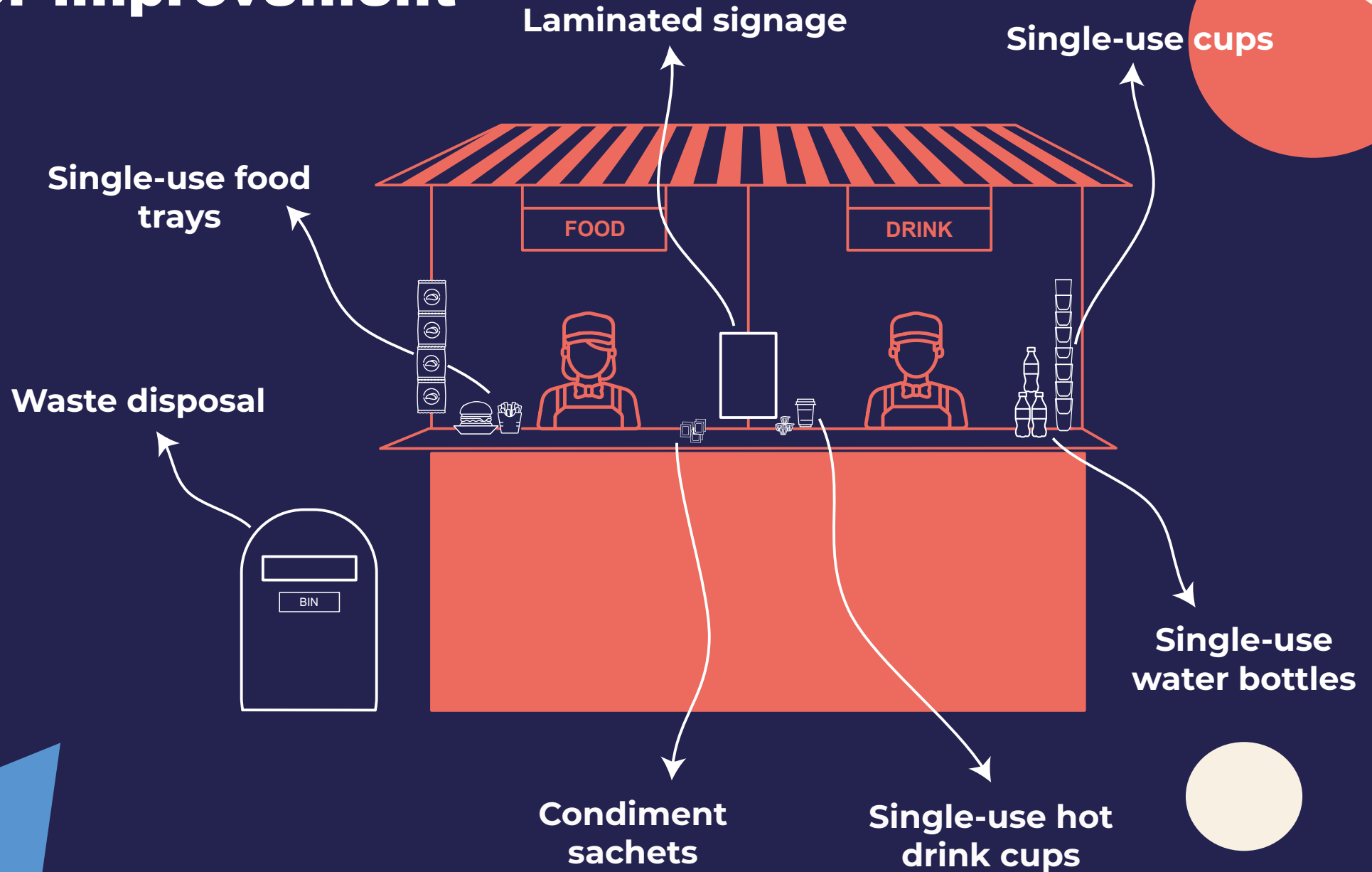
Provide bins that allow for recyclables and waste segregation with clear signage

