The Bristol Method

how to make events more sustainable

In it for good

BRISTOL 2015 EUROPEAN GREEN CAPITAL

BRISTOL WINNER 2015
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Introduction

Events provide a unique opportunity to engage people with ideas about environmental sustainability. Typically, people attend them with a relaxed and open mind, looking forward to being stimulated by something new. There is often a shared point of focus – such as a music performance – which offers an unrivalled opportunity to inspire audiences by communicating positive messages and new ideas. Not to mention through the media profile they generate.

Events can be used to role model best practice too, inspiring behaviour change through leading by example.

Promoting ideas about sustainability has never been more important and the general public is increasingly aware of the urgent need to reduce the damage we are inflicting on the environment. Event-goers typically adopt ‘green’ behaviours in their home and are gratified to find facilities like recycling bins available in out-of-home settings.

With some notable exceptions, initiatives to improve sustainability in the events sector have historically been limited to gimmickry and marketing opportunities. Over the last decade, however, a number of events and music festivals in particular have begun to embrace sustainable practices by planning their activities to reduce their environmental impact.

Bristol’s proximity to a number of high-profile events across the West Country – such as Glastonbury and WOMAD – has led to the city becoming a hub for event organisers and a hotbed for innovation in event production throughout the city itself. Members of Bristol’s events sector are also well known as pioneers in sustainable event management. Tent-shaped recycling bin tops have become a familiar site at the majority of Bristol’s shows and, as the home of the Soil Association, the city has a reputation for offering sustainably produced local food.

Bristol’s reputation as a frontrunner in the events scene made it an ideal place to develop the first citywide strategy to improve sustainability across the sector.

In September 2014, as part of the preparations for Bristol’s tenure as the European Green Capital, representatives from Resource Futures, Bristol 2015 Ltd, Kambe Events and Bristol City Council got together to plan a citywide strategy aimed at reducing the environmental impact of Bristol’s events.

It was felt that many of the event organisers in Bristol could do more to reduce the environmental impacts of their events. Before this programme of activity was launched, very few had previously taken a strategic approach to more efficiently planning their power consumption and there is still a dearth of power generation infrastructure in the UK which uses renewable energy.

This module explains how this coalition of organisations created a series of projects and toolkits aimed at supporting event organisers in the city to reduce the environmental impacts of events in 2015 and beyond.
Developing a Green Event Strategy

Ahead of Bristol’s year as European Green Capital, the Bristol 2015 Company provided funding for an initial project to produce a strategy guide and basic training for Bristol’s larger event organiser – known as the Green Event Strategy for Bristol.

The project was led by sustainability consultants Resource Futures with help from Kambe Events who have extensive practical experience of delivering sustainable events of their own. As one of the main event producers and also as the licensing body for most publically attended events in the city, Bristol City Council also played a key role in directing and advising the project team, attending project team meetings and helping to integrate systems into the Site Permissions (licensing) process.

The creation of a Green Event Strategy allowed the project team to scope out the events industry in Bristol, understanding: where and when events take place; who the organisers are; and the important drivers and barriers towards reducing environmental impacts.

Practitioners from across Bristol were consulted to gain an understanding of what had already been achieved in Bristol so far and what could be done in the future to improve environmental sustainability.

Bristol City Council and the Bristol 2015 Company were also consulted throughout the development of the strategy. In particular, the City Council Site Permissions Team provided a valuable insight into the 450+ events which are held on council land each year.

Several tools were considered which could be used to measure the environmental performance of events, including the Julie’s Bicycle Creative IG Tool, Green Event Awards, ISO-2012-1, and the Waste and Resources Action Programme (WRAP) Event Resource Management Plan Tool.

