Single-use cups are cancelled.
Introducing a new normal for UK nightlife.
Ecodisco originated as a sustainable concept party in June 2019, when we threw London’s first club night to remove all single-use plastics. In early 2020 ecodisco evolved from club night to consultancy and began to design scalable, affordable and measurable systems to remove single-use plastics and reduce greenhouse gas emissions across the UK events industry. With expertise in carbon footprinting, reusable cup systems and specialist communications, ecodisco is pushing for a more environmentally and economically sustainable nightlife scene in the aftermath of the COVID-19 pandemic.
Summary

It’s Time for a New Normal

As we begin to emerge from the pandemic there is a keen sense of ‘returning to normal’, but was normal really working for us? Hope is in the air for the events industry as venues reopen and covid-safe events are rolled out. But as we fight and push to revive and boost this important part of our economy and culture, we must prevent the continuation of single-use culture; just like a warm pint of beer, it is unwanted.

In the rush and eagerness to return to ‘normal’, coupled with a heightened fear surrounding hygiene, many music venues and events may opt for what they know: single-use cups. After more than a year of enforced change and adaptation, can we together seize the moment to apply what we have learned and grasp an opportunity to further improve and evolve as an industry?

Ready, Set, Reuse

At ecodisco, we have worked throughout this unprecedented COVID-19 crisis to ensure that our first major project, a reusable cup rental service for urban music venues, is ready to launch out of the starting blocks as soon as full capacity events return.

Our system has been designed with financial support from Innovate UK and will be piloted in London throughout July and August 2021. This report serves to highlight the overwhelming environmental and financial benefits of establishing reusable cups as an events industry standard, rendering single-use cups ‘cancelled’.

Sustainable Development

Ecodisco identifies with the definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”, as set out in the Brundtland Report for the United Nations World Commission on Environment and Development.1 This definition acknowledges the interconnectivity of the economic, environmental and social pillars of sustainability.

The Challenge

There’s No Progress Without Change

The linear ‘take-make-waste’ economy is no longer working for business, society or the environment, resulting in economic inefficiencies, growing inequalities and breathtaking damage to our planet. In order for us to make tangible and systemic changes, we must urgently move towards a circular economy - a paradigm shift which seeks to create a positive economic, societal and ecological impact by designing out waste.

Reusable cup systems offer a circular solution in the context of drink services at events, bringing demonstrable financial and environmental benefits.

The Single Use Problem

Any product that travels through the processes of resource extraction, manufacture, packaging and distribution, and is then discarded within minutes of service, is not sustainable.
A 2018 study by Hope Solutions calculated that over 100 million single-use plastic cups are used in the UK events industry each year. If the entire industry made the switch to reusables, 1000 tonnes of carbon emissions and 300 tonnes of waste would be saved per 1 million reusable cups in regular use. The study also explained how, due to the complexity of sorting disposable cups from mixed waste, the majority are sent for energy recovery via incineration or, worse, to landfill.²

One nightclub in the north east of England spoke to ecodisco about their disposal of 4000 single-use cups a week from their 400 capacity space. Two major London clubs currently running socially distanced seated events for just 80 people revealed an expenditure of up to £2,800 a month on cups, not including the cost of waste collection. These are just some of the examples illustrating that single-use cups are not only harmful to the environment, but also to the economic landscape of urban nightlife.

In recent years the ‘compostable’ or ‘biodegradable’ cup has been loudly marketed as a potential solution, creating confusion for customers and venues alike and undermining the necessary shift away from single-use culture. These cups are either made entirely from Polylactic Acid (PLA) plastic derived from corn-starch or a PLA/paper composite. Still unknown to many, 100% PLA cups will only break down at over 40°C in an industrial composter across a 12 week period. The PLA/paper version breaks down at a quicker rate but still requires an industrial composting process. Moreover, to ensure that your compostable serviceware will actually arrive at the appropriate composting facility rather than being sent to landfill, these items must first be separated entirely from all non-compostable waste - a tall order for events of any scale.

Similar to the issue we face with a low recycling rate for plastic, the UK does not have sufficient facilities to process these bioplastics resulting in the vast majority going to landfill or incineration, perpetuating the linear single-use problem. Many PLA cups look identical to PET (plastic) cups and are mistakenly placed into recycling bins after use. However, as PLA is not recyclable, this well-meaning act creates widespread issues of contamination - resulting in perfectly recyclable waste going to landfill or incineration instead. Compounding these issues for business owners, single-use compostable cups come at a premium cost when compared to plastics.

