# A Greener Future for Festivals? A Scoring Framework for assessing Sustainable Environmental Practices

Andrea Collins[1], Nicole Koenig-Lewis[2] and Judith Mair[3]

[1]School of Geography and Planning, Cardiff University, Cardiff, United Kingdom

[2]Cardiff Business School, Cardiff University, Cardiff, United Kingdom

[3]The Hotel School Australia, Southern Cross University, Brisbane, Queensland,

Australia

## Author Note

Andrea Collins    iD    https://orcid.org/0000-0002-6195-468X

Nicole Koenig-Lewis    iD    https://orcid.org/0000-0002-3931-6657

Judith Mair    iD    https://orcid.org/0000-0002-2447-3377

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Correspondence concerning this article should be addressed to Andrea Collins, School of Geography and Planning, Cardiff University, Glamorgan Building, King Edward VII Avenue, Cardiff, Wales, UK, CF10 3WA, Email: collinsa@cardiff.ac.uk

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# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

## Abstract

Festival organisers and policy makers recognise the need to stage more sustainable events, alongside this, understanding the type and scope of practices used to minimise environmental impacts and engage attendees is commanding increased attention. This paper assesses festivals' communication of sustainable environmental practices on their websites and their commitment towards reducing their negative environmental impacts. It develops and applies a scoring framework to assess the environmental practices of 110 festivals across Wales and provides valuable insights into how festivals are progressing towards staging more sustainable events. Although 65% of festivals communicated practices relating to at least one environmental category, the level of engagement was low based on the type and scope of practices. Festivals prioritised action on 'food and drink' and 'waste management', followed by 'sustainable transport'. The paper discusses the strengths and limitations of the scoring framework, and how it can provide valuable intelligence for festival organisers and policy makers.

*Keywords:* festivals; sustainability; website analysis; environmental communication; sustainable environmental practices

**A Greener Future for Festivals? A Scoring Framework for assessing Sustainable Environmental Practices**

**Introduction**

Festivals can lead to an array of social, cultural and economic benefits for host communities and attendees, but can also generate significant negative environmental impacts due to increased greenhouse gas emissions, waste, water and energy use. A recent report by A Greener Future (AGF) evaluating carbon footprint data of 17 Outdoor UK and European Festivals found that audience travel accounted for the largest proportion of total emissions (41%), followed by food and drink production and consumption (35%) (AGF, 2023). Significant environmental impacts associated with staging festivals have raised concerns about their future sustainability. Reducing festival emissions is an urgent priority for the event industry and increasingly expected by attendees and other stakeholders.

Festivals have previously been defined as "public, themed celebrations that are held regularly" (Wilson et al., 2016, p. 196). However, the focus and purpose of festivals and their activities are evolving, so in this paper we define festivals as

*'temporary, recurring social and cultural events with multiple meanings and purposes, bringing attendees and communities together to enjoy and celebrate a diverse range of arts, cultures, foods, music, religion or social activities. They can also involve visual performances and encourage attendees and communities to participate in various activities.'*

Festivals often require substantial economic upfront investment and planning which makes the industry highly vulnerable. In 2024, 60 independent festivals in the UK were postponed, cancelled or closed due to unpredicted and rising costs (AIF, 2024). In addition, outdoor festivals are dependent on the natural environment and

so increasingly vulnerable to the adverse impacts of climate change such as flooding, extreme heat, fires and storms leading to disruptions, cancellations, postponement, shortening or relocation. For example, in 2023, the Burning Man festival in Nevada's Black Rock Desert (USA) was severely flooded leaving more than 70,000 attendees stranded for several days (BBC News, 2023). In 2024, the Leeds Festival (UK) closed three main stages calling off many performances due to Storm Lilian (BBC News, 2024a). In Australia, the live music and festival industry is currently facing significant challenges due to expensive insurance premiums, the cost-of-living crisis and disruptions due to extreme weather conditions with 22 music festivals cancelled or disrupted in 2022 and 2023 (Haghani, 2024). The Lunar Electric Festival in Newcastle, New South Wales, was postponed in 2020 following a severe heatwave warning and temperatures above 44 degrees Celsius (NBN News, 2020).