When it was published in December 2014, the Green Event Strategy report made a number of recommendations, and although many of these could not be implemented in 2015 due to time and budget constraints, they still serve as an aspiration for Bristol’s event community to implement future change. A summary is shown in the table on the next page:
<table>
<thead>
<tr>
<th>Measure</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promoting awareness of the knowledge resources available to event organisers</td>
<td>Although much of this has been addressed within this strategy, there is scope to improve knowledge transfer through Bristol Festivals Forum and development of online resources.</td>
</tr>
<tr>
<td>A Bristol Green Event Mark</td>
<td>Provide a minimum (easily attainable) standard for all Bristol's events and encourage everyone to join underneath a single banner.</td>
</tr>
<tr>
<td>The Bristol Green Event Awards (2015)</td>
<td>The establishment of a consistent and robust methodology for reporting and understanding impacts for individual events may also create a healthy competition between events seeking to be successful in their efforts.</td>
</tr>
<tr>
<td>Communication with event-goers</td>
<td>A need for clear and consistent messaging across Bristol's events sector to ensure that the efforts made by organisers and Bristol 2015 are being communicated effectively.</td>
</tr>
<tr>
<td>Supply chain support</td>
<td>Provide objective advice for organisers on the merits of different contractors in terms of sustainability.</td>
</tr>
<tr>
<td>Collective buying</td>
<td>On behalf of Bristol's events organisers, arrange for specials equipment to be hired by multiple events and stored in or near the city for the summer season (or longer). Therefore reducing transport costs and making sustainable solutions more viable.</td>
</tr>
<tr>
<td>Bristol could be the first UK city to adopt a consistent methodology for measuring and reporting the impacts of individual events and the events sector</td>
<td>Encouraging, compelling or requiring all Bristol's events to engage with environmental reporting. Providing/signposting access to a free-to-user assessment and reporting method (CIG Tool). Publishing a report on the event sector's performance.</td>
</tr>
<tr>
<td>Water bottle free events</td>
<td>Reduce impact of all Bristol's events by prohibiting the sale of bottled water on city land and replacing with tap water provision and re-useable alternatives.</td>
</tr>
</tbody>
</table>
| Showcasing best practice | • Re-useable glasses at bars  
• Recycling bins  
• Controlling serve-ware and composting with food waste  
• Plastic bottles at running events to materials recovery facility  
• Strategic control of power consumption  
• Monitoring power consumption  
• Biodiesel and or hybrid solar generators  
• Encourage alternative forms of transport |
| Communication with event-goers | A need for clear and consistent messaging across Bristol's events sector to ensure that the efforts made by organisers and Bristol 2015 are being communicated effectively. |
| Mentoring Bristol 2015 Showcase events | Providing one-to-one support for Bristol's larger events to assist with implementing best practice and showcasing opportunities. |
Supporting event organisers

As a result of the initial Green Event Strategy, numerous new strands of work were initiated to train and support event organisers in the city to embrace sustainability.

This programme of activity was aimed primarily at event organisers, from small community event managers to large event management companies. Importantly, the project was also aimed at changing the behaviours of Bristol’s event-going population. In essence, the organisers of the events were the conduit for this change, by showcasing their inspirational projects in order to engender a change in public attitudes and behaviours.

Below, we outline the different areas of activity:

**Community Event Recycling Equipment**

Many commercial waste management companies in the Bristol area are unable to provide suitable equipment for source segregation. Whilst many larger events are able to contract specialist sustainable event cleaning contractors, smaller events are unable to afford them, meaning that they often end up land-filling waste generated by their events.

The project team requested that Bristol City Council Parks and Cleansing departments provide a small number of specialist recycling bins suitable for use at events in Bristol. Bristol City Council agreed to provide this bank of equipment and to dispose of the materials.

**Green Event Guides**

There are many different kinds of events, each with certain restraints and complexities. It was therefore agreed that advice for event organisers would be presented in three different formats: Indoor, Outdoor and Small Community events. Three guidance documents were produced with the aim of guiding events organisers through the process of developing an environmental policy and a green action plan.