² Hope Solutions & Zap Concepts (2018) It Doesn’t Stack Up… How disposables compare to reusables
The Obstacles to Reuse

Whatever form it takes, the single-use cup is an inherently flawed design. It fuels irresponsible consumption of energy and resources, is used for mere moments before disposal and rarely achieves its end-of-life target of recycling or composting. A broad body of previous research has attempted to defend single-use cups by stressing the higher carbon footprint evident in the production of a single reusable cup. However, this discounts the fact that a reusable Polypropylene (PP) ‘festival cup’ can be used up to 500 times, radically outperforming the carbon footprint of single-use equivalents on a per-cup basis (see Section 3).

Whether through the absence of a viable system or a lack of quality information surrounding reusables, venues have so far largely continued with a single-use approach. In order for the industry to confidently move forwards on a larger scale, we must first address some of the existing concerns surrounding reusable cups for the venue owners themselves. To that end, in Q1 2021 ecodisco produced a survey for 68 multipurpose UK venues to assess the primary barriers preventing the implementation of a reusable cup system. Our survey revealed that up-front costs, extra work for staff and a lack of storage were the key barriers.

Industry Barriers to Reusable Cups

The up-front cost of purchasing cups and washers (63%) was overwhelmingly cited as the biggest obstacle with extra work for staff coming in second (32%). This data correlates with the December 2020 Vision: 2025 Industry Green survey which found that “for those implementing less ambitious sustainability plans, the main reasons are overwhelmingly a lack of budget and a lack of staff resource – though many are citing high levels of uncertainty”.

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1 Vision 2025: Industry Green Survey (2020)
Significantly, venue owners who have already implemented reusables cited cost effectiveness as one of the key benefits. This disconnect between negative perception and positive experience suggests that, by removing the up-front cost of cups and washers, we can help the urban nightlife industry progress into a new normal where reusables replace single-use.

While not reported as one of the main barriers by venue owners, the COVID-19 pandemic has brought with it an understandable rise in public concern surrounding the hygiene safety of reusable cup systems. This issue will be addressed in Section 4 of this report.

“If we’re not paying the price someone else is - in this case that other person is the environment.”

Clubber
The Solution

Context

The last decade has witnessed the emergence of a European music festival sustainability network to challenge existing institutional paradigms in waste management, energy, food, water, transport and socio-cultural impact. In the UK, festivals such as Shambala, Green Man and The Green Gathering have led the way on sustainability issues, creating templates for best practice and spearheading cross-event and cross-sector collaborations that have increased the event industry’s transformative capacity for sustainability.

Within this melting pot of sustainable festival innovation, reusable cup systems have proven to be financially viable for several years. However, despite a growing number of successful case studies, many festivals continue to opt for compostable alternatives due to the logistical challenges that reusables present.

While there is much work still to be done, sustainability in the festival industry has been increasingly buoyed by the progress of a network of frontrunner events and the sustainability organisations that support them.

Due to perceptions of unaffordability and logistical difficulty, few similar success stories have emerged from the UK urban nightlife scene over the past decade. Where greenfield festivals can determine their own layout and infrastructure and experiment with annual, iterative improvements to a temporary physical space, fixed music venues must seriously consider any potential disruptions to their year-round operation as well as the diverse limitations of their architecture and urban location. It is also vital to remember that between 2005 and 2015 almost half of the nightclubs in the UK closed, with many of those that remain continuing to struggle with rising rent and extremely tight margins. In this context, even prior to the industry devastation wrought by COVID-19, it is entirely understandable that environmental sustainability has not been a top priority for urban venues and events.

* BBC Newsbeat (2015), UK nightclubs closing at ‘alarming rate’.
The Solution

The New Normal

During this unfortunate period of enforced closure for UK nightlife, ecodisco developed a solution that could improve both the financial outlook and environmental footprint of venues and events in urban areas. Our first major offering is a scalable reusable cup rental service that is funded by a £1 green fee paid by event attendees.

The three steps to the system are laid out below; delivery days, times and frequency are all flexible allowing the service to be tailored to a diverse array of venues.

- We deliver all of the reusable cups a venue requires for the weekend on a Friday morning/afternoon.