So far, academic research on festival sustainability has focused on: understanding their environmental impacts and strategies for reducing negative impacts (e.g., Brennan et al., 2019; Collins & Cooper, 2017; Collins & Potoglou, 2019); and motivations, facilitators and barriers faced by festival organisers when responding to environmental sustainability issues (e.g., Ensor et al., 2011; Mair & Laing, 2012; Wickham et al., 2021). To date, most research has taken a case study approach or compared similar types of festivals (e.g. music, arts, food and drink). Researchers have called for a more nuanced study of festivals to enhance theoretical and practical knowledge (Mair et al., 2024), but few studies have compared the types of sustainable environmental practices across festivals (e.g., Dodds et al., 2020; Hutte et al., 2022).

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While the adoption of environmental practices can lead to more sustainable events and contribute to the mitigation of climate change; raising awareness of sustainability initiatives, educating attendees and encouraging sustainable consumption behaviours should also form part of their efforts and commitment (Dodds et al., 2020). Organisations that incorporate sustainability initiatives and communicate these to the wider public have obtained improved support from stakeholders and built a stronger public image (Du et al., 2010).

This paper aims to assess festivals' level of commitment towards reducing negative environmental impacts by analysing sustainable environmental practices communicated on their websites. Based on a review of published studies in academic journals on festivals and sustainability, it is currently the first study to develop and apply a scoring framework that enables an assessment and comparison of sustainability practices (by type and scope) across festivals and environmental categories. Festivals have distinct features which may impact on their environmental practices (e.g. type, scale, duration and location), and this paper focuses on a diverse range of festivals across Wales (UK). Our approach responds to calls for research (inter alia Hutte et al., 2022; Qin et al., 2024) to: examine a broader range of environmental messages beyond those given during an event; and evaluate the sustainability efforts of what festivals communicate on their websites. By doing so, it contributes to enhanced understanding of festivals' sustainable environmental practices and progress towards staging more sustainable events.

## Literature Review

It is challenging for events and festivals to bring together large numbers of people and at the same time be entirely sustainable. Indeed, arguably the idea of sustainability, particularly environmental sustainability, runs counter to the reality of

mass gatherings. A great deal of research has investigated how events and festivals can be operated in a more environmentally responsible way, ranging from industry-appropriate texts (e.g., Jones, 2017) to academic publications in top tourism and events journals and a recent important focus for many has been waste management (Dodds et al., 2022; Hutte et al., 2022; Park et al., 2022). Although festival recycling rates have increased from 38% (in 2022) to 46% (in 2023), there is still some way to go before festivals are performing as well as they can in this domain (AGF, 2024). Sporting and business events which take place in permanent venues are in a stronger position to invest in low-carbon infrastructure and facilities. Festivals, by comparison, tend to utilize temporary venues, such as outdoor green spaces or community recreational facilities. They may not own these spaces or may encounter regulatory and logistical challenges to installing permanent facilities. Consequently, they have fewer opportunities and incentives for long-term investment in permanent, low-carbon facilities or infrastructure. There are some examples of large festivals which own their own site (e.g., Glastonbury, UK or Woodford, Australia), but these are the exception rather than the rule.

There exists a substantial body of research on festivals and all facets of sustainability, and the quantum of studies appears to be expanding, pointing to the increasing importance of enhancing both the sustainability performance of festivals, but also improving their contribution to community and destination sustainable goals as highlighted by Mair and Smith (2021) and Getz (2017). A significant portion of this work has focused on environmental sustainability, with more studies in the music festival context (Cavallin Toscani et al., 2024). However, existing research is not without criticism, and the focus of research in the context of events generally, and environmental sustainability at festivals specifically, is characterised by a plethora of

individual case studies which lack generalisability and transferability (Mair et al., 2024). The current study was undertaken partially in response to this criticism, as it aims to examine sustainable environmental practices across a range of festival types.

Research examining environmental sustainability at festivals can be broadly categorized under five headings – motivations for investing in sustainable practices and facilities; facilitators and barriers to investments; consumer demand for more sustainable festivals; strategies for encouraging pro-environmental behaviour changes by their attendees; and assessing the social, economic and environmental impacts of festivals.

In relation to motivations for investing in sustainable practices and facilities, research has identified several key drivers. Ensor et al. (2011) notes that for many festival organisers, sustainability is more than just an environmental concern, but a question of survival. Initially, five main motivations for greening – financial benefits (reduced costs and increased efficiency), competitive advance, image enhancement, stakeholder pressures (consumers, suppliers, industry groups etc.), and a desire to take proactive measures to avoid, or at least delay regulations or legislation were proposed. Work by Mair and Jago (2010) added the notion of an environmental or eco-champion – someone within an event or festival who drives the sustainability agenda and pushes for pro-environmental change. In the festival context, this is often the owner or director but can be any other change agent within the festival ecosystem. Mair and Laing (2012) additionally found a desire amongst festival organisers to educate attendees and advocate for pro-environmental behaviour change.