These guides are available at: [www.bristol2015.co.uk/about/sustainable-event-guides](http://www.bristol2015.co.uk/about/sustainable-event-guides)

The guides focused on six principal environmental impact areas as shown in the diagram below, providing practical advice and real world examples of how other events have approached the same challenges in the past. Each impact area is examined in detail and the reader is encouraged to identify the aims and objectives which are most applicable to their own event scenario. Readers are provided with advice on how to measure an event’s environmental impacts in a repeatable format which can be used to monitor progress over a number of years. This information enables them to understand the success of any measures, and encourages continual improvement over time.

The contents of the guides were presented during two workshops, for practitioners who organise ‘Outdoor’ and ‘Indoor’ events. More than 40 delegates attended the two workshops from all areas of the events sector.
Green Action Plans and the Site Permissions process

The Green Event Strategy identified the need for a formal structure which event organisers could use to improve the environmental sustainability of their events. This led to the formation of a simple document which became known as a Green Action Plan. The aim was to encourage organisers to begin measuring and mitigating their environmental impacts in a stepwise process.

The Bristol City Council Site Permissions team (the body which grants permission for events to use public land) were keen for sustainability to become embedded in their Site Permissions process. Therefore it was decided to require organisers to complete a Green Action Plan before they would be permitted to use council land.

In addition to this, the application form for using council land was amended to include questions about sustainability. These were no longer placed in a separate section but instead were integrated throughout the document. In this way, sustainability was presented as an important consideration at every stage of the event planning process.

Community Event Training

The aim was to train approximately 160 community event organisers across the city in a diverse range of event management practices such as health and safety, site planning, site permissions and licensing and, of course, sustainability. Ten sessions were held in locations across Bristol during February, March and October 2015. Trainers from Resource Futures and Kambe Events delivered the sustainability module, guiding delegates through the process of producing a Green Action Plan suitable for submission to Bristol City Council Site Permissions Team.

During the course the delegates were provided with an overview of the six main areas which are likely to cause impacts as a result of an event (see the chart on the ‘Green Event Guides’ section). They were encouraged to set specific time-bound targets which would be realistic for their budget and achievable for their skill-set. In particular, the attendees were shown how to measure the impacts of different aspects of their events in a format which could be repeated in subsequent years.

A key part of the training focussed on the accurate communication, not only of the success of implemented initiatives, but also on how to encourage the public to participate in efforts to reduce an event’s impacts.

Issue-specific guidance documents

Indirect funding from Bristol Green Capital via a strategic grant to Bristol Festival Ltd, enabled Resource Futures and Kambe Events to provide a program of on-going support for the members who are made up of the largest events organisers in the Bristol area. This part of the project involved developing a suite of guidance documents which focussed on specific initiatives such as:

Portable event toilets: the relative impacts of different toilet systems were considered. The results showed that conventional Portaloos were the lowest impact as, in Bristol, the contents are disposed of to an anaerobic digester. The methane gas generated is used to generate electricity or is upgraded and used to power a bus which travels from Bath to Bristol Airport.

Re-useable cups: the business case was made for replacing single use cups with re-useable alternatives. Resource Futures and Kambe found that the success of different attempts to do this varied considerably depending on scale and type of event, and the service provider, but in most cases there can be costs savings and/or revenue gain. The balance depends on:

- The savings made from not purchasing reusable cups
- Reducing waste management costs
- Revenue from deposits on cups which are not returned
- The purchase and service costs of the cups
Tools for measuring success

A key theme throughout the training and guidance was measuring the success of the various schemes to reduce environmental impacts. As well as exploring several tools and matrices for recording environmental impacts, readers of the guides and delegates who attended training were encouraged to be realistic about what could be measured and the environmental impact reductions which could be achieved.

It became apparent that many of Bristol’s event organisers had not yet begun to measure the environmental impact of their events. One of the main reasons for this was that they were unsure of what and how to measure their impacts. Therefore several tools were developed aimed at helping event organisers to practically measure energy use and waste arisings:

Energy use: Advice was provided on how to accurately assess the amount of gas being used in outdoor venues, and how to make sure that they were not being overcharged by power companies. It also covered approaches to estimating power usage in multiple occupancy venues.