- As dirty reusable cups are used and returned to the bar, they are stacked into the ecodisco crates provided rather than going into waste bins.

- We collect the crates of dirty cups on Monday, simultaneously delivering a fresh stock of clean cups for any events during the week.

Energy and water-efficient off-site washing facilities are used and cups are monitored and maintained to ensure they are reused as many times as possible - projected at up to 500 uses per cup.

“If you had no choice, and just had to do it... The ‘new normal’... Maybe some things in life we shouldn’t have a choice!”

Clubber
The entire system is cost-free to the venue and is funded by a £1 green fee that is either added to the ticket price or charged on each customer’s first drink. This approach has the potential to save a 750 capacity venue over £36,000 a year!* Not only does the venue remove the cost of purchasing cups, but they also remove the cost of disposal, savings that will be invaluable as venues reopen during the COVID-19 recovery. Most importantly, our system has the potential to replace the 100 million+ single-use cups that litter the UK events industry each year.

A 750 capacity venue can save £36,000 a year

“Single-use plastic cups spill everywhere and fall all over the place. Reusables are a better product to drink from.”

Clubber

*Based on anecdotal evidence of a 750 capacity venue spending £700 a week on single-use cups.
The Response

To gauge the response to our proposed solution we once again surveyed industry stakeholders to hear their thoughts.

53% of venues responded positively towards the additional £1 green fee, while 28.9% were unsure but willing to trial the system.

Meanwhile, 89.3% of event attendees stated that they would definitely pay £1 extra in order to make a reusable cup system affordable for music venues.

Our initial data indicates a demand for a shift away from single-use to reusables in the UK events industry, as well as a startling appetite (97.8%) for further change once cost-effective solutions are proven.

The ecodisco reusable cup system will be piloted in London throughout July and August and we look forward to refining the system and sharing the results.

Venue & Events Staff

Would your customers be willing to pay £1 extra on their first drink for a reusable cup?

- Definitely: 29%
- Probably: 12%
- Probably not: 12%
- Definitely not: 40%
- Let’s find out!

Would the success of our system inspire you to implement other sustainable practices?

- Yes: 98%
- No: 2%

Clubbers

Would you be willing to pay £1 extra on your first drink for a reusable cup?

- Definitely: 89%
- Maybe: 9%

Would you be more likely to attend an event or venue if they removed single-use plastics?

- Definitely: 64%
- Maybe: 29%
- Probably not: 12%
- Definitely not: 5%

Let’s find out!
“It wouldn’t be an issue to add an extra pound on entry, I don’t think anyone will complain.”

Venue Staff
Key Takeaways

- Reusable cups are more economically and environmentally sustainable than single-use cups.

- There is high demand across event organisers and attendees for reusables to replace single-use.

- Event attendees are willing to share the cost of sustainable progress for the urban nightlife scene.

“We were thinking about doing this in-house, getting glass washers and cups, but obviously that’s an expensive solution and it does mean we are storing our cups ourselves.”

Venue Staff

“Nightclubs with a younger demographic may be more likely to feel like they are contributing towards positive change and doing their bit to protect the environment.”

Clubber
Reusable Vs. Single-Use

There are a multitude of ways to approach this debate, but however you look at it, reusable cups come out on top if they are (re)used correctly. We can compare the different options by assessing their break-even point.

Environmental Break-Even Point (BEP)

In this context the BEP is defined as the minimum number of uses after which a reusable product reaches an equal environmental impact as a single-use equivalent. Though there are complex variables at play, studies range the BEP for reusable PP cups versus single-use alternatives somewhere between 3 and 10 uses.

Through adopting Life Cycle Assessment (LCA) thinking, businesses can analyse the potential environmental impacts of products or services during their entire life cycle. This helps in making strategic decisions and improvements to reduce these impacts across the three main life cycle phases of production, use and end-of-life (EoL). Different environmental impacts are measured in CO2 equivalent per cup (kgCO2eq./cup).
A November 2020 research paper in the Journal of Sustainable Production and Consumption conducted an LCA analysis on the most common single-use and reusable cup materials used within the European Union:

The study indicated that with regards to climate change impact during the washing/use phase, reusable PP cups have a significantly lower BEP compared to single-use cups than other reusables produced from PLA, PET and glass.\(^5\)

Furthermore, this data demonstrated that reusable PP cups also exhibit a better BEP than the other reusable cup materials across the majority of the other environmental impact categories investigated in the study (Ozone Depletion, Acidification, Photochemical Oxidant Creation, Eutrophication, Non-Renewable Energy Use and Water Scarcity Indicator).