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Despite these motivations and drivers, there are challenges with staging more environmentally sustainable festivals and events. Mair and Jago (2010) identified key barriers, including limited resources, knowledge, awareness and skills. These were complemented by operational pressures pertaining to the way events, as temporary phenomena, are staged and managed. Mair and Laing (2012) applied the Mair and Jago model to the music festival context and found similar results, but additionally found a lack of control over attendee behaviour, and the 'split incentive' where festivals who do not own their own venues are not incentivised to reduce resource use, because the cost savings accrue to the venue operator, not the festival organiser. Dodds et al. (2022) concurred with these findings, suggesting that a lack of resources, knowledge, awareness and skills were the most pressing for festivals in Canada and New Zealand. Conversely, however, Liu and Lei (2021) found that most event planners in their sample (although in the context of business events) were aware of both the environmental impacts of events and the need for investment in sustainable practices and facilities.

Consumer demand for pro-environmental and sustainable practices has been increasing, not just in the festival context, but in many consumer contexts, facilitating or even forcing the implementation of sustainable principles at events (Ye et al., 2020). Given the climate emergency and biodiversity crisis, this is timely. In the context of festivals, consumer demand for basic sustainable actions and facilities (such as availability of recycling bins or reduction in single use plastics) has been considered a hygiene factor at many festivals for at least 10 years (see for example, Mair & Jago, 2010; Mair & Laing, 2012). As options for integrating environmental sustainability into festival operations multiply, organisers recognise a significant increase in consumer expectations around this (Collins & Potoglou, 2019).

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Events are argued to be spaces where pro-environmental behaviour change can be fostered (Mair, 2014). Some organisers use their festivals to advocate for sustainable behaviour change amongst attendees and acknowledge the festival's role as an agent of behaviour change (e.g., Koenig-Lewis et al., 2021; Organ et al., 2015). Many festivals now incorporate educational or environmental awareness-raising activities into their design. This is not only the case for festivals with a strong environmental sustainability focus (such as Hay Literature Festival, Wales; Coachella Valley Music and Arts Festival, USA; Sziget, Hungary; Mariposa Folk Festival, Canada; Roskilde Festival, Denmark), but also other festivals where organisers increasingly recognise the opportunities to both model and advocate for sustainable behaviour.

The application of the Triple Bottom Line (TBL) framework has predominantly been used to evaluate event economic, social and environmental issues. For example, studies on environmental sustainability have tended to focus on specific outcomes such as ecological impacts and carbon emissions (Collins & Cooper, 2017; Collins et al., 2012). However, as highlighted by Wickham et al. (2021), this approach provides limited opportunities to explore sustainability management practices.

Some aspects of environmental sustainability at festivals can be measured and evaluated; energy and water use, waste management, sustainable supply chains (particularly the use of local food) and transport-related carbon emissions. Waste management generally relates to waste reduction, both in terms of overall waste and recyclables – on-site recycling and reduction in use of plastics (Hutte et al., 2022; Raffay-Danyi & Formadi, 2022). Sustainable food and beverage options, and an emphasis on local, organic and vegan/vegetarian food can contribute to

reducing the environmental footprint of festivals, and is also a strategic response to meet the growing demand for more health-conscious dietary options (Raffay-Danyi & Formadi, 2022). In terms of improvements in what carbon emissions festivals are capturing, AGF highlights strategies relating to waste, food and drink, audience travel, power and fuel use, contractors and supplier transport, and water and wastewater (AGF, 2024).

Several tools and frameworks currently exist for assessing festival engagement with environmental sustainability. For example, Boggia et al. (2018) developed an index called METER (Measuring Events Through Environmental Research) based on 9 major operational categories to help organisers evaluate the environmental sustainability of their event, and includes a feedback mechanism for event attendees. In addition, the freely available EU funded Future Festivals Tools (Future Festival Tools, 2024) can provide an indication on progress across individual environment issues. Nonetheless, the range of environmental issues included is rather narrow and does not provide an overall total score for a festival. AGF also offers a certification framework to help festivals understand, assess and manage their sustainability efforts; however, payment is required to access this framework.