Waste management: A spreadsheet and guidance was created which enabled event organisers to record waste movements and thus to accurately report their waste arisings according to the Waste Hierarchy. This spreadsheet has a dual purpose which was to formalise the paper trail and establish end-destinations for recyclates recovered from events.
## Timeline of projects

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sep 2014</td>
<td>Bristol City Council, Resource Futures, Kambe Events and the Bristol 2015 Company launch collaboration to develop a strategy to improve the environmental sustainability of Bristol’s events sector.</td>
</tr>
<tr>
<td>Sep – Dec 2014</td>
<td>Resource Futures and Kambe Events carry out a scoping exercise to understand the make up of Bristol’s events sector. ‘How to’ guides are produced to help event organisers produce more sustainable events.</td>
</tr>
<tr>
<td>Dec 2014</td>
<td>Green Event Strategy for Bristol is produced making a raft of recommendations to improve the sustainability of Bristol’s events community.</td>
</tr>
<tr>
<td>Jan 2015</td>
<td>Three guides are produced to support event organisers in Bristol: Indoor Event Guide, Outdoor Event Guide, Small Event Guide</td>
</tr>
<tr>
<td>Jan 2015</td>
<td>Bristol Festivals Ltd receives a Strategic Grant from the Bristol Green Capital Partnership. They invest in implementing some of the recommendations made in the Green Event Strategy.</td>
</tr>
<tr>
<td>Feb 2015</td>
<td>A launch event is held to introduce the Green Event Strategy and guides to Bristol’s events organisers.</td>
</tr>
<tr>
<td>Feb/Mar 2015</td>
<td>Six interactive training sessions are held across the city to increase professionalism in Bristol’s community event sector.</td>
</tr>
<tr>
<td>Mar 2015</td>
<td>Training courses held for producers of large outdoor and indoor events.</td>
</tr>
<tr>
<td>April/may 2015</td>
<td>On behalf of Bristol Festivals Ltd, Resource Futures and Kambe Events develop a suite of tools to enable members to begin to effectively measure their environmental impacts. A business case is developed to help event organisers implement the use of re-useable cups in the bars at their events.</td>
</tr>
<tr>
<td>Jul – Oct 2015</td>
<td>Resource Futures and Kambe Events train a selected group of event organisers to use tools to measure the environmental impacts of their events. One-to-one support is provided over the telephone.</td>
</tr>
<tr>
<td>Oct 2015</td>
<td>Four more training sessions were delivered to delegates from Bristol’s community event sector. In total, over 160 community organisers received training in 2015.</td>
</tr>
<tr>
<td>Oct – Dec 2015</td>
<td>Review of Green Event Guides. Continued support for event organisers to help them measure impacts (Funded by Bristol Festivals)</td>
</tr>
</tbody>
</table>
What have we learned?

Below, the team behind the Bristol 2015 Events Projects reflect on the major barriers they faced.

**Sustainability is low priority**

Events are fast paced, high intensity operations which require considerable planning time in order to ensure that everything goes right on the day. Event organisers instinctively choose the path of least resistance which delivers safe and repeatable events on time and on budget. Although environmental concerns are becoming increasingly important they still appear lower down the list than many other considerations. These projects aimed to bump environmental sustainability up the agenda by providing simple and effective solutions to reduce the main impacts caused by events.

**Time was tight**

One of the greatest challenges with the Bristol 2015 events projects was lack of time. The consensus amongst the project team, and all those involved, was that it should have started around six months earlier to be most effective and to provide event organisers with enough time to capitalise on the publicity surrounding the European green capital tenure. In particular, the delays in implementing the recommendations of the Green Event Strategy for Bristol meant that virtually none of the measurement tasks could be implemented during 2015 itself. That said, the strategy is expected to have a lasting impact since Bristol’s event organisers now have considerably more tools, training and experience as a result of the work.

