Raising the Bar:

Choosing the Most Sustainable Cup Type for Your Indoor Venue

October 2023

Live music Industry Venues and Entertainment

Julie's Bicycle
CREATIVE • CLIMATE • ACTION

HOPE SOLUTIONS

Foreword

Jon Collins - LIVE

CEO

Cups: a simple word but a complex issue.

Not long into my time at LIVE, I was asked what appeared to be a relatively straightforward question. Could LIVE develop guidance for venue operators as to the best options when it comes to sustainable cups? Having committed to doing just that, I quickly discovered there were no quick answers on this topic.

Fortunately, LIVE exists to fill such knowledge gaps. Our LIVE Green and LIVE Venues groups gave us the network from which to draw expert guidance and vital operator input. Financial support from Academy Music Group (AMG), British Association of Concert Halls (BACH), DHP Family, Music Venue Trust (MVT), National Arenas Association (NAA), the O2 and the Royal Albert Hall, enabled LIVE to commission our friends at Julie's Bicycle and Hope Solutions to prepare this report.

At LIVE, we want to enable all in the live music industry to commit to climate action by providing the necessary support, resources and advice. This guide does just that. In turn, it should help venue operators take another step forwards in their quest to meet the LIVE Beyond Zero Declaration and deliver measurable and targeted action on climate change, with the ultimate aim of reaching net zero emissions by 2030.

This guide manages to be a practical introduction to the complex world of sustainable cups, a sobering analysis of the current challenge and a clear guide through the range of options out there today. A conservative estimate of at least 80 million single-use cups being used across UK venues each year must give us all pause for thought. This guide will then allow you to set the best course of action.

Thanks to Julie's Bicycle and Hope Solutions for their expertise and insight captured in this guide. And thanks to the LIVE Venues group for their work as a sounding board throughout this process and to those companies and organisations that supported this work.

Executive Summary

This report aims to support indoor venues of all sizes with clear guidance on the most environmentally sustainable cup solutions. It summarises key findings from previous reports, provides a snapshot of current cup systems in use at UK indoor venues and sets out best practice guidance. The findings are based on research conducted by Julie's Bicycle and Hope Solutions, and commissioned by LIVE.

Summary of environmental impacts

Cups, whether single-use or reusable, create environmental impacts. Carbon emissions are generated throughout a cup's lifespan, primarily from the manufacturing process, but also from distribution and waste disposal. Cups are also a contributor to the global plastic waste crisis. If improperly managed at the end of use, they can create microplastics as they break down in natural environments. This can harm ecosystems and in turn cause issues throughout the food chain.

Single-use vs reusables

Reusable cups have a lower environmental impact than single-use cups when they are used more than 3 times[1]. This is because only one reusable cup needs to be made to cater for multiple drinks. When used 75 times, reusable cups create 87% less emissions than 75 single-use cups[1].

It is important to keep reusable cups in use as long as possible to maximise their environmental benefits. **Unbranded cups** (i.e. no artist, event or venue name), **deposit systems** and **good audience communications** can help to minimise cup losses.

Material type

The best material choice environmentally for reusable cups is **polypropylene (PP)**. These cups are hard-wearing and require comparatively lower amounts of energy and material inputs to produce. Recycled plastics (e.g. r-PET), are less suitable for reusable cups because they are less robust.

The best material environmentally for single-use cups is **paper** with a water-based, 'aqueous' lining. These cups create 75% lower emissions per pint compared to virgin plastic single-use cups[1]. They can often be managed via paper recycling streams, but it is best practice to ask your waste contractor.

Washing & transport

Reusable cups need to be washed after use, creating some additional emissions from energy use. The lowest impact option is to **wash cups offsite at a facility within 50km of the venue**[2] as industrial washers are more efficient than on-site dishwashers or hand-washing. If the washing facility is over 50km away, the emissions from transporting cups outweigh the benefits of a more efficient facility.

Industry snapshot

From this study, it is estimated that at least **80 million single-use cups** are used across UK venues each year. This equates to an industry spend of **£4.8 million** on single-use cups annually.

A venue with a 2,000 capacity, running three shows per week may use over **686,400 single-use cups** at a cost of **£41,184 each year**.

1 *Hope Solutions & ZAP, 2018, How disposables compare to reusables*

2 *Cottafava et al (2021)* Assessment of the environmental break-even point for deposit return systems through an LCA analysis of single-use and reusable cups

Best practice guidance

There is no 'perfect' solution for sustainable cups and the characteristics of a venue may dictate what is possible. The table below sets out the most sustainable cup options from an environmental perspective against a 'Good/Better/Best' hierarchy.

Good	Better	Best
Aqueous-lined paper cups with appropriate waste management	**Unbranded reusable PP cups (bought or rented) washed offsite over 50km away**	**Unbranded reusable PP cups (bought or rented) washed on-site or within 50km of the venue**
		
Key considerations: • Waste management must be able to recycle cups • Effective separation of recyclable materials is needed	**Key considerations:** • Funding required to buy/hire cups and for any third-party services (e.g. washing and delivery) • Efforts needed to minimise cup losses (e.g. deposit and/or exit checks) • On-site collection of cups needed (either customer returns or staff collections post-event) • Additional logistics may be required to manage deliveries • On-site storage of cups may be required if washing and keeping cups at the venue	

Decision-making tool

This report provides a **decision-making tool** to help venues identify which of the three more sustainable cup options are most suitable for their unique context. This considers requirements around storage, washing and resourcing for reusable cup systems. See **page 15** for this key tool.

If your venue can implement the most sustainable option of a reusable cup system, applying a small charge (i.e. a deposit or levy) on each cup can help to cover some costs and influence certain audience behaviours. The type of fee and how it is applied may depend on the characteristics of the venue, the type of event and the desired response from the audience. See **page 16** for more information.

Overcoming perceived challenges for reusable cup systems

Findings from the venue survey revealed a number of perceived challenges for reusable cup systems at indoor venues. **Pages 17-19** of this report highlights how common concerns are often not as significant as anticipated, or can be discounted entirely.

Reusable cup systems can in fact be **cheaper** than single-use cups in a short space of time and can even generate additional revenue. **Less storage space** is required than might be expected, and there are various strategies that can help manage storage, such as more frequent supplier collections. **Loss rates can be minimised** to as little as 4% when cups are unbranded and good audience communications are in place. Reusable cups also create **no proven additional health and safety risks**.

Further information

This detailed report also provides a glossary **clarifying key terms** and a **looking ahead** section summarising future legislation and innovations. We encourage venue operators to read through the full report to inform future decision-making.

Contents

Introduction

A recent consumer trends analysis by LIVE (Live music Industry Venues and Entertainment) found that music fans want help to minimise their environmental impacts more easily when attending events.[3] With over 50.5 million attendees to UK venues each year[4], the number of single-use cups being made and disposed of is a major environmental challenge which venues must help change.

The environmental impact of cups for live events has been explored in many research studies and reports. This has provided a detailed understanding of the varying impacts of different cup materials. However, much of this content has focused on outdoor festival settings. The unique characteristics of indoor venues (including clubs, theatres, concert halls and arenas), create particular challenges for cup solutions that requires further attention.