\(^5\) Cottafava, D., Costamagna, M., Baricco, M., Corazza, L., Miceli, D., & Riccardo, L. E. (2020) Assessment of the environmental break-even point for deposit return systems through an LCA analysis of single-use and reusable cups. Sustainable Production and Consumption 27, p.8
These results showed that with a typical off-site washing scenario featuring a transport distance of 20km, reusable PP cups have a lower climate change impact (kgCO₂eq./cup) than all other single-use and reusable cup materials during their use and EoL phases.⁶

In relation to public events specifically, the Public Waste Agency of Flanders, Belgium(2020) concluded that versus reusable Polycarbonate (PC), soft PP, soft PET and a PET bottle, reusable PP cups can achieve a BEP from 10 uses or more.⁷

A more recent 2020 LCA study of waste-free cup systems at Dutch events used festival data from participants in the Plastic Promise initiative to show that a reusable PP hard cup is more sustainable than a recyclable rPET soft cup after 6 uses or more.⁸

Meanwhile, UK events data from Hope Solutions & Zap Concepts (2018) details that the carbon footprint (CO₂e) of a single reusable plastic pint cup is 168g versus 7.0g for a disposable single-use plastic pint cup, but after 75 pints reusable plastic cups emit only 633.1g compared to 5250g for 75 single-use cups. Their research suggests that a reusable cup has a lower environmental impact than a single-use cup after less than just 3 uses.⁹

⁶ Ibid
⁷ OVAM (2020). Update study: drinking and eating utensils at events.
⁸ The LCA Centre (2020). A study of the waste free cup systems at events as commissioned by Rijkswaterstaat in cooperation with Plastic Promise.
The LCA Centre report outlines the washing process as one of the two most significant factors which determine the environmental impact of a reusable hard cup system.

Three different washing/use-phase scenarios (onsite handwashing, on-site and off-site machine washing) were considered in the Journal of Sustainable Production and Consumption study, including the environmental impacts of transport for off-site machine washing. This data illustrated that, for distances of under 50km, off-site washing results in a lower climate change impact than both on-site hand and machine washing.\(^\text{10}\)

Earlier research showed that, as the number of reuses increased, the energy consumption associated with the production of the cups (and therefore the magnitude of those environmental impacts) decreased with each use. At a certain point the ongoing energy-use from the washing process takes on a more significant role among these impacts.\(^\text{11}\) The more recent LCA Centre report concurred that with an increasing number of reuses, the proportional environmental impact of washing the reusable cups gradually increases, also noting that these impacts tend to level out beyond a certain number or reuses.\(^\text{12}\) As the majority of climate change impacts in the washing phase of use are attributed to electrical consumption, energy optimisations within the washing system can significantly lower these impacts. Hard cups washed with low energy-efficiency systems might not even be able to achieve a BEP comparable to recycled soft cups.

\(^{\text{10}}\) Cottafava et al. (2020, p.10)
\(^{\text{12}}\) The LCA Centre (2020) p.63
Solutions

- The ecodisco reusable cup system employs a state-of-the-art industrial conveyor washing machine designed specifically to wash, sanitise and dry reusable plastic cups. Fitted with extended drying capability to ensure excellent hygiene, these machines are the most energy and water efficient in the industry, requiring only 25ml of water to completely wash a pint from dirty and capable of washing 100 cups per kW/hr of electricity.

- Off-site washing systems should be situated well within the 50km radius needed to achieve a climate change BEP superior to on-site hand or machine washing. It is easier to achieve this target for clubs and music venues operating within urban areas as opposed to more remote outdoor events.

Cup Losses

The other most significant factor, as outlined by The LCA Centre report, is the loss rate of reusable cups at events through either theft or damage.

Compared to disposables and compostables, reusable cups have been found to have a lower combined environmental impact at smaller events which tend to have a lower cup loss rate, but a higher impact at larger events with typically higher cup loss rates. Depending on several variables, at a loss rate of between 10% and 20% reusable hard cups can have a worse environmental impact than single-use alternatives.