**And money was tight too**

Many of the recommendations outlined in the Green Event Strategy were not implemented at all due to constraints on the funding available to support events linked to Bristol 2015 events. Instead, the events industry itself was encouraged to put changes in place. Some of the success stories are detailed in the case studies in this report, although it is expected that the majority of changes will be made in future years, beyond 2015.

Although some support was funded by Bristol Festivals Ltd, the Strategic Grant funding was released rather late in the day, and especially in the case of some larger events, it came too late for any significant changes to be made during 2015.

**Measurement systems were not in place**

Meetings with key events organisers during the year clarified that most had not yet begun to measure their environmental impacts. As a result the focus of the work shifted to providing support and guidance on monitoring. Continued promotion of the guidance and support tools will be required beyond 2015 to ensure that event organisers continue to improve the sustainability of their events.
Case study: Glastonbury Festival

Just down the road from Bristol is perhaps the world’s best known and largest temporary event – Glastonbury Festival. It is associated with the city through proximity but also its use of many local contractors, suppliers and artists.

The festival in itself is a huge “temporary city” of 187,500 people, created afresh each year. As such, it is the ideal testing ground for new ideas and sustainable approaches that can potentially be replicated across the event sector – or even at city level. With such a large attendance and high profile, it also has the potential to affect attitudes to sustainability across its wide audience and supply chain.

For this reason, the Bristol 2015 Company partnered with Glastonbury Festival to try and raise the profile of sustainability within the events sector and to support specific projects which might have a reach beyond the festival itself, benefiting event production in general across the UK and beyond.

The partnership was created in order to provide technical support for specific projects at Glastonbury Festival that could benefit the event production sector as a whole, in collaboration with partner organisations based in Bristol and the West Country. The project helped enable new collaborations between the University of the West of England (UWE), local & UK suppliers and Glastonbury Festival, as well as enabling technical and project management support for important sustainability projects in areas such as energy efficiency, waste reduction and sustainable trading.

This case study includes information about two sustainability projects:

- Energy efficiency and improved power management
- Waste minimisation and reusable cups

The legacy of these projects is a very real ongoing exchange of knowledge across the region and across the whole event sector in the UK and in Europe, both with event professionals and others.

Knowledge transfer and training for event professionals from across the UK and Europe has been facilitated, through the presentation of the project outputs to conferences, seminars, training events and practical workshops in multiple locations – including events in the UK, Spain, the Netherlands, Germany & Eastern Europe.

Who collaborated on this project?

- Project management and technical support was supplied by Rob Scully, of RPS Conservation Services, and Lucy Smith, Glastonbury’s Green Initiatives Co-Ordinator, as well as various other members of the Glastonbury’s senior management team.
- The University of the West of England (UWE) collaborated closely on several projects on site, particularly the Faculty of Environment & Technology, which put extensive time and resources into the energy efficiency project.
- Aggreko, a worldwide leader in temporary power solutions, gave extensive support to the energy efficiency project, including use of its on-site facilities and access to data systems.
- UK manufacturing & supply firms Glogg and APS Metal Pressings were the main external collaborators on the reusable cup project, leading on product development, with local firm Green Goblet providing washing & logistics. This project eventually led to a brand new sustainable product being produced in the UK and used on the Glastonbury Festival site.
Project one: Improving energy efficiency and power management at events

Temporary events need power and most event organisers hire diesel generators to provide this power. However, many event organisers do not fully understand how much power they will need, meaning they are unable to specify the right sized generators. A concern about potential under-capacity and power outages inevitably leads to over-specification and use of much larger machines than are actually needed.

Many event organisers are unaware of the environmental footprint of burning unnecessary amounts of diesel or how much money is wasted on diesel that never gets converted into power – it just creates smoke and heat in oversized, over-specified generators.