This report is designed to support indoor venues of all sizes with clear guidance on the most environmentally sustainable cold-drinks cup solutions, bringing clarity to a confusing market. It summarises the key findings from previous reports on cup impacts, provides a snapshot of current cup systems in use at indoor venues in the UK and sets out best practice guidance all venues can follow.

Informed by the research findings, this report contains a decision-making tool for venue operators to use to guide procurement decisions on cups toward the most sustainable solution for their context.

A short summary of the research process is outlined below.

Venue engagement

An online survey was shared among venues of different sizes to understand what cup types are currently being used, how widespread the uptake of reusable cups is and what challenges exist in adopting more sustainable solutions.

Supplier research

The view from cup suppliers themselves was explored through interviews. This was to understand the scope of services and materials available, as well as the challenges around servicing venues and the key factors for a successful reusable cup system from the perspective of suppliers.

Literature review

This study aims to build on the wealth of existing material on the environmental sustainability of different cup types and reusable cup solutions. The most credible and up-to-date reports, guidance, legislation, case studies and surveys were reviewed to ensure consistent findings.

Venue operators should use this report to inform decision-making on cup types to reduce environmental impacts. All figures in this report should be considered as indicative only, based on the best available data.

3 LIVE (Live music Industry Venues and Entertainment), Deep Dive into Consumer Trends: Green Attitudes
4 LIVE estimate 2023, provided for this study

Summary of Environmental Impacts

The environmental impacts of a cup may at first seem negligible in the context of wider environmental challenges. But when you consider 50.5 million people attend venues across the UK each year, the amount of cups we get through becomes a significant environmental issue through sheer scale. But what exactly are the environmental impacts of a cup?

From a climate perspective, **carbon emissions** are generated throughout the lifespan of a cup, from the procurement of materials and manufacture through to how it is distributed, used and managed at the end of its life. Manufacturing is the most significant source of emissions, contributing around 90% of the carbon footprint for any cup type[6].

Cups are also a contributor to the **global plastic waste crisis**. A total of 8.3 billion tonnes of plastic has been produced in the last 60 years, only 9% of which has been recycled[7]. Once used, most single-use cups are either sent to landfill or burned for energy. If improperly managed at the end of use, they may contribute to the pollution of water bodies and the natural environment. As these items break down over many hundreds of years into ever smaller pieces, known as microplastics, they cause significant harm to ecosystems, and in turn food chains and even human health. Microplastics have now been found in all corners of the globe, from the sea floor to mountain tops, and from the air we breathe to the water we drink.

The material a cup is made from and the number of times it is used can have significant influence on the scale of environmental impact.

The importance of cup type

Several cup types are available on the market, making it a confusing landscape for those looking for the most environmentally responsible choice.

Broadly, cups can be categorised into the following:

- Single-use paper cups
- Single-use plastic cups
- Reusable plastic cups
- Reusable stainless steel cups

The following provides an overview of the environmental impacts associated with different cup types, bringing together key findings from existing research.

Single-use vs reusables

Reusable cups have a lower environmental impact than single-use cups when used a certain number of times.

This is because only one reusable cup needs to be made to cater for many drinks, while for each drink served in a single-use cup, a new one must be manufactured. So, although the emissions to create one reusable cup are higher than for one single-use cup (as they use more material), far fewer cups need to be made in the first place. One reusable cup can replace hundreds of single-use cups.

The following table highlights how the environmental impact of a reusable cup compares to a single-use cup the more it is used.

	Single-use plastic cup	Reusable plastic cup
Carbon footprint of 1 pint (CO2e)	70g	160g
Carbon footprint of 75 pints (CO2e)	5,250g	633.1g
Waste produced per 75 uses (g)	1,500g	0g

Source: Hope Solutions & ZAP, 2018, How disposables compare to reusables[8]

The moment at which a cup has been reused enough times to perform better environmentally than the same number of drinks served in a single-use cup is called the '**break-even point**'. This varies depending on what the cup is made from and how it is washed.

The break-even point can be as low as 3 uses when comparing a reusable cup to a virgin plastic single-use cup[9]. In other words, use a reusable cup 3 times and it will have lower environmental impacts than a single-use virgin plastic cup.

It is therefore important to keep reusable cups in use as long as possible to maximise their environmental benefits. **Unbranded cups** (i.e. no artist, event or venue name) **are less likely to be taken by audiences as souvenirs, minimising cup losses**. Deposit systems and good audience communications can also help. More information can be found on **page 12**.

5 LIVE estimate 2023, provided for this study
6 RAW Foundation, 2018, Making Waves: Reusable Bar Cup Guide
7 Geyer et al, 2017, Production, use, and fate of all plastics ever made
8 For full carbon methodology, see Hope Solutions & ZAP *Disposable vs reusable cups: in numbers*
9 Hope Solutions & ZAP (2018) *It Doesn't Stack Up: How disposables compare to reusables.*

Material type

The material a cup is made from influences the overall environmental impact. Single-use cups can be made from plastic (e.g. PP, PLA, PET), recycled plastic (e.g. r-PET) and paper. Reusable cups can also be made from different plastics, as well as steel.

A report by Heineken provides a detailed analysis of the environmental impacts of different cup material types throughout its lifecycle[10]. The key findings of this study and similar assessments are outlined below.

Reusable cup: material type

The best material choice environmentally for reusable cups is polypropylene (PP).

These cups are hard-wearing and require comparatively lower amounts of energy and material inputs to produce than other types of material. As stated above, the break-even point for PP reusable cups against single-use virgin plastic cups can be as low as 3 uses[11].

Recycled plastics tend not to work as well for reusable cups because the material quality is not as robust and so can withstand fewer uses. There are other types of plastics too - composite cups are made from a mix of plant-based and conventional plastic. However, these cups can be hard to recycle and are not currently available at scale.

Steel cups are robust and can be used almost infinitely, but they are expensive to produce and their weight might make them unsuitable for indoor environments.

Single-use cup: material type

The best material environmentally for single-use cups is paper with a water-based, 'aqueous' lining.

The following table highlights how they compare environmentally to conventional PP plastic single-use cups.

	Virgin plastic single-use cup	Paper single-use cup
Carbon footprint of 1 pint (CO_2e)	70g	17.2g
Raw materials per cup	20g	11.8g
Waste material per 75 uses	1,500g	885g

Source: Hope Solutions & ZAP, 2018, How disposables compare to reusables

An **aqueous lining** means the inside of the paper cup has been waterproofed through a water-based polymer solution, rather than from plastics (PE or PLA). This is best environmentally because it means cups can potentially be recycled, unlike with PE or PLA-lined cups. Venues should ask their waste contractor if and how they can accept them for recycling.

The table below highlights how these linings compare and the implications for waste management.