Remove single-use cable ties and laminated signs

Engage fans with the great changes you've made

Talk to your supplier about reducing delivery packaging

# Identifying areas for improvement





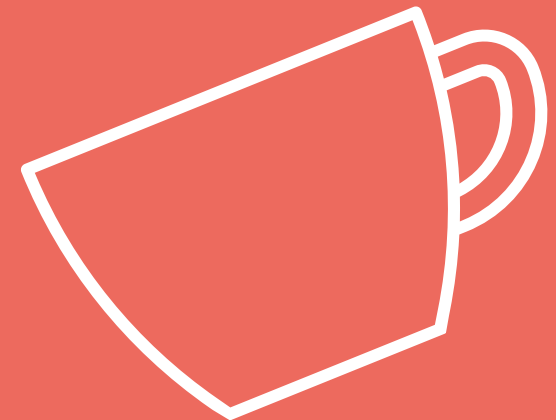
# Reusable cups

Reusable cups have been shown to be a successful way to reduce the amount of plastic waste you produce. Instead of single-use cups, robust reusable cups can be used for cold or hot drinks. These are returned by fans at the end of the match, washed and used again at the next fixture. Washing can be done in-house or companies can be contracted to provide, collect, wash and re-deliver the reusable cups. Choose return locations within the stadium to ensure ease of use for the fans. You could charge an additional fee for drinks as a cup deposit which is given back to the customer when the cup is returned.

The cup can be branded to suit your needs, however, choosing plain cups can provide a higher return rate as

fans are less likely to want to keep them as a souvenir. You will want to include information on where to take the cup when it is finished with to improve return rates. This may be back to the bar to return the deposit, or if this isn't practical to a dedicated collection point.

Many conventional non-alcoholic beverages come in plastic bottles, however, consider banning these and providing water refill stations and a deposit return scheme instead. When choosing beverage options consider whether they can be packaging-free in the decision making process.



# Reusable cup case study: Marylebone Cricket Club

## Summary

Marylebone Cricket Club implemented reusable cups in 2018. This has eliminated 1.2 million single-use cups to date. The initial cost of the cups and infrastructure cost approximately £11,000, meaning an initial outlay in year one. However, this was offset by an estimated annual saving of £11,000 in subsequent years. While not quantified there was also saving in waste disposal. After the first year start-up costs this meant a small cost saving through the scheme after taking into consideration additional staff time, cup replacement and cup washing.

This saving is expected to increase in 2021 due to the removal of the £1 cup deposit. This will reduce staff time and the amount of infrastructure required.

Marylebone Cricket Club (MCC) play at Lord's Cricket Ground, London. With a capacity of 30,000, Lord's hosts international fixtures regularly. MCC started its sustainability journey in 2010 and since then it has diverted all waste from landfill, installed water refill stations and avoided 2 million single-use plastic items. The latter is mostly attributed to introducing a reusable cup which solely eliminated 1.2 million single-use cups since implementation in 2018.

## Reusable cups

The initial spend on reusable cups is approximately four times more than single-use cups. This meant a £9,000 overspend in the first year of implementation for MCC. MCC opted for plain cups rather than a branded design to discourage guests keeping them as souvenirs. Messaging

for guests has also been key in ensuring as many cups as possible are returned. This combined with the £1 deposit means MCC has a cup loss of 15%. If focusing just on cup costs, once implemented, there is saving of £11,000 annually compared to single-use cups.

## Infrastructure and staffing

Additional infrastructure may be required to optimise cup returns. MCC positioned cup redemption booths at exit points which cost £2,000. MCC found additional staff time was required (post fixture) to process the return of and the preparation of cups to be sent for cleaning. This cost an estimated £10,000 annually, however, this was directly offset by a reduction in staff time taken to clean the venue saving an estimated £12,000 annually.

# Reusable cup case study: Marylebone Cricket Club

## Additional finances

Reusable cups need to be washed for safe reuse. Select cup manufacturers can clean cups post-fixture and return them before the next fixture. This costs approximately 8-10p per cup, per wash. Cups can be washed on site if infrastructure allows. Reusable cups reduce the cost and quantity of waste. At MCC 580,000 single-use cups were avoided annually. This is a significant cost saving, despite the exact figures being difficult to quantify.

## The future for MCC

MCC will become a cashless venue, therefore will remove the £1 cup deposit and actively encourage guests to return their cups. Messaging will focus on promoting

a positive environmental approach and reduction in single-use plastic. Simultaneously, this will eliminate some of the above initial costs (redemption booths and staff time).