Another aspect of scholarly enquiry of relevance to this study is how sustainability credentials are communicated by festivals. It is important that festival stakeholders are aware of the measures taken by festivals to reduce negative environmental impacts, however, festival organisers (like other event organisations) are very wary of being accused of greenwashing - overcommunicating sustainability for the purpose of self-promotion (Laing & Frost, 2010). This has led, somewhat perversely, to the notion of 'greenhushing' - under-communicating sustainability efforts to avoid negative feedback (Font et al., 2017). In either case, there is

significant scrutiny of the authenticity of environmental claims, with concomitant reputational issues (Qin et al., 2024).

The literature on sustainability communication in the context of festivals is rather sparse, with only a few articles devoted to the subject, and some focus on driving attendance rather than actual communication of sustainability initiatives at the event. For example, an analysis of communication by sustainable festivals in Lithuania, Sinkevičiūtė (2023) identified the optimal mass communication channels for engaging audiences interested in sustainable events as being the event's Facebook page and website. However, this research did not consider what sustainability information these Facebook pages or websites provided. Indeed, much research in the context of event sustainability communications has focused on attendees as receivers of communications – see for example Zhang et al. (2020) who examined how positively and negatively framed environmental communications are received by attendees. Although neither of these studies consider online or website communications, they do suggest that festival sustainability communication is an area worthy of further study.

Websites serve as centralized repositories for organisational policies and procedures, making them easily accessible to internal and external stakeholders. According to Musheke and Phiri (2021), websites not only provide standardised and easily navigable formats for disseminating business and professional information, such as strategic documentation and initiatives, but are also the channel of communication most likely to significantly influence how effectively an organisation's messages are received. Therefore, as a repository of an organisation's (or festival's) documentation and a key external stakeholder facing communication channel, an analysis of websites is arguably the most reliable way to assess how sustainability

initiatives are communicated to a broad range of stakeholders. Dodds et al. (2020) also argue that online communication via websites (and social media) is important for building brand awareness, enhancing reputation and inspiring action (such as purchase or positive word of mouth). This suggests that online communication by festivals plays an important role in helping attendees decide which events to attend, in line with the suggestion from Du et al. (2010) that communicating sustainability initiatives have significant positive implications for business. The current study addresses the call from Qin et al. (2024) to consider a broader range of message receivers than simply those attending an event at a given time.

Evaluations of website sustainability communications are common approaches for sport organisations and tournaments (e.g., Hugaerts et al., 2022; Trendafilova et al., 2021; Wall-Tweedie & Nguyen, 2016), but as highlighted by Hutte et al. (2022), only a limited number of studies have examined and compared sustainability communications of festivals and festival associations. Past studies have primarily adopted a thematic approach (e.g., Dickson & Arcodia, 2010; Wickham et al., 2021), but some have extended this to include a quantitative assessment (see Supplementary Information). Hutte et al. (2022) conducted a systematic content analysis including quantitative text mining and a qualitative thematic analysis of Australian festivals, providing a snapshot of current environmental practices and festivals' engagement with sustainability. Dodds et al. (2020) analysed Canadian festival websites, social media sites and conducted semi-structured interviews to determine the extent of their online communication on sustainability practices. Both studies also included an assessment of the number of sustainability initiatives that festivals had engaged with.

# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

In this study we develop and apply a scoring framework to systematically assess festivals' communication of sustainable environmental practices on their websites, thereby providing an empirical basis for estimating their level of commitment to reducing negative environmental impacts. Our scoring framework advances previous work by Dodds et al. (2020) and Hutte et al. (2022) which counted the number of festival environmental practices using a binary code of 1 or 0 (1= evidence of initiative, 0 = no evidence). Although this approach provides an indication of the quantity of sustainability initiatives communicated by festivals, it does not provide insights to the level of a festival's commitment to environmental sustainability. Instead, we took a similar approach to Hugaerts et al. (2022) who performed a website content analysis of 141 sport federations in Belgium assessing the profoundness of different environmental initiatives by distinguishing these into low (inexpensive, easy to implement, high visibility) and high-intensity (larger-scale integrated activities, substantial resources).