Lining type on paper cups	Description	Can go into normal recycling streams?	Can be managed at most recycling facilities?	Can be managed by most waste contractors?
PE (Polyethylene)	A traditional plastic that is glued onto cups	✗ (requires separate collection)	✗ (specialist facilities required)	✗ (specific collection required)
PLA (Polylactic Acid)	A plant-based polyester that is glued onto cups. Often advertised as 'compostable'	✗ (requires separate collection)	✗ (specialist industrial composting facilities required)	✗ (specific collection required)
Aqueous-lined	A water-based solution that is lightly sprayed onto cups	✓ 11	✓	✓

10 Heineken, Good Cup Bad Cup report

11 Some waste contractors allow aqueous-lined paper cups to go into normal paper recycling streams, while others may require cups to be collected separately and/or cleaned first.

12 The LCA Centre (2020) *A study of the waste free cup systems at events as commissioned by Rijkswaterstaat in cooperation with Plastic Promise.*

Single-use cups made from **recycled plastics** are an improvement on virgin plastic, however they are themselves more difficult to recycle and can contaminate the recycling waste stream. **Against reusable cups, recycled single-use cups are not better**. A reusable PP cup reaches the break-even point after 6 uses 'versus an r-PET single-use cup[12].

There are a range of other cup materials that may sound like sustainable options, but they are often misleading. Bioplastics and items listed as 'compostable' or 'biodegradable' should be treated with caution. **More information on all material types and what they really mean can be found on page 20**.

Washing & transport

Reusable cups need to be washed after use, creating some additional emissions from energy use. The degree of impact varies depending on the energy efficiency of the washing process and whether cups need to be transported offsite.

The lowest impact option is to **wash cups offsite at a facility within 50km of the venue**[13]. This is because industrial washers are often more efficient at washing cups at scale than an on-site dishwasher or washing by hand.

If the washing facility is over 50km away, the emissions from transporting cups outweigh the benefits of a more efficient facility.

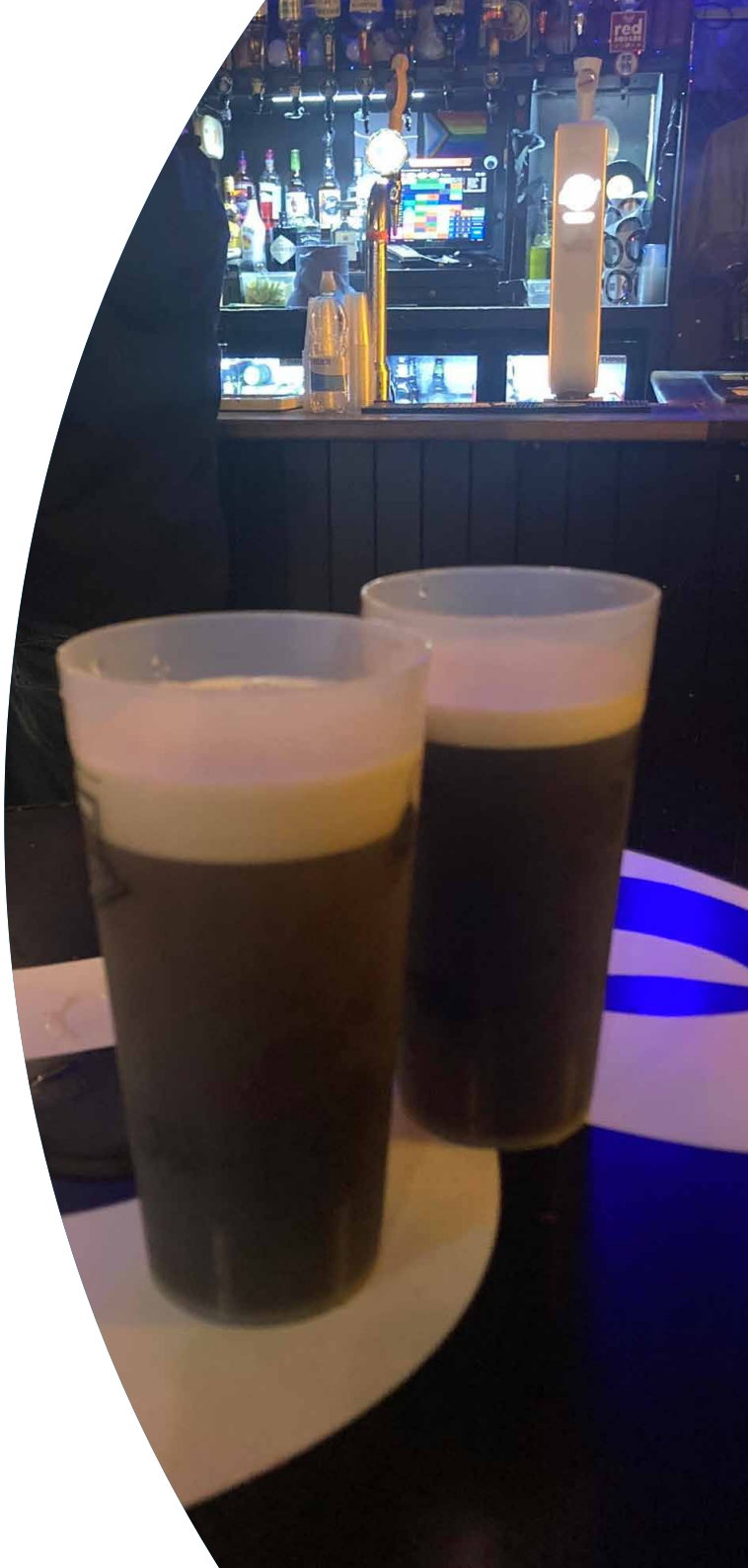
The upshot: which cup is best?

Based on the research summarised in this section, the cup with the lowest environmental impact is a **reusable cup** with the following characteristics:

- Made from PP plastic
- Unbranded
- Used at least 3 times
- Washed at an efficient facility within 50km of the venue

This option limits emissions from manufacture of new cups and significantly reduces the volume of plastic waste generated by venues.

However, practical challenges mean a reusable cup system may not be viable for all venues. **Page 11** provides a detailed guide for venues to understand what option is right for them, based on a good/better/best approach to cup systems.



13 *Cottafava et al* (2021) Assessment of the environmental break-even point for deposit return systems through an LCA analysis of single-use and reusable cups
14 Based on the average cost of a reusable cup at £0.06

Industry Snapshot: Cup Types at Indoor Venues

The research in this study has taken a snapshot of cup types currently being used at UK indoor venues. This is to understand the status quo for cup systems and estimate impacts from the industry.

How many single-use cups do UK venues get through per year?

From this study, it is estimated that at least

80 million **single-use cups** are used across UK venues each year.

This equates to an industry spend of

£4.8 million on single-use cups annually[14].

How much is this for a medium sized venue on average?

A venue with a 2,000 capacity, running three shows per week may use over

686,400 **single-use cups** at a cost of

£41,184 **each year**.

What types of single-use cups are being used?