***“580,000 less single-use plastic cups are entering the waste stream per annum. Since we started we estimate around 1,200,000 less single use-cups would have entered into our waste streams or oceans. For us this is the biggest win of all.”***

Pedro Saavedra - Deputy food & beverage executive manager



# Refill scheme

Providing water fountains around the stadium is a great way to reduce single-use plastic, keep fans hydrated and reduce queues at bars. Water fountains eliminate the need to sell single-use bottles as fans can bring their own bottle or fill up a reusable cup from the deposit return scheme.

Consider providing refill fountains for athletes and staff too, so they can reduce their single-use plastic consumption and keep well hydrated. Athletes can be ambassadors for behaviour change if they are visibly seen using a refillable bottle. Refillable jugs and glasses can be used in specific hospitality bars.

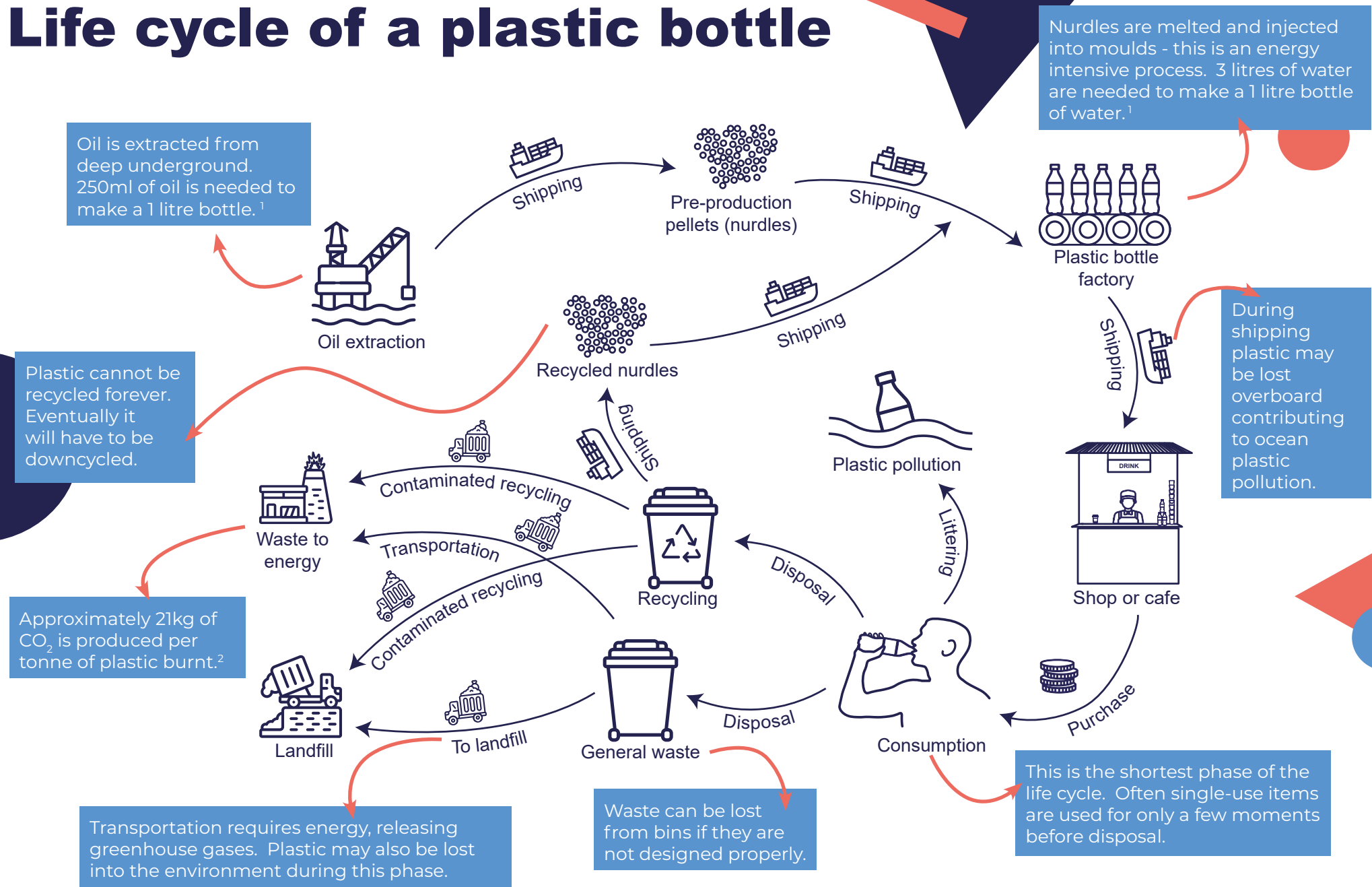
You could even produce branded refillable water bottles to be sold at merchandise stands. This is a great way for fans to show support for their club while being more sustainable.