The most efficient range to run a generator is in a power band of 40-75% of the capacity of the machine. In this power band, the relationship between how much power you generate and how much fuel you burn is fairly linear. However, get below about 20% of the machine size and the amount of diesel you are burning per kW starts to ramp up. Below 10% of capacity and you’re effectively using 60% more diesel per kW than you need to.

The team at Glastonbury Festival teamed up with Aggreko (the power contractor) who supplies the machines at Glastonbury and UWE (scientific research partner). Support from Bristol 2015 enabled the team to start a monitoring programme at the 2014 festival to gather baseline data and then expand this into a fully fledged project.

This involved wirelessly monitoring 126 generators on site using the Aggreko Remote Monitoring system (ARM). A small number students and research staff studied particular areas in more depth. The research teams looked at stage power on two stages, trader power usage in one of the market areas and also studied the use of hybrid battery systems on site.

This chart shows results from the initial monitoring programme. The blue bars show machine capacity (maximum power available), the green bars show peak load (maximum power actually used) and the red bars show average load (average power actually used). It was clear from this that many machines were oversized for the peak load and almost all the machines were operating at 30% (or less) average load.

In 2015, the team vastly expanded the monitoring programme: there were over five million points of data recorded allowing them to plot “real time” output for each machine. This data set is now being used to better specify generator sizing on site for the following year’s event and to set up and trial alternative approaches for certain areas.

Audience engagement on waste reduction has been achieved through survey work carried out by students and staff from UWE and the University of Manchester (as part of another project carried out this year on campsite waste management). Further audience engagement is proposed by the UWE staff involved in the project with a proposed “Energy Short Course” that could be available to festival participants in 2016 to complete online on their phone or tablet whilst on site at the festival.
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How to make events more sustainable

Published: January 2016

Alternative approaches to energy generation and storage

Generator power zones

Alternative approaches to power generation being used include use of “power stations” to create power zones in some areas of the site - a synchronised set of generators that start up automatically in sequence as demand ramps up, then automatically shut down in turn as demand decreases. These are connected to a temporary power distribution grid to reduce the number of individual generators dedicated to single power users, increasing the efficiency of power use in these areas and removing the need to oversize generators for individual peak loads.

Batteries

Another approach is the use of battery hybrid units which store energy in on-board battery banks to be used at times of low demand. The hybrid switches off the main generator automatically and silently takes up the load, it can then restart the generator when the batteries are depleted or when demand outstrips capacity. It can also act as a UPS, stepping in to ensure continuity of base load if the generator stops unexpectedly. In 2015, Glastonbury Festival trialled 13 of these units on site, from two suppliers. UWE research staff conducted an in depth study of the use of these units on the Glastonbury site, which will form the basis of an academic research paper on the subject.

Renewables

Quantifying the real time power requirements and energy usage on site can also identify areas where the demand is very low and have them completely renewably powered – this 1.5kW solar unit with 40kWh of battery storage in the box, has run the Green Fields co-ordinators camp without problems for the last two festivals. Previously, the camp was connected by a long cable to share a diesel generator in another field and experienced power outages when that machine stopped. Thus, it can be shown that correctly matched with the demand, renewables can actually be more reliable than a conventional diesel generator setup.

Pee power

This demonstration project at the 2015 festival uses urine to run low power LED lighting in the adjacent toilets. The “pee-power” comes from specially adapted microbial fuel cells that the urine passes through between the urinal and the storage tank. This research project from the Bristol Robotics Lab at UWE is in conjunction with Oxfam – to improve safety in the toilets in refugee camps.
How to make events more sustainable

Project two: waste minimisation and the development of a new reusable cup for events

Glastonbury Festival, in common with almost all outdoor events, produces large volumes of waste that have to be managed. A large proportion of this waste is food and drink packaging, including approximately 1.4 million disposable bar cups over the course of the event.

The festival already runs an impressively large separation and recycling operation to try and recycle or recover as much of the waste as possible. More than half of the waste generated on site is recycled or recovered, but the sheer volume of waste means that further improvements on this figure are very hard to achieve and the remainder goes to landfill.