Our scoring framework extends previous research by taking account of a) the type of environmental practices used by festivals, and b) their level of commitment and investment (financial, human and technological) across various environmental categories. Adopting this quantitative approach enables comparisons across festivals and environmental categories, as well as an overall assessment of festival commitment. In doing so, this approach also enhances our understanding of drivers and barriers towards staging more sustainable festivals in the future.

This paper aims to explore the following research questions:

1. To what extent are festivals communicating about their sustainable environmental practices on their websites?

2.  Does festival commitment to reducing environmental impacts, as indicated by the type and scope of practices communicated on their website, differ by festival type or location?

3.  Which environmental categories are festivals focusing on the most and least?

4.  What environmental practices are being used by festival organisers to reduce negative environmental impacts and stage more sustainable events?

By addressing these research questions, this paper not only provides insights into festival environmental practices in Wales but also provides recommendations to support and shape environmentally responsible festivals and their future sustainability.

**Methodology**

The context for this study is Wales (UK) which has a vibrant festival scene and is the location for some large, well-known festivals which have received awards (e.g. AGF's International Greener Festival Award) for their pioneering environmental practices and commitment to sustainability. In Wales, the Welsh Government has responsibility for a range of public services and policy areas including the environment. The 'National Events Strategy for Wales 2022-2030' outlines Wales' vision to stage events "that support the well-being of its people, place, and the planet" and recognises events as platforms to showcase, raise awareness and encourage sustainable environmental practices (Welsh Government, 2022). To develop a more sustainable events industry and deliver the United Nations Sustainable Development Goals, the Welsh Government requests the industry considers this strategy in the planning of their events. It acknowledges that many

events are supportive of this but so far only their economic and profile outcomes have been measured. This highlights the need for a framework that can assess festival progress towards staging greener events and demonstrate their commitment towards environmental responsibility to attendees and stakeholders.

This study used a content analysis of festival websites as its methodology. It is acknowledged that website material can be revised and updated regularly, and so the analysis presented in this paper aims to provide a 'snapshot' account of what festivals were communicating at a particular point in time. It is also acknowledged that festivals might not communicate all environmental practices on their website, and their communication may not necessarily equate to actual practice. To ensure our study was as comprehensive as possible, reviews were undertaken after festivals had taken place to ensure the most up-to-date website communication was used within our analysis.

The first phase of this study involved recording festivals to be included in our analysis. It was important that our selection was inclusive and embraced a range of festival types, of different durations, scales and locations in Wales (see Table 1). At the time of this study there was no comprehensive database of festivals in Wales. Our starting point was an initial list of 64 festivals held by the Welsh Government, supplemented with a Google web-based search of festivals in Wales, adding a further 54 to the database. Searches were conducted in 2022 and in 2023 to ensure comprehensive coverage of festivals in Wales. Initially 118 festivals were recorded, however, 8 were excluded due to having non-functioning websites, outdated website material or were postponed or cancelled in 2023.

Our final sample included 110 festivals held in different locations across Wales and of different scales and duration. Cultural events and festivals are highly

diverse in nature, each with their own history, tradition and specific form and can be categorised in multiple ways including theme/focus, scale/scope, cultural activity and type of activity. For this study our sample of festivals were allocated to 1 of 8 types to reflect their main theme/focus (music, literature and arts, comedy and film, cultural, agricultural, food and drink, LGBTQ+, and 'other' types). Sport festivals have been a focus of previous studies but were not identified as a festival type within our sample. The most frequently occurring festival type in our sample was music (42%), followed by food and drink (16%) and literature and arts (10%). The smallest categories were agriculture (5%) and LGBTQ+ (4%). Where a festival related to several types, it was categorised according to its primary purpose or focus. 'Other' festivals included those that focused on wellbeing, empowerment, wellness, religion, nature, and water. In terms of festival location, 53% were held in urban areas, 33% in rural areas, 13% in semi-rural areas and 2% were held in both urban and rural areas (see Table 1).

<<<INSERT TABLE 1 ABOUT HERE>>>

Most festivals in our sample had a duration of between 1 to 4 days (78%), but 14% had a duration of 8 days or more. Our database of festivals also included information on: estimated number of attendees (ranging from 200 to 240,000); region(s) held in Wales (43% South East, 17% South West, 22% Mid Wales, 14% North Wales, 5% various regions); time of the year (64% took place between May-August); venue type (80% had a dedicated site or venue); and availability of on-site overnight accommodation (31%). Only 16% of festivals had a dedicated sustainability section on their website.