To implement refill effectively you will need to work with security teams to ensure they are aware that spectators will be bringing in bottles and cups.

Refill is not limited to water. If you provide staff or specific bars with tea and coffee avoid single use sachets and plastic tea bags. The following options reduce waste: coffee and tea urns, espresso machines, refillable milk jugs and loose leaf tea.



# Life cycle of a plastic bottle



1. <https://www.kidsagainstplastic.co.uk/environmental-impact-of-a-plastic-bottle/> - accessed 15/02/21

2. <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2021> - accessed 15/02/21

# Compostables

If avoiding or reusable packaging isn't an option, single-use compostables may be appropriate where the material will be contaminated with food residue.

Compostable items can be made from natural fibres such as paper and/or bagasse (sugar cane fibre). Once used, if collected and processed correctly, the item will break down into the compounds it is made from.

Compostables require separate collection to oil-based plastics and food waste, and need to be disposed of separately for them to breakdown correctly.

Some events and festivals have successfully implemented a closed-loop system. Compostable plastics are collected separately and returned to the manufacturer where they are composted under the required conditions.

## Definitions and standards<sup>1</sup>

**Bio-based plastic:** is made from, or partly from, a plant-based source rather than fossil fuel. Not all bio-based plastics are compostable or biodegradable.

**Biodegradable:** the term is often misused and applied to a broad range of different materials. Without a specified environment and timeframe, the term is extremely vague because a biodegradable product may biodegrade in some environments and not (in any reasonable timeframe) in others. All compostable plastics are biodegradable, but not all biodegradable plastics are compostable.

**Compostable:** for a product to be certified as compostable it must either be certified to BS EN13432 (industrial composting standard) or meet the requirements for home compostable specification.

**Industrially compostable:** a blanket term which includes all forms of organic waste treatment that is characterised by high levels of control. There is a clear standard in place to test products, which sets the criteria for the acceptance at processing sites. In reality much of the UK organics recycling infrastructure is not set up to fully treat the compostable.

**Home compostable:** refers to any product that has been certified as such (either through an independent scheme or via self assessment and compliance ISO 14021). Whilst there are no UK or international standards for home composting, in general home compostable plastics would meet industrial compostable standards. However, those materials which meet EN13432 do not necessarily compost under home composting conditions.

1. WRAP, considerations for compostable packaging <https://wrap.org.uk/resources/guide/compostable-plastic-packaging-guidance#> - accessed 15/02/21

# Compostables

## Logos and symbols<sup>2</sup>

**Industrially compostable:** all of these symbols indicate that a product has an industrially compostable certification in association with EN13432.

**The green dot:** this means that the manufacturers have made a financial contribution to recycling services in Europe. It does not mean the product itself is recyclable.

**Mobius loop:** this shows some is capable of being recycled. Not that it will be recycled.

**Widely recycled:** this symbol means widely recycled (by 75% or more of local authorities across the UK).



## What happens to compostables?<sup>1</sup>

**Recycling:** whilst it is technically possible to recycle certain rigid compostable plastics, this does not happen in practice. Currently, it is viewed as a source of potential contamination. The risk of compostable plastics entering the recycling stream is a concern for UK plastics recyclers.

**Anaerobic Digestion (AD):** is used to treat food waste. It is not set up to process compostable plastics and most facilities remove all types of plastic at the front end. Because AD excludes oxygen, compostable plastic is unlikely to break down in this process. Unless the facility has a composting phase (not currently common in the UK), this route is problematic.

**In-Vessel Composting (IVC):** this is currently used for the treatment of garden waste and food waste. Some local authorities collect these mixed together to go to IVC, others offer separate collection of food waste which is treated via AD. Technically, IVC is currently the best composting option for compostable materials

**Landfill:** when landfilling compostable plastics, the best case is it stays inert, but if it biodegrades then it will release greenhouse gases.