The only way to reduce the amount of waste ending up in landfill and to increase the recycling rate above 50% was to find a way to reduce the volume of waste produced on site.

Reusable cup schemes, where a deposit is charged for a durable cup that is then reused over and over instead of being thrown away, can drastically reduce waste volume and litter, give the user a better sense of the value of the cup and a better drinking experience compared to flimsy disposable plastic or paper cups.

Extensive investigation of reusable cup schemes was carried out to determine how effective they were and if they could be deployed at Glastonbury Festival. This included working with local firm Green Goblet to trial the logistics of the scheme on site – using 30,000 of their reusable plastic bar cups in all of the backstage bars in 2015 and using their high capacity washing facility, just 7.4 miles from site.

Glastonbury Festival is trying to eliminate the use of disposable plastics on the site and is already using stainless steel reusable water bottles to try and cut the use of bottled water. The festival also wanted to find an alternative to plastic for the reusable cups and, following extensive research into the use of stainless steel cups at events in the U.S., we approached UK firm Glogg to try and source stainless steel cups for use on the bars at Glastonbury.

The benefits of stainless steel cups over cups made of other materials include: extremely long life (they can be reused almost indefinitely); resistance to abrasion; hygienic and easy to clean; lightweight & strong (will not shatter); and infinitely recyclable. Damaged cups can be remanufactured into new cups and, at eventual end of life, the base material still has a positive value as a direct feedstock in the manufacture of more stainless steel without any decrease in material quality. Since the reusable product contains more raw material than a disposable cup and is made using an energy intensive process, we also looked into the embedded energy from manufacturing these compared to the current disposable paper cups. It showed that steel cups could ‘repay’ the embedded energy in the product in 7-8 reuses.

* Coincidentally, this is roughly equivalent to the number of disposable paper cups used per person at a single Glastonbury Festival - 1.4 million disposable cups between 187,500 attendees.

* Calculation made using data from the Inventory of Carbon & Energy (ICE) v2, Sustainable Energy Research Team (SERT), University of Bath, 2011.
Sourcing stainless steel cups was not as easy as it seemed – the only stainless steel cups available globally were made for U.S. companies, in U.S. sizes and mass produced in China. Undaunted, the team entered into a partnership with Glogg and UK manufacturer APS Metal Pressings to design and produce a UK version of the stainless steel cup. Many months of painstaking design, product development and testing led to the first prototype cups being produced in June/July of 2015.

These cups are UK Pint size, fully compliant with weights and measures legislation and stamped with trading standards legal markings for use on any UK event bar.

5,000 of the cups were used successfully on the bars at the Pilton Party event at Worthy Farm in September and there will be a further 200,000 cups used in a widespread trial on site during Glastonbury Festival in 2016. This trial will be carried out with a view to rolling out usage across the whole site in future years.

The cup is now being mass produced in the UK and there are plans to make them available to other events on a lease basis, using a centrally held cup stock, possibly including cup stock from Glastonbury. This will decrease the impact of the manufacture of the cups through increased reuse and benefit the UK events sector as a whole.
Additional case studies

**Love Lockleaze Festival**

Held in Gainsborough Square, the Lockleaze Festival is a community gathering aimed at bringing together the local community, making use of their shared environment and celebrating the refurbishment of the square which had been left derelict since the 1960s. The organisers of the event attended one of the City Council hosted training sessions in the spring of 2015 and made a comprehensive effort to include as many measures as possible to ensure that their event was as sustainable as possible:

- Attendees were encouraged to bring their own plates, cutlery and re-useable water bottles;
- Water barrels were provided for refilling water bottles and local shops advertised a refill service;
- The crew were fed fresh fruit to avoid packaging – excess was sent to a local hostel;
- A solar powered energy supply was installed in the square which was used to provide power while a bicycle generator powered the music.