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*Framework for assessing festival sustainable environmental practices*

The second phase of this study involved developing a framework to analyse festival website communication across a range of environmental sustainability topics. As argued by Babiak and Trendafilova (2011), environmentally responsible business practices are an important element of CSR. Our assessment framework was built around core social responsibility subjects derived from ISO 26000:2010, the International Organisation for Standardisation Voluntary International Standard for Social Responsibility (ISO, 2010). ISO is one of the world's leading organisations in achieving sustainability standards and ISO 26000 standard was developed to encourage private, public and not for profit organisations (regardless of activity, size, location or stage of development) to become more socially and environmentally responsible and contribute to the United Nations 2030 Agenda and its 17 Sustainable Development Goals.

Other ISO standards, such as ISO 20121 (Event Sustainability Management Systems), can support festivals in organising more sustainable events. ISO 20121 is specifically designed to enable events to demonstrate sustainable management practices. Rather than providing a checklist of the potential impacts of an event, it emphasises the implementation and auditing of a sustainability management system approach. In contrast, ISO 26000 is not a certifiable management system standard; rather, it provides guidance that enables organisations to adopt a more strategic approach to Corporate Social Responsibility in relation to community, environmental and economic considerations. It provides valuable guidance enabling events, venues and organisations to integrate social responsibility, assess their societal impacts, sustainability commitments, and enhance their performance.

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In ISO 26000, three of the six core subjects were identified as having direct relevance for assessing festival engagement and commitment towards environmental sustainability: '*environment*' (which includes prevention of pollution; sustainable resource use; climate change mitigation and adaptation; protection of the environment and restoration of natural habitats); '*consumer issues*' (which includes sustainable consumption, education and awareness); and '*community involvement and development*' (which includes community involvement). An initial review of 10 festivals from our sample was used to understand how these three core subjects were being interpreted and communicated by festivals on their websites. This then informed the final 9 environmental categories for our analysis: community engagement, education and awareness, energy use, environment and biodiversity, food and drink, sustainable procurement, sustainable travel, waste management and water use.

Our assessment of festival website communications initially focused on webpages specifically dedicated to environmental sustainability. The website search function (where available) was also used to identify relevant information using the following search terms: environment/ environmental, sustainable/ sustainability, green, water, food, waste/ waste management, recycling, plastic, compost, energy, travel, transport, biodiversity, awareness and community/ communities. Where a festival had no dedicated sustainability section or search function, each website page was examined for relevant information. An individual report was compiled for each festival detailing what environmental practices were communicated on their website for each of the 9 environmental categories.

ISO 26000 does not enable organisations to effectively quantify the evaluation of their social responsibility activities. To address this, we developed a 0-4 scoring

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system for each of the 9 environmental categories, and the cumulative scores enabled us to determine an overall score for each festival. Table 2 shows the scoring framework developed to analyse festival website communication with examples of practices for three environmental categories: 'Transport', 'Food & Drink' and 'Waste Management'.

Festivals were awarded a score of '0' if there was no information and engagement through to '4' where there was evidence of high engagement and commitment. The scoring framework was not designed to reflect environmental performance or outcomes such as recycling rates or reduction in carbon emissions, and all environmental categories had equal importance and so weighting was not applied. The maximum total score a festival could achieve was 36.

To ensure consistency in how the scoring framework was interpreted and applied, the research team independently scored four randomly selected festivals, then compared and discussed suggested scores, and adjustments were made before applying the scoring framework to all 110 festivals. Steps were taken to ensure that environmental practices were recorded and included in the correct environmental category. For example, action relating to biodegradable serveware and drink containers was recorded under 'waste management' rather than 'food and drink'. On-site drinking water points were recorded under 'waste management' rather than 'water use' as the primary purpose was to encourage reuse of water bottles and reduce consumption of plastic bottles.

Independent samples t-tests and Analyses of Variance (ANOVA) were conducted to assess if total scores and scores for each environmental category differed significantly by festival type, duration, region, location and having a dedicated sustainability section on their website.

**FESTIVAL SUSTAINABILITY SCORING FRAMEWORK**

**<<<INSERT TABLE 2 ABOUT HERE>>>**

**Findings**

The findings from applying our scoring framework to festival website communications (based on ISO 26000 environmental categories and 0-4 scoring system) firstly focuses on festivals' overall level of engagement and across each of the 9 environmental categories, addressing research questions 1, 2 and 3. It then discusses environmental practices used by festivals to reduce their environmental impact across each environmental category and how this relates to their assessed level of engagement, addressing research question 4.