**Energy from waste:** where the compostable material is biobased and is an alternative to conventional 'non-recyclable' plastics, this is the best residual waste option.

2. Recycle Now <https://www.recyclenow.com/recycling-knowledge/packaging-symbols-explained> - accessed 15/02/21

# Recycling bins

Ensure you have a range of suitable clearly labelled bins available to help direct fans to place their recycling and waste in the correct bin. This will help improve your recycling rates and could reduce your waste management costs. If compostables are being used make sure there is a clearly labelled compostables bin and it is collected by a registered waste company who can correctly deal with the material.

Ensure the bins are clearly labelled with which items can be deposited in each bin to minimise confusion. Use clear text, inspiring messages and relevant images on signs to reach and engage a wide audience. Ensure the bin openings are suitable to reduce likelihood of items escaping due to weather or wildlife.

Plan logical locations of bins to ensure maximum use and reduce likelihood of littering. Dedicated recycling zones may also be appropriate. Some grounds have someone near the bins to help advise people. This has been successful in improving recycling rates.

Make sure to apply the same principles to all areas of the venue, including VIP areas, staff and athletes areas, and the media centre.

Remember that recycling is at the bottom of the waste hierarchy and you should firstly minimise the amount of waste produced.

Ask your waste contractors for detailed data which will provide a benchmark which you can monitor your progress against and improve upon.





# Signage and banners

Have you thought about the signage you use? Signage can often be a hidden source of plastic. Small signs are often made from laminated paper and cable ties. Both items are plastic and non-recyclable.

Instead you could use a reusable plastic wallet with inter-changeable card insert, and a reusable bungee cord to keep signage secured and dry. The Volvo Ocean Race has avoided 180,000 plastic zip ties through using reusable bungees.

Larger, weatherproof banners are often made from PVC or other plastic materials. When designing a banner, or any other product, ensure you will be able

to use it for a prolonged period. For example, avoid printing a permanent date which will extend its lifetime and opportunities it can be used for. It may be possible for large banners to be recycled or repurposed at the end of their life.

Before ordering the banner speak to your supplier to see if this is possible and to discuss which materials would make reusing or recycling easiest. Some suppliers may be able to offer a plastic-free canvas banner alternative.

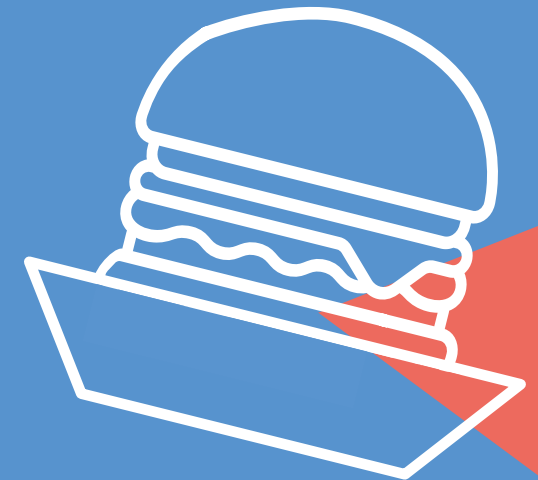
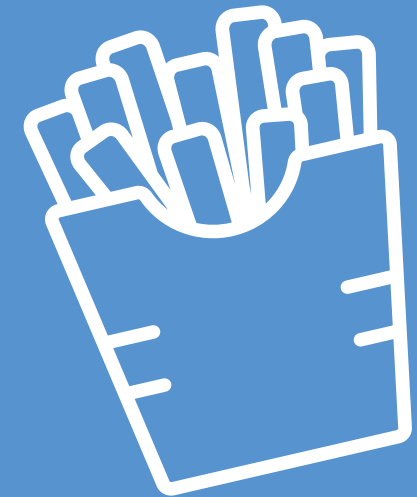
# Food packaging

Review how your food is served. Could the amount of packaging be reduced or even removed completely? This may include altering your menu to feature hand held food or freshly made snacks instead of pre-packaged items.

An example of reducing packaging may be to use compostable paper serviettes instead of thick boxes. It may be possible to implement returnable and reusable items, such as a tray or cutlery. Start talks early with suppliers with the aim of including it in vendor contracts. Remember the life cycle of plastic

is extremely long and a single-use item will be used for just a couple of minutes then thrown away. Even if disposed of responsibly the item may persist in the environment for many years to come.