Solutions

While cup loss is never entirely preventable, there are several ways to achieve a rate reduction:

Design

Several reusable cups services offer custom-branded printing options for different


* The LCA Centre (2020) p.58
events. While this service appeals to many clients seeking higher visibility for their brand, it also results in a higher loss rate as attendees become more likely to take the cup home as a souvenir. Plain cups with no printed design are less likely to be taken home and will therefore not need to be replaced by newly produced cups. This has been effectively put into practice by Shambala Festival in the UK.

Plain designs simultaneously minimise the carbon footprint of the production process. Services offering custom-branded printing options rarely offer public-facing data surrounding carbon footprint discrepancies between plain and custom designs. However, custom-branding adds an additional process to manufacturing, adding energy and ink consumption to the overall carbon footprint. Event-specific branding also means that each of these custom designs can only be used by one client, resulting in a surplus of reusable cups produced which cannot be used by other events. This means the cups are used far less and their carbon footprint is thus higher than if they were unbranded.

Attendee Behavior Change

Working together with behaviour change communications specialists helps to develop messaging that increases the cup return rate at events of all sizes. This includes venue staff training, social media, websites, and signage within the venue.

Collection Point At Exit

In addition to bar returns, supervised and clearly marked collection points can be placed at venue exits to encourage attendees to return their cup.
A Note on Steel Cups

Reusable steel cups also exhibit a very low BEP compared to single-use and other reusable alternatives and can be recycled infinitely without the need to process additional virgin materials. Although ecodisco supplies steel cups for smaller events in more controlled environments, several considerations made the reusable PP cup preferable for the scalable rental system.

- Steel cups are more likely to be retained by attendees than plastic equivalents, leading to a higher cup loss rate.

- Steel is a non-transparent material meaning that staff and customers alike cannot accurately determine the size of the head on a draught beer. Moreover, if customers are unable to see the drink through their cup, this presents certain health & safety issues.

- Steel cups are more likely to create a tripping hazard on the floor, or in extreme circumstances be used as a weapon.

- Steel cups are significantly heavier than PP causing difficulties for event staff.
Key Takeaways

· The BEP for reusable PP cups versus single-use alternatives is between 3 and 10 uses. Ecodisco aims for up to 500 uses per cup.

· With distances of under 50km, off-site machine washing has a lower climate change impact than both on-site hand and machine washing.

· Beyond a certain number of cup reuses, energy and water efficiencies in the washing process can result in the greatest reduction of environmental impacts. Ecodisco utilises the most energy and water efficient reusable cup washing systems on the market.

· Due to cup loss rates and manufacturing processes, plain reusable cups have a lower environmental impact than custom-branded equivalents. Ecodisco use cups with no design or with instructive messaging that encourages the return of the cup to the bar.

· Steel cups, though exhibiting low environmental impact, present additional logistical challenges which render them less preferable in indoor live music settings.
In response to lobbying from the plastics industry, Greenpeace released a statement signed by over 125 health experts from 19 countries, assuring retailers and consumers that reusables are safe during COVID-19. To provide expert guidance on this subject, the Sustainable Event Alliance (SEA) first surveyed 70 industry representatives from 13 countries in order to assess awareness of issues relating to reusable cup hygiene at events. Their results revealed some lingering confusion surrounding best hygiene practice for reusables, “highlighting the need for increased transparency and communication on hygiene standards and practices” (p. 8). As a result of this research, the SEA produced a comprehensive set of flexible, adaptable and scalable best practice guidelines for reusable cup hygiene at events, based on existing standards and evidence. These guidelines are available to download here.

The stance of the SDC (Centers for Disease Control) is that “the principal mode by which people are infected with SARS-CoV-2 (the virus that causes COVID-19) is through exposure to respiratory droplets carrying infectious virus”. In April 2021 the CDC released the below statement on the risk of being infected with Covid19 from fomite contamination (objects and materials that might carry the Covid19 virus):

“Studies have been conducted to understand and characterize the relative risk of SARS-CoV-2 fomite transmission and evaluate the need for and effectiveness of prevention measures to reduce risk. Findings of these studies suggest that the risk of SARS-CoV-2 infection via the fomite transmission route is low, and generally less than 1 in 10,000, which means that each contact with a contaminated surface has less than a 1 in 10,000 chance of causing an infection”.