*Festivals' level of commitment and engagement with environmental categories*

Overall, 35% of festivals were found not to communicate information on any of the environmental categories on their websites (a score of 0 was recorded for these festivals). This may be due to the purpose of the website (for example, advertising and ticket selling) or resources available to develop website communications as many are often organised by a small number of staff and/or volunteers. As previously mentioned, only 16% of festivals had a dedicated sustainability section on their website and this was used to communicate specific details on their environmental sustainability practices and activities. Other festivals communicated environmental sustainability information on other sections of their websites, for example under 'Visitor Information' or 'How To Get Here'.

Our scoring framework enabled us to assess festivals' progress towards environmental sustainability. Four groups were identified based on festivals' total scores – high, medium, low and zero. Overall, 4% of festivals had high levels of commitment, with total scores ranging between 20 and 34 (out of a possible 36), and 6% had medium levels of commitment scoring between 10 and 19. The largest

proportion of festivals (56%) had low levels of commitment with total scores less than 10. A further 35% of festivals scored zero as they did not communicate any environmental practices on their websites. The lack of communication does not imply festivals are not taking action to reduce their environmental impact, however, it does suggest communicating what they are doing may not be a priority for them. Organisers may consider their audiences are not interested in actions being taken to reduce the environmental impact of the festival, or how attendees can contribute towards their efforts.

Our analysis found that 65% of festivals had conveyed practices in at least one of the 9 environmental categories. The largest proportion of festivals communicated environmental practices on 'food and drink' (43%) and 'waste management' (37%), followed by 'sustainable transport' (27%) and 'education and awareness' (24%). A relatively smaller proportion of festivals communicated practices on 'energy use' (15%), 'sustainable procurement' (12%) and 'water' (7%), which could be due to having limited control or influence over their venue or site. Festivals included in our analysis were found to communicate least on 'community engagement' (5%).

For festivals that achieved a total score above zero (n=72, 65%), no significant differences were found in the total scores for festival type ($F_{(7,64)}=1.06$, $p=.397$); duration ($F_{(3,68)}=0.95$, $p=.420$); and region held in Wales ($F_{(4,67)}=1.49$, $p=.214$). However, our analysis showed that festivals in rural locations had a significantly higher total score ($M_{rural}=7.83$, SD=8.87) than those in urban areas ($M_{urban}=3.48$, SD=2.75, $F_{(3,68)}=3.75$, $p=.015$), and also achieved higher scores in the following environmental categories: 'transport' ($F_{(3,68)}=2.88$, $p=.042$); 'waste management' ($F_{(3,68)}=5.05$, $p=.003$) and 'food and drink' ($F_{(3,68)}=3.50$, $p=.020$). Festivals with a

dedicated sustainability section on their website also scored significantly higher overall (M=11.00, SD=9.96) versus those with no dedicated sustainability section (M=3.61, SD=2.99; t(18.04)=-3.10, p=.006).

The application of our scoring framework provides a compelling insight as to which environmental categories festivals engaged with most and least, and their level of commitment. Overall, festivals that communicated environmental practices via their websites (n=72) engaged on average with 2.7 environmental categories (out of 9), achieving a total score of 5.5 (out of a possible 36). The top 10 scoring festivals engaged on average with 6.7 environmental categories, achieving a total score of 18.4 (out of a possible 36). The top 3 scoring festivals communicated practices for all 9 environmental categories and achieved a total score of 30 (out of a possible 36).

Figure 1 shows the number of festivals that achieved scores between 1 and 4 for each of the 9 environmental categories. The results show that although festivals are communicating practices across all categories, for most their level of commitment was either very low or low (i.e. scores of 1 or 2). For example, despite 47 festivals communicating practices on 'food and drink', the majority (74%) achieved a score of 1 or 2. Only 26% of festivals achieved scores of 3 or 4 (i.e. medium to high engagement). The results suggest festivals may either lack the necessary resources or knowledge to enhance their commitment and reduce environmental impact in these areas. Other possibilities could relate to food/drink supply chain issues or producers. In the case of 'sustainable transport', 30 festivals communicated environmental practices, but only 5 festivals (17%) scored 3 or 4 (medium to high levels of engagement). Most of these festivals are held in rural locations and reducing the travel impacts of their event is challenging, which may

reflect enhanced communication and efforts to engage with their audiences and encourage more sustainable travel choices.