**Bristol Pride 2015**

One of the largest Pride parades in the UK, Bristol Pride was held in Castle Park in 2015. Pride organisers made a number of important changes to their event to reduce environmental impacts:

- Introduced a £1 deposit scheme for re-useable cups dramatically reducing the amount of litter on the floor, and encouraging the public to consider re-use as ‘the norm’ and reducing the amount of wasted material;
- Generator-free event for all stages which were powered directly from mains electricity on a renewable tariff. One stage was powered by pedal power!
- A free drinking water fountain was provided to reduce the need for disposable plastic waste bottles;
- Funding was found to employ a specialist waste and recycling contractor in the site who managed to achieve a recycling rate of 28.2%.

**Eat Drink Bristol Fashion (EDBF)**

Held in Queen Square Bristol over two weeks at the start of May 2015, EDBF provided (for its fourth year) a restaurant for 100 and tapas bar for 300 with live music every day from midday til 11pm. EDBF also operate a semi-permanent yurt-based venue near Bristol’s central train station providing sustainably sourced food in a Mongolian style decor environment.

EDBF organisers perhaps made one of the most comprehensive efforts to prepare a Green Action Plan as a result of the Green Event Strategy project. In their plan, which is nearing completion at the time of writing, they address four of the six main impact areas: waste, audience travel, water, and energy. For each impact category, they have set SMART (specific, achievable, measurable and time bound) targets to reduce their environmental impacts over time and developed key objectives to make positive changes to their operation.

The EDBF event in May recorded impressive recycling and recovery rates shown below and made efforts to reduce their overall waste generation via schemes such as using re-useable cups rather than disposable ones.
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Waste statistics for Eat Drink Bristol Fashion

- Carpets used in the venue were made from recyclable material which was provided and recycled in a 'closed-loop' operation by Reeds Carpeting Contractors Ltd.

This was a one-day event showcasing Bristol and Bath’s most innovative and enterprising companies and start-ups. The organisers implemented a number of important initiatives to help reduce their environmental impacts:

- Delegates were collected and delivered to the site by the First Group Bio bus – a public bus service which is powered by methane from the city’s anaerobic digester;
- The caterers provided locally sourced food;
- LED lighting was used throughout the venue to light up exhibition stands;
- The exhibition stands themselves were made from standard exhibition kit which could be used again, thus removing a significant source of potential waste from the event;

Big Green Week

This event is a combination of community creation events which took place over 16 days in June 2015. The participating events operated as separate entities, and a central ‘Green Week Hub’ was situated above the Cascade Steps in Bristol town centre which featured talks, music, workshops and family events.

The Hub consisted of a small marquee with some sound and light which was powered by solar panels on the roof and since no food was provided and no items were distributed, the operation was extremely low impact in general.

The Hub Attracted an estimated 3,180 visitors and one notable success was that the organisers carried out a survey of participants to estimate the impact of travel to the event, the results of which are shown in this pie chart:
ABOUT BRISTOL 2015

European Green Capital is a prestigious annual award designed to promote and reward the efforts of cities to improve the environment. Bristol is the first ever UK city to win the award.

European Green Capital is run by The European Commission, recognising that Europe’s urban societies face many environmental challenges – and that sustainable, low-carbon living is vital to the future of our cities and our people.

The award was first won by Stockholm in 2010. Since then, Hamburg, Vitoria-Gasteiz, Nantes and Copenhagen have carried the torch. Bristol handed over to Ljubljana at the end of the year.

THE BRISTOL METHOD

The Bristol Method is a knowledge-transfer programme aimed at helping people in other cities understand and apply the lessons that Bristol has learned in becoming a more sustainable city, not just in 2015 but in the last decade.

Each module of the Bristol Method is presented as an easy-to-digest ‘how to’ guide on a particular topic, which use Bristol’s experiences as a case study. The modules contain generic advice and recommendations that each reader can tailor to their own circumstances.

The Bristol Method modules are published on the Bristol 2015 website at www.bristol2015.co.uk/method

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