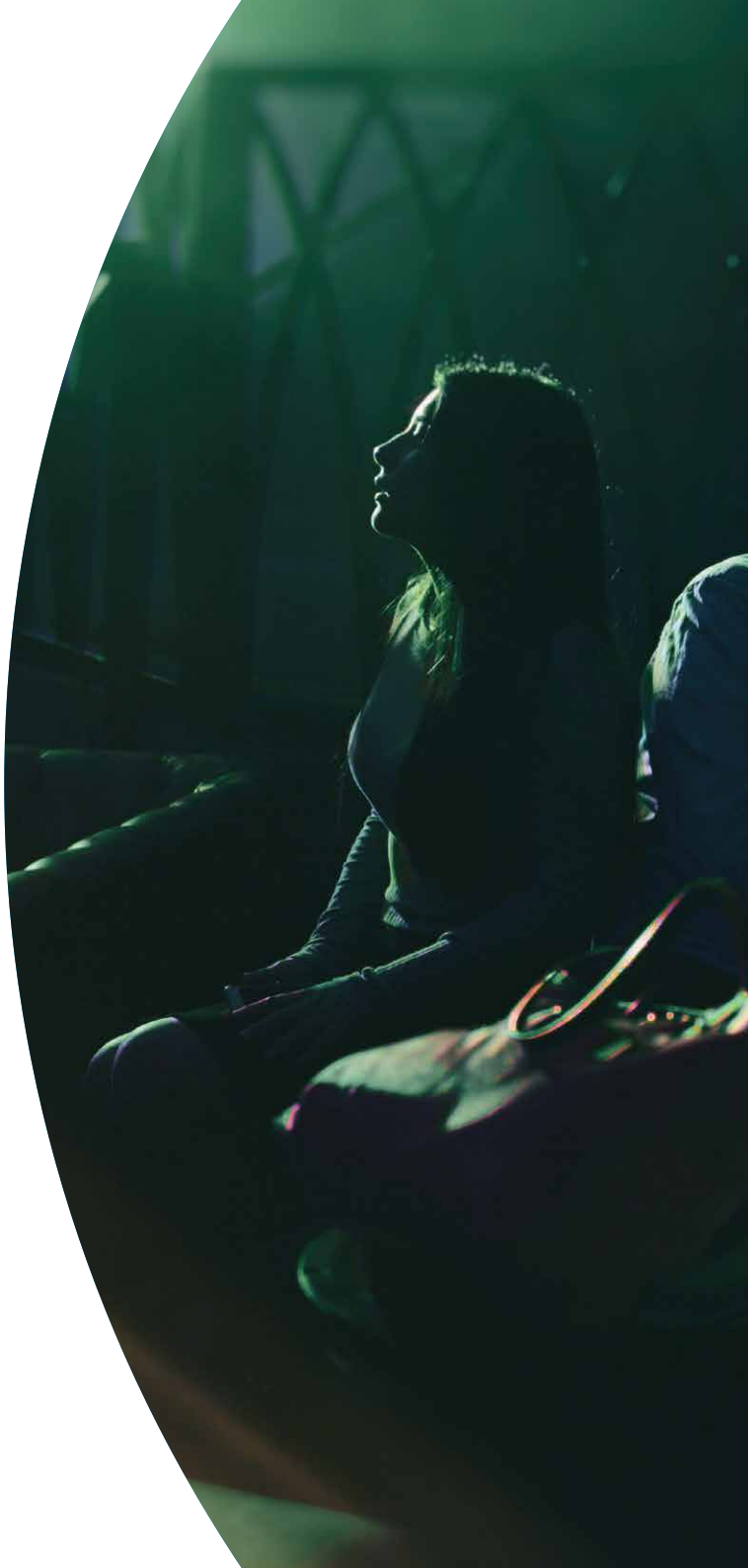
The most common single-use cups are:

1. **rPET**
2. **PP**
3. **OXO Biodegradable**

The use of recycled plastic (rPET) and biodegradable cups indicates that there is appetite among venues to minimise environmental impacts from cups. However, these materials may not be the best option.

What is the uptake of reusable cups by venues?

Survey responses indicated that some venues have explored or are implementing reusable cup systems. Most venues that are doing so are purchasing their own reusable cups rather than hiring them.



Best Practice Guidance: Most Sustainable Cups for Indoor Venues

There is no 'perfect' solution for sustainable cups. However, better choices can be made to minimise environmental impacts. This section outlines a range of options for more sustainable cup systems.

Cup type

The table below sets out the preferred cup options from an environmental perspective against a 'Good/Better/Best' hierarchy. For each cup system, the key considerations, benefits and drawbacks have been outlined. Each venue is different, so these options can be tailored to specific needs.

Good **Aqueous-lined paper cups with appropriate waste management**	**Better** **Unbranded reusable PP cups (bought or rented) washed offsite over 50km away**	**Best** **Unbranded reusable PP cups (bought or rented) washed on-site or within 50km of the venue**
		
Key considerations: • Waste management must be able to recycle cups • Effective separation of recyclable materials is needed	**Key considerations:** • Funding required to buy/hire cups and for any third-party services (e.g. washing and delivery) • Efforts needed to minimise cup losses (e.g. deposit and/or exit checks) • On-site collection of cups needed (either customer returns or staff collections post-event) • Additional logistics may be required to manage deliveries • On-site storage of cups may be required if washing and keeping cups at the venue	
Pros: • Limited changes required to existing systems used for disposable cups • Lower environmental impact than single-use plastic	**Pros:** • Improved environmental impact • Engagement opportunity with audiences on sustainability	**Pros:** • Significantly improved environmental impact • Greater control over cup stocks if keeping cups on-site • Engagement opportunity with audiences on sustainability
Cons: • Still contributing to a model of single-use consumption • Emissions are high for the production of cups • No guarantee cups will be recycled	**Cons:** • Upfront costs involved (but balance out over time) • Resource (and possibly additional training) required to manage collection and delivery • Emissions caused from transportation	**Cons:** • Upfront costs involved (but balance out over time) • Resource (and possibly additional training) required to manage collection and delivery • Storage space is required if keeping cups on-site

Deposits and levies

Applying a small charge to reusable cups can help to cover some costs and can also influence how the system is managed by encouraging certain audience behaviours.

There is no right or wrong approach to applying a deposit or levy since each achieves a different outcome. The type of fee and how it is applied may depend on the characteristics of the venue, the type of event and the desired response from the audience.

Some common examples and their respective benefits and drawbacks are set out below.