If you translate this into the nightclub scenario, where up to thousands of people are packed into tight indoor spaces, the risk of fomite transmission is rendered irrelevant compared to respiratory droplets.
“The opinion held by a series of trusted sources including the World Health Organization (WHO), The European Food Safety Authority, The Food and Drugs Administration, The Center for Communicable Disease, Public Health England, the Food Standards Agency and Food Standards Scotland, is that COVID-19 is not known to be transmitted by exposure to food or food packaging”.18

If, despite the low risk, there is still concern surrounding the transmission from surfaces, then we can make the comparison between the safety of a single-use cup compared to a reusable cup by quoting a resource sheet produced by non-profit Upstream: “Single-use products like plastic cups, plastic-wrapped utensils, or plastic bags are handled by several retail workers before reaching the customer. Whereas, reusable products provided by a retailer, like cups, utensils, and to-go containers, must be adequately cleaned and sanitized according to food safety regulations”.19

There may be concern surrounding the refilling of a used cup, but this is also safe assuming there is no contact between the rim or inside of the cup and the vessel/tap being used to pour the drink. If this risk is deemed significant by an event organiser then each drink can be served in a clean reusable cup with the dirties being packed up to be washed on or off site depending on the system in use. By providing a system where customers can reuse one cup throughout the night, the venue would drastically improve the environmental and economic impact of the cup system.

Guidance from the Department for Digital, Culture, Media and Sport (DCMS) and the Events Industry Forum (EIF) told UK outdoor venues and events that, “Where possible, single use containers should be used, and attendees should be encouraged to throw these in waste bins after use”. This was challenged by ecdisco through parliamentary questions tabled by Caroline Lucas and Meg Hillier and also through productive conversations with the EIF leadership. We presented our evidence and were listened to; the guidance advocating for single-use cups has now been removed and we are hoping for new wording promoting the use of reusable cups to be introduced soon. See the current guidance for outdoor events here.

* Institute of Food Science and Technology (2020) Food safety risk during the pandemic,
* Upstream (2020) The Safety of Reuse During the Covid19 Pandemic
Key Takeaways

- Reusable cups are safe to use during the pandemic.

- Single-use cups are not safer than reusable cups.

- Reusable cup systems can function in the same way as single-use, with a clean cup used for each drink.

- Reusable cups can be used multiple times between washes if there is no contact between the rim of the cup and beer tap.
This report provides a thorough summary of the environmental and economic potential of reusable cups for urban music venues and events. A further consideration for all venue owners is the strengthening of legislation surrounding the commercial production and provision of single-use plastic products. These national, regional and municipal policies are designed to drive positive changes in business practice surrounding single-use and, while the UK has now left the EU and will no longer be party to the bloc’s Single Use Plastics Directive, it remains UK government policy to match, or where possible exceed, the ambition of this agreement. With more stringent single-use plastic regulations on the horizon, it is in the interests of business owners to incorporate these mandatory and inevitable adaptations sooner rather than later.

At ecodisco, we look forward to piloting and refining our reusable cup rental service whilst also expanding our work across carbon footprinting and specialist communications in the UK events industry.
References

Summary


The Challenge


The Solution


Environmental Impact - Reusables Vs. Single-Use

Cottafava, D., Costamagna, M., Baricco, M., Corazza, L., Miceli, D., & Riccardo, L. E. (2020). Assessment of the environmental break-even point for deposit return systems through an LCA analysis of single-use and reusable cups. Sustainable Production and Consumption


https://static1.squarespace.com/static/5b24c9e74611a03086c51efe/t/6082da804a96d966dcbe4/1619188356892/Disposable+vs+reusable+cups_Hope+Solutions.pdf

The LCA Centre (2020). A study of the waste free cup systems at events as commissioned by Rijkswaterstaat in cooperation with Plastic Promise. Retrieved from The LCA Centre: https://static1.squarespace.com/static/5ba204a73917ee4o1d7516af/t/6033c2768a8e7b157b8d8e59/1614004898021/LCA+STUDY+OF+WASTE+FREE+CUP+SYSTEM+AT+DUTCH+EVENTS+BY+THE+LCA+CENTRE+v2A.pdf


**Cup Hygiene & Covid-19**


Upstream (2020) The Safety if Reuse During the Covid19 Pandemic https://uploads-ssl.webflow.com/5d696bc69fa6c2515873360a/5ec27e9c3a74a3a03380d5ab_Covid%20Fact%20Sheet_5.15.20.pdf
Thank You
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