If you decide single-use packaging is essential, ensure it is made from one material type to be fully and easily recyclable. Mixed materials are harder to collect and segregate correctly and much more difficult and energy intensive to recycle.



# Condiments and sachets

Condiment sachets can produce a lot of waste, both plastic and food, as people often take more than they need. The sachets are not usually recyclable. Sachets can be eliminated entirely by having a refillable pump (hand or foot operated) next to food outlets where customers can take what they need.

It is also possible to provide salt and pepper shakers and a milk jug to remove these sachets as well. These are easily refillable, often only the pump has to be switched to the new container. When researching where to source these, find out if

the container can be recycled, if the material contains recycled plastic and if the company takes back empty containers for refill or reuse.

If you usually charge for condiments you could charge per pump or provide a small reusable pot for sauce, which is charged for and can be filled using the pump.



# Communicate and inspire

Take fans on the journey with you by communicating messages clearly so they are aware and comfortable with any changes that are being made.

This is also a great opportunity to lead the way, be proud and showcase your sustainability values and achievements.

This will encourage others to reduce their impact on the environment too. For example sustainability targets on single-use plastic reduction, and communicating these to venue users, visitors and workers, can help engage people and lead to positive behaviour change.

Integrate sustainability messages into every communication channel you use, such as signage around the stadium, ticket sales, season ticket holder information, programmes and articles on your website, and social media, to engage fans and keep them informed.

As well as influencing others to reduce their impact on the natural world, this will create buy in and help reach your goal to reduce plastic waste.



# Challenge your suppliers

You may find that despite your best efforts to reduce single-use plastic that it still enters your venue through packaging from suppliers.

Through discussion with your supplier, you should be able to reach an agreement for them to remove, or at least reduce, the amount of packaging you receive with your order.

As a short-term solution you may be able to send any excess packaging back to the supplier, perhaps when they deliver your next order, for them to reuse for future deliveries or recycle.

Challenging your supply chain is not limited to catering and can apply to many parts of the venue, including, merchandise, kit and food.

This may seem like a large task, but by beginning with one supplier and working with them you can then move on to the next supplier when you have had success. In future, when reviewing contracts and signing agreements with new suppliers, you can write into the contract that you will not receive any single-use plastic products or packaging on site.



# Make a pledge!

Why not join others and make a commitment to reduce your plastic consumption? We're working with the Big Plastic Pledge to encourage everyone to make a commitment to reduce their single-use plastic consumption. You can pledge as an individual, group or organisation. Just follow the link below!

[Click here to pledge now](#)



## PLASTIC PLEDGE

“ By harnessing and unifying communities by the power and reach of sport, through the athletes, events, fans, volunteers and brands, the lasting impact is almost unimaginable.

We are a movement within sport that will grow into something un-stoppable when it comes to achieving our goals. As athletes and fans united, we are a group that are determined, passionate and driven by our nature, and will persist until we achieve.

The Big Plastic pledge has been founded by Hannah Mills, an Olympic gold and silver

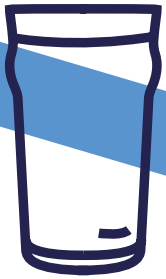
medallist, a sailor and an IOC sustainability ambassador.

“Sailing has taken me all over the world and for almost 2 decades I have noticed plastic in the oceans, mainly when it gets stuck under our boat and stops us dead in our tracks. But it didn't resonate with me how bad the problem was getting until the Rio 2016 Olympic cycle.

I witnessed first hand the devastating effects of plastic pollution on our oceans and planet. Every beach, marina and coastal area we visited during that 4 year period was affected and damaged beyond belief.”



# We're working hard to minimise our avoidable plastic waste



We're using reusable cups to reduce waste. Please return your cup when you are finished so it can be washed and used again. Don't throw it in the bin.



Fill up your reusable cup or water bottle at one of the fountains placed around the venue. You don't need to queue at the bar to get water, we no longer sell it in plastic bottles.



Stop before you put something in the bin to check that it is going into the correct one. Separate waste so that it can be recycled. Putting rubbish in the wrong bin will contaminate it.

**Avoid**

**Reduce**

**Reuse**

**Recycle**