Type	System	Venues it best suits	Pros	Cons
LEVY	**£1 non-refundable fee applied to every drink unless a cup is returned***	Venues wanting cups to be returned to the bar	• Helps to fund the system • Encourages audiences to return cups (improved loss rates) • Fewer cups around the venue and on the dancefloor • Less effort for staff to clear cups post-event	• Space is required in the bar area • Good management of cups is needed to avoid the bar area getting overwhelmed • Additional requirements of bar staff to change amounts on the till if a cup is returned • Stings the customer buying the first round in a group • Customer may believe they have bought and now own their cup, increasing loss rates
LEVY	**Non-refundable nominal fee (e.g. 10p – 30p) applied to the price of each drink** (regardless of cups being returned)	Venues not wanting or intending for cups to be returned to the bar	• Helps to fund the reusable cup scheme • Fewer cups are returned to the bar if there is a lack of space • Simple system for bar staff to manage as the fee is applied to all drinks • Fairer as a smaller cost is applied to each drink, rather than a larger cost just for the first drink	• Makes each drink slightly more expensive for the audience • Hard to communicate what the additional fee is for to the customer • Staff time is required to collect cups from around the venue at the end of each event
LEVY	**Additional fee added to the ticket price**	Venues not wanting to change the price of drinks and not wanting cups to be returned to the bar	• Helps to fund the reusable cup scheme • Opportunity to communicate the scheme to audiences prior to the event	• Adds to the cost of event tickets • Other charitable causes may miss out on the opportunity of funding through optional additional fees on tickets • No ability to influence audience behaviour with used cups (e.g. return to the bar)
DEPOSIT	**£1 refundable deposit on each drink** (redeemable by returning a cup to the bar, including at the end of the show)	Venues wanting cups to be returned to the bar and are able to refund customers quickly and easily	• Encourages audiences to return cups (improved loss rates) • Fewer cups around the venue and on the dancefloor • Less effort for staff to clear cups post-event • Customers can get redeem their money	• May not adequately fund the system as deposit is refunded • Space is required in the bar area • Good management of cups is needed to avoid the bar area getting overwhelmed • Only possible for venues that can refund in cash as recharging cards is too slow

** This is effectively a one-off fee when a customer buys their first drink, or if they return to the bar without a cup. The return of their cup is evidence they have paid the initial fee and so it can be taken off their next drink. A £1 non-refundable fee on each customer's first drink is not advisable for venues that do not want any cups to be returned to the bar as it can be difficult for staff to monitor who has paid the fee, risking conflict and customer dissatisfaction. The better option for these venues would be to provide a nominal fee on each drink.*

Key considerations for deposit and levy schemes

Whichever approach is taken, the following recommendations should be considered for a successful deposit or levy scheme:

- **Communication:** It is crucial that audiences are fully informed about the reusable cup system and its environmental aims to ensure audience engagement. Audiences should be made aware of the relevant deposit or levy that is in effect, how they can redeem their money where relevant and that cups should not be taken home. It can be difficult to verbally communicate this at the point of sale, so clear signage at the venue and social media messaging in advance of each event is valuable.

- **Funding:** Any money raised through reusable cup systems must be ringfenced as funding for the cups programme itself (e.g. covering the cost of upfront purchase, washing and/or delivery) and/or other environmental initiatives. This should be clearly communicated to avoid the perception that any cup charge is a profit-making exercise by the venue.

- **Resourcing:** Staff should be properly briefed on the deposit or levy scheme to manage the process and communicate with customers successfully. They should be able to clearly tell customers about the charge or deposit and how they can get reimbursed, where relevant. Additional resource may be needed at exit points to prevent high loss rates.

- **Deposit systems:**
  - **Setting the right cost:** The cost of the deposit can influence audience decisions. The larger the deposit, the less likely it is that customers will take cups home, reducing loss rates. However, a balance needs to be struck with the degree to which it affects audience perception of drinks prices (even if the deposit will be returned).

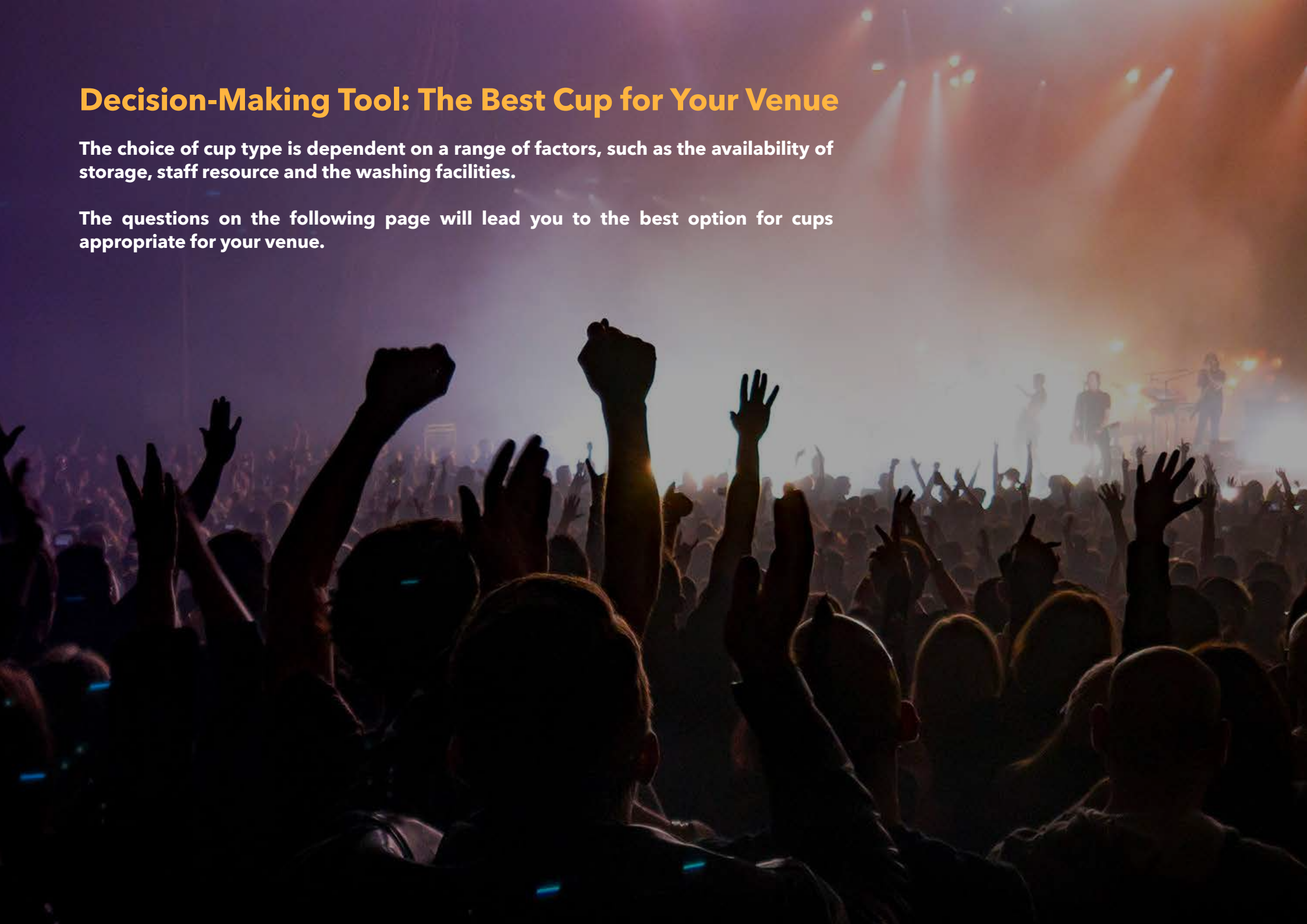
  - **Reimbursing the deposit:** Venues are increasingly cashless, making it difficult and slow to pay back deposits by card. Holding some physical cash behind the bar may be necessary to reimburse quickly. If this is not possible, then a levy scheme may be required at a venue, removing the need for managing reimbursements.

- **Levies:**
  - **Applying the fee:** It is generally a better approach for a levy on drinks to be automatically applied and then manually discounted if a cup is returned. This avoids the fee accidentally not being applied in a busy bar environment. It also helps to incentivise customers to return cups through the positive framing of a discount rather than an initial charge. Tills should therefore be set up with a cup charge and option to easily remove it.

Decision-Making Tool: The Best Cup for Your Venue

The choice of cup type is dependent on a range of factors, such as the availability of storage, staff resource and the washing facilities.

The questions on the following page will lead you to the best option for cups appropriate for your venue.



What cup system should I use to reduce environmental impacts?

Do you use reusable cups?

No

Do you have storage space for at least one week's supply of cups? (avg. 300 pint cups per 60x40x40cm box)

No

Do you have a space which you could repurpose for storage?

Yes

Is a staff member able to manage cup collection & deliveries for washing off-site?

Yes

You may need to use single-use cups

No

Do you use single-use cups made from paper?

No

Yes

Do the cups have an aqueous lining (i.e. not PE or PLA lined)?

No/don't know

Yes

Do you have appropriate waste management in place?

No/don't know

Yes

Good

Your venue should use/keep using:

Aqueous lined paper

With appropriate waste management

Tips:

- Speak with your waste contractor to ensure paper cups can be recycled
- Ensure cups are separated into the recycling paper stream
- Continue to explore all possible options for reusable cup storage

Yes

Are the cups unbranded?

Yes

Are the cups made from PP plastic?

Yes

No

Switch to unbranded

No/don't know

Switch to PP plastic

Yes

Do you currently (or could you) wash cups at a washing facility within 50km of your venue?

No

Yes

Do (or could) you keep cups on-site and wash via your own dish washer?

No

Yes

Do (or could) you hand-wash cups on-site or send them to a washing facility over 50km away?

No

Yes

Better

Your venue should use/keep using:

Unbranded reuseable PP cups

Washed via

Onsite hand wash
or
Industrial washing facility over 50km from venue

Tips:

- Ensure a member of staff is responsible for cup management (counting stock, managing deliveries)
- Consider purchasing an on-site dishwasher
- Speak to your supplier and local venues about closer washing facilities

Best

Your venue should use/keep using:

Unbranded reuseable PP cups

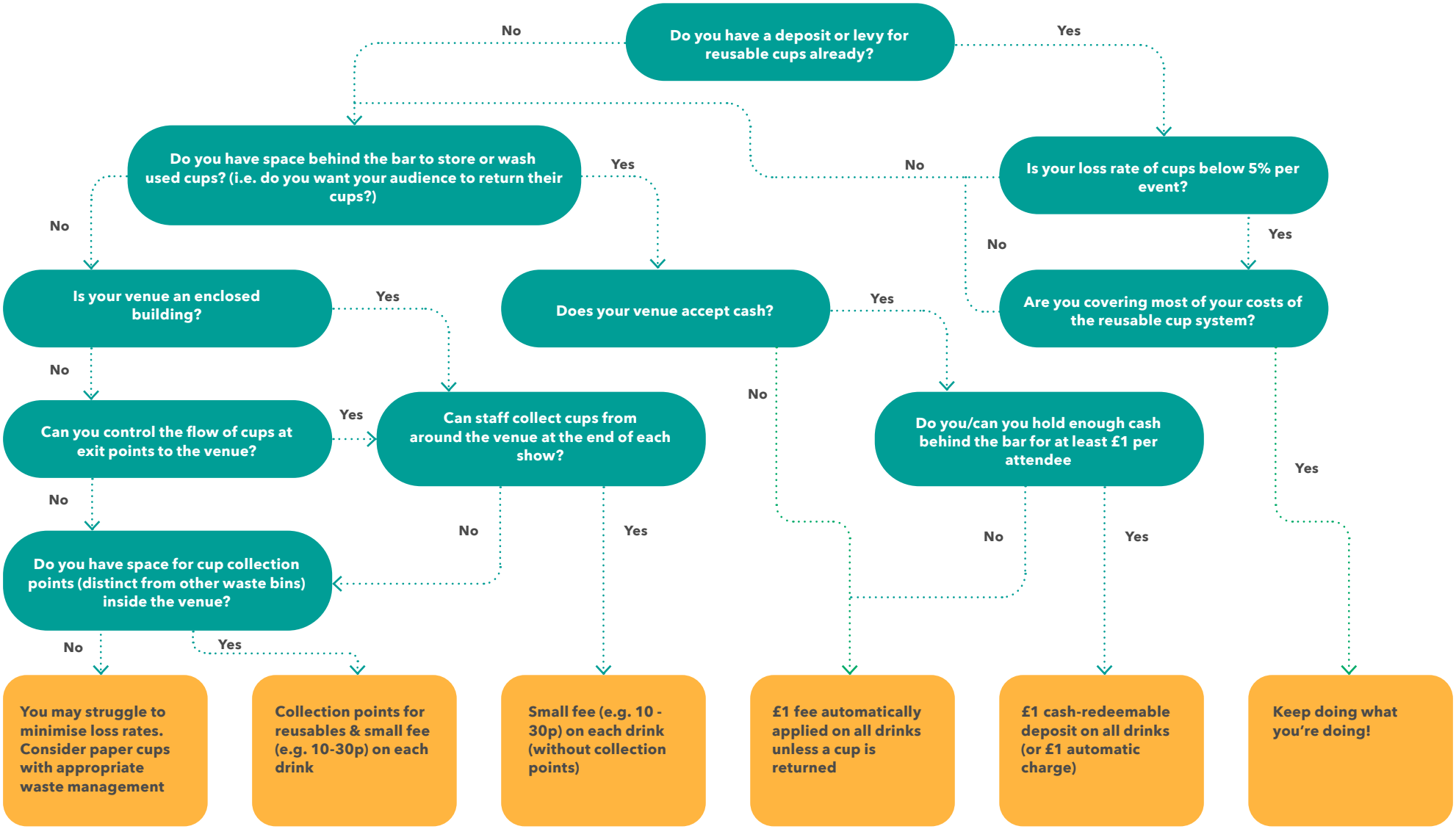
Washed via

Industrial washing facility over 50km from venue
or
On-site dish washer

Tips:

- Ensure a member of staff is responsible for cup management (counting stock, managing deliveries)
- Ensure a clear system to separate clean and dirty cups if washing on-site

What deposit/levy scheme should I apply for my reusable cup system?



Overcoming Perceived Challenges for Reusable Cup Systems

Findings from the venue survey revealed a number of perceived challenges for reusable cup systems at indoor venues. Lack of storage space and up-front costs were the most frequently cited barriers, supporting similar findings from other studies, including ecodisco's survey of 68 UK venues[15].

While there are valid obstacles for venues in implementing a circular cup solution, in many instances the scale of each challenge is not as large as might be anticipated.

Reusable cups cost less money than single-use in the long-run

A common concern for the roll-out of reusable cups is the perceived costs of running the system. There may indeed be an initial investment to buy cups, but many venues will decide to hire cups from a specialist supplier, helping to spread costs. A cup levy can also help to cover costs (see **page 12**).

The table below sets out an illustrative example of how single-use cups compare to reusables.

Example
Venue Capacity: **2,000**
Weekly shows: **3**
Annual attendees: **312,000**

	Single-use	**Reusable**
Number of cups required annually	686,400	88,080
Cost of cups per year	£41,184 (excluding waste management and staff costs)	£82,368 (for cup hire fee at £0.12 and loss charge at £0.35, excluding staff costs and additional service costs)
Revenue gained from cup levy	£0 (no levy applied to single-use)	£93,600 (£0.15 levy on every drink sold)
Net	- £41,184	+ £11,232
Environmental costs		
Embodied carbon cost per year (£100/ tonne CO2e)	£4,805	£1,410
Tonnes of plastic waste produced annually	13.7 tonnes	4.2 tonnes

Note - Figures assume three sold-out events per week, with audiences buying two drinks per show. Cup figures assume the venue would purchase or hire enough cups for two drinks per audience member, with a 10% additional contingency, and 4% loss rate per performance with related loss charges.

Venues should note that for a cup system to run smoothly and to benefit the business, a member of the organisation should dedicate regular hours to system operations. The revenue from the levy should be invested back into the management of the reusable cup system.

15 *ecodisco*, 2021, Single-Use Discontinued

Venues may in fact have enough storage space required for reusable cups

Space is at a premium inside most venues and there is often a concern that there is not enough storage available to keep reusable cups on site.

Space is needed to store enough cups for at least one event, although some venues may want a week's worth of clean cups for upcoming shows to reduce the number of collections and deliveries. Space behind the bar may also be needed for customers to return used cups for washing.

But how much space is required?

An industry standard box of 300-pint cups is sized 60cm x 40cm x 40cm. The following table provides an illustrative example of how many boxes might be needed for small, medium, and large venues.

A small venue may need approximately 5 boxes of cups per event, as shown below'

		On-site washing		Off-site washing (1 collection per week) [16]	
	Average number of reusable cups needed per event	Number of boxes per event	Space required (m3)	Number of boxes needed per week	Space required (m3)
Small venue (500 capacity)	1,232	5	0.4	12	1.1
Medium venue (2,000 capacity)	4,928	17	1.6	46	4.4
Large venue (5,000 capacity)	12,320	42	3.9	115	11

Note - Figures assume each venue is at full capacity for 3 events per week, with each attendee buying 2 drinks, accounting for 10% extra cups as a contingency and a 4% cup loss rate.

If cups are being washed off-site by a third party, most suppliers recommend putting used cups straight back into these boxes ready for collection, helping to minimise the space required.

For smaller venues wishing to clean on-site, some washing machine models can be 50cm x 50cm in size and have a short wash-cycle time. It should be noted that not all machines dry as well.

Larger venues may be able to consider larger containerised washers positioned immediately outside or in the nearby vicinity that can also dry cups.

Actual loss rates of reusable cups mean they are still the environmentally preferable choice

There is a perception that loss rates of reusable cups (through damage or audiences taking them home) mean they are too expensive and even less environmentally beneficial than single-use cups.

It is true that the more reusable cups are lost, the less positive environmental impact is gained against single-use cups. Some studies show that a loss rate of 20% can mean reusable cups have a higher environmental impact than single-use cups[17].

However, based on our industry engagement, **the average cup loss rate per event is 4% when cups are unbranded**. The low loss rate means that it is still more beneficial to have reusable cups from an environmental perspective.

16 Increasing the number of collections per week reduces the storage required and can provide flexibility to react to increased demand for a given event.

17 LCA Centre, 2020, A study of the waste free cup systems at events

There are many proven strategies to minimise loss rate, such as using unbranded cups to avoid cups being taken as a souvenir, audience communication and monitoring of exit points. Deposit return schemes can also help and are explored further on **page 22**.

Reusable cups do not cause additional health and safety issues

Reusable cups are made from more durable plastic that cannot be crushed underfoot like single-use cups. This has given rise to perceived safety concerns that reusables may cause trip hazards on dancefloors or may be harmful if thrown during an event.

However, there is no evidence to suggest that reusable cups cause more of a slip risk than crushed disposable cups. In fact, a deposit scheme which places value on returning cups to the bar means fewer cups are likely to be present on the dance floor and elsewhere around the venue than would be the case with single-use cups.

As for cups bring thrown, there have been too few reported cases to regard this as a significant risk. If there are certain events which may be more likely to see cups being thrown, a temporary switch to a paper single-use cup could be an option, rather than discounting reusable cups long-term.

Audiences are keen to support environmental initiatives

There are some concerns that reusable cup systems are not popular when it incurs an additional fee on drinks. Similarly, there is a perceived risk to the customer experience, particularly for seated jazz or classical performances where glass is often used to create a particular audience experience.

The truth is that most event-goers would welcome environmental initiatives, especially when there is an opportunity for them to play a part. A recent consumer trends analysis by LIVE (Live music Industry Venues and Entertainment) found that the majority of fans are environmentally conscious and hold event organisers responsible for making it easier for attendees to minimise environmental impacts.[18] This is consistent with other recent findings that have shown 82% of music fans are concerned about climate change.[19]

18 LIVE (Live music Industry Venues and Entertainment), Deep Dive into Consumer Trends: Green Attitudes
19 University of Glasgow, 2022, 'Turn Up the Volume' Survey: Music fan attitudes towards climate change and music sustainability

Clarifying Key Terms

The terminology around materials and claims to sustainability have created a confusing landscape for venues to navigate. This section clarifies frequently cited terms and what it means for cup choices.

Bioplastic: Plastic made primarily from plant-based material instead of oil used in conventional plastics. This does not necessarily make it a more sustainable choice. It is still a single-use material, is hard to recycle and is often energy-intensive to produce.

Biodegradable: Materials that can be naturally and quickly broken down by microorganisms. Paper is a biodegradable material, but paper cups often have a plastic lining which complicates this.

Biodegradable plastic: Plastic that can be broken down by microorganisms faster than regular plastic under certain conditions, but may still take hundreds (rather than thousands) of years to do so. Biodegradable plastics may still release greenhouse gases when they break down and contribute to micro-plastic pollution, with implications for the food chain. It is also still a single-use material.

Carbon neutral: A claim that the carbon impact of a product or company has been compensated by buying offsets (e.g. paying for trees to be planted). The definition of carbon neutral does not require an organisation to actually reduce emissions, instead focusing on paying for someone else to capture or not emit more emissions. For this reason, it is not considered a robust sustainability claim.

Compostable: Natural matter or materials that can degrade in the environment under certain conditions.

Compostable plastic: Plastics that can only be composted under certain conditions by industrial machines (e.g. industrial composting plant or anaerobic digester). They cannot be put on a home compost. Compostable plastics are still a single-use material and need to be carefully separated from all other waste streams to be sent for industrial composting and avoid contaminating other recyclable materials. There are limited numbers of industrial composting facilities, meaning mostly these items still go to landfill or incineration.

Circular/circular economy: A system in which waste is brought back into the supply chain as new resources, rather than going to landfill or being burnt. A true circular system is where a product is recovered at the end of its use to perform the same function again (e.g. a reusable cup is recovered and is used as a reusable cup again; or an aluminium can is recycled and turned into a new aluminium can), without loss of material quality.

Organic: Materials or items that have been produced with improved environmental practices, with low or no chemical use. Many products make a claim to being organic without clear evidence.

Plastic types:

- **PP** - Polypropylene - commonly used virgin plastic made from crude oil. Used for hard reusable cups and single-use disposable cups.
- **r-PP** - Recycled Polypropylene - a half recycled, half virgin plastic that can be used for single-use disposable cups. While the material comes from some recycled sources, it is difficult to recycle itself. There are no approved recycling facilities for recycling PP for the food and drinks packaging industry.
- **PET** - Polyethylene Terephthalate - commonly used virgin plastic made from crude oil that can be used for single-use disposable cups. It is among the most easily recycled types of plastics.
- **r-PET** - Recycled Polyethylene Terephthalate - a half recycled, half virgin plastic that can be used for single-use disposable cups and is more recyclable than r-PP.
- **PLA** - Polylactic Acid - a bioplastic made from plant-based starch. It will decompose under specific industrial conditions, but few facilities currently accept PLA products. Separate waste collection is needed to avoid contaminating recyclable items.
- **Tritan** - a BPA-free virgin plastic made from crude oil that can be used for premium hard reusable cups. BPA is a chemical often found in hard plastics that can cause harm.
- **PC** - Polycarbonate - a virgin plastic made from crude oil used in some hard reusable cups.

You can identify the plastic type and how recyclable it is by looking at the plastic resin code. See below for an example:

Responsibly sourced: A broad claim to improved environmental and social practices in the supply chain. Many products make a claim to being responsibly sources without clear evidence. Look out for the following certifications to ensure a claim is substantiated, particularly for paper cups:

FSC: 'Forest Stewardship Council' - a certification that timber-based products, including paper, has been sourced from responsibly managed forests.

PEFC: 'Programme for the Endorsement of Forest Certification' - another certification that timber-based products have been sourced from responsibly managed forests.

Recycled: A material or product that has been made from an item that has been previously used. Many products make a claim to being recycled without clear evidence.

Recyclable: A material or product that has the potential to be recycled. The ability for an item to be recycled varies geographically and sometimes by the waste contractor. It is important to speak with your waste contractor to see what is possible. Recyclable items should be separated into different waste streams.

The Mobius Loop symbol indicates that something can be recycled. It does not mean that it will be, as it depends on the local recycling facilities.

Looking Ahead

The current market for cups is dynamic and subject to new innovations and regulations. These possible changes are outlined below.

Collaboration

This research has identified a clear need for the indoor events industry to collaborate on reusable cup systems. The **sharing of washing facilities** is one area where collaboration could have significant positive impact. There is a limited number of industrial washing facilities for reusable cups in the UK, and these are geographically dispersed. Collaborating with other venues and businesses locally that have access to washing facilities can support more venues to implement reusable cup systems and can contribute to the wider circular economy movement. A map of existing washing facilities would be a valuable next step for the industry.

Venues would also benefit greatly from an **industry trade body of cups suppliers** to raise and discuss challenges, improve alignment in reusable cup systems for better consistency and look for opportunities to co-invest in washing facilities. Venues can support this alignment by coming together to make the call to suppliers for greater consistency and cooperation.

Innovation

Smart cup and bin solutions utilising tech are playing a growing role at live events. By digitally scanning cups with a related smart collection point, cup returns and stock inventories can be managed automatically. Audiences can also be incentivised to return cups through points-based rewards on a bespoke app.

Small-scale containerised and even mobile washing systems are also coming onto the market. These solutions promise greater availability of washing and drying for venues that may not be able to fit a dishwasher behind the bar. Instead, it may be possible for some venues to place containerised washing machines immediately outside if there is an energy source and appropriate drainage available.

These solutions are currently being scaled-up through investment. Entertainment multinational Live Nation has recently invested in Turn, one such company offering smart cup and bin solutions[20]. It should be noted that the solutions may not be appropriate for all venues.

Legislation

There is currently no event-specific regulation surrounding cup use and waste more widely. However, the UK Government's 25 Year Environment Plan indicated a number of future environmental policies which could have implications for cup use at venues.

Deposit Return Scheme

This is a system in which a redeemable fee is applied to consumer items to encourage recycling of the packaging. For example, a deposit is added for the bottle that a drink comes in and it is refunded when the bottle is returned after use to a designated collection point.

The UK's first deposit return scheme is due to go live in Scotland, although this has been delayed until 2025. Items in scope include plastic bottles, glass bottles and cans. Take-away drinks will be sold with a mandatory additional 20p fee and the premises must operate a return point.

The regulation does not extend to drinks consumed on-site as it is not expected the packaging will leave the premises.[21] However, venues selling drinks for consumption on-site only can choose whether to charge the deposit regardless and/or operate as a general return point for scheme containers.

While most venues will currently be out of scope for this regulation, it indicates a wider move toward a circular economy. It is possible that the law, planned to be in place across the UK by 2025, could broaden to encourage all indoor premises to charge a deposit and provide collection points[22].

Extended Producer Responsibility

The Extended Producer Responsibility legislation makes manufacturers of packaging more responsible for the full cost of managing and recycling packaging once it becomes waste. Essentially, it shifts the cost of recycling and waste management from taxpayers to packaging producers, who will have greater accountability over the lifecycle of packaging. This legislation builds on existing Packaging Waste Regulations and is due to come into force in the UK in 2025.

The additional costs for packaging producers will be absorbed into the costs of goods. So, the cost of drinks sold in single-use packaging is likely to increase[6]. This may affect the cost of single-use cups. Beyond the increase in cost, the regulation indicates the wider move to a circular economy, in which waste is turned into new resources.

20 Live Nation 2022 https://www.livenationentertainment.com/2022/09/live-nation-shifting-to-turn-reusable-cup-system-at-events-to-reduce-environmental-impact/
21 Zero Waste Scotland: Deposit Return Scheme
22 Vision: 2025: Festival Industry Materials and Waste Briefing: Current UK legislation, guidance, greenwashing checklist and future insights

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Julie's Bicycle

Julie's Bicycle is a pioneering not-for-profit, mobilising the arts and culture to take action on the climate, nature and justice crisis. Founded by the music industry in 2007 and now working across the arts and culture, we have partnered with over 2000 organisations in the UK and internationally. Combining cultural and environmental expertise, Julie's Bicycle focuses on high-impact programmes and policy change to meet the climate crisis head-on.

Hope Solutions

Hope Solutions is a leading independent environment and sustainability consultancy working closely with stakeholders across arts, music, media and entertainment. We take a science based approach that is backed up by recognised standards to support the live event industry in environmentally driven and efficient change. Our view is that data and research can lead to better informed decision making to build organisational resilience, increase efficiency and to ultimately protect the planet.