As shown in Figure 1, environmental categories with the largest proportion of festivals with medium to high levels of commitment (i.e. score of 3 or 4) were 'waste management' (19 festivals) and 'food and drink' (12 festivals), followed by 'education and awareness' (9 festivals). Overall, 'waste management' had the largest proportion of festivals (8 festivals) achieving a score of 4 (high engagement). It highlights that festivals are prioritising environmental practices within these three categories. Other environmental categories such as 'energy use', 'environment and biodiversity', 'water' and 'community engagement' appear to be less of a priority for festivals or beyond their control or responsibility.

**<<<INSERT FIGURE 1 ABOUT HERE>>>**

Our scoring framework (see Table 3) shows that 10 festivals had medium or high levels of engagement and commitment (i.e. achieving scores from 11 to 34 out of a possible 36), and these included some of the largest and oldest festivals in Wales. Interestingly, our analysis demonstrates these festivals also have a connection with the 'natural environment' due to the festival type or their rural location. Some of the top scoring festivals have a dedicated member of staff or team with responsibility and expert knowledge to drive their sustainability agenda, and develop projects to reduce their environmental impacts and advocate for pro-environmental behaviour changes amongst their audiences. Furthermore, some festivals are members of specific organisations in the UK that connect the festival industry to support and share knowledge and solutions for staging more sustainable festivals (e.g. Association of Independent Festivals, A Greener Future and Powerful Thinking), and have achieved national and international awards and environmental

certifications in recognition of their environmental sustainability solutions and progress.

<<<INSERT TABLE 3 ABOUT HERE>>>

*Festival sustainable environmental practices*

So far, this paper has discussed the application of our scoring framework (based on ISO 26000 subjects and a 0-4 scoring system) to assess and compare festivals' communication of their sustainable environmental practices across 9 categories. In this section, we turn our attention to the specific environmental practices that festivals communicate on their websites (see Table 4).

**Food and drink.** Forty-three percent of festivals communicated practices on 'food and drink', however, only 8 had a specific policy on sustainable food and popular practices included the provision of local and seasonal food options. Some festivals provided organic and fairtrade products but only a few provided only vegetarian/vegan food options. Festivals scoring high in this category also set minimum standards for traders (e.g. locally sourced, free range, not GMO fed; grass-fed and organic).

**Waste Management.** Of the 41 festivals that communicated information on 'waste management', almost half had an environmental policy focusing on waste management and packaging procedures. As shown in Table 4, festivals were engaging with waste management in a variety of different ways, the most common was informing attendees about on-site recycling facilities and how to reduce and dispose of their waste appropriately. Many festivals had recruited stewards/volunteers to educate attendees on correct waste disposal and undertake litter picks, and several were providing specific facilities to encourage attendees and traders/vendors to reduce waste. For example, free on-site drinking water points to

reduce use of plastic water bottles, excluding single-use plastic items and providing serveware made of biodegradable and/or compostable materials.

Many of the festivals that received a score of '3' or '4' for 'waste management' (i.e. medium to high engagement) had invested in separate on-site facilities for food composting and recycling of specific items (e.g. paper, cardboard, plastic) and introduced reusable cup schemes. Some festivals disincentivised traders for poor waste management (e.g. through fines or exclusion from future events), while some rural festivals collaborated with local charities to reuse unwanted camping equipment or encouraged attendees to avoid purchasing low-quality camping gear.

**Sustainable travel.** Action on festival-related travel was communicated by 27% of festivals. Half provided basic information on how to travel to the festival site by car and public transport, and in some instances by bicycle. Car sharing schemes and shuttle/bus services from nearby train/bus stations and towns were also promoted and provided by many rural festivals. Promotion of 'Park & Ride' facilities was a key focus for many festivals in rural and semi-rural areas, particularly with larger audiences and lasting 2 or more days. Festivals with high scores in this category implemented more radical approaches to reduce car travel (e.g. a minibus connecting festivalgoers to overnight accommodation in nearby villages), and provided incentives (e.g. discounts on festival tickets, free shuttle bus from nearest train station for cyclists, free and secure bicycle storage). A rural festival used its car parking charges to subsidise a cheap shuttle bus from the nearest train station and coaches from several cities.

**Education and awareness.** Only 24% of festivals communicated action to enhance audience 'awareness and education'. The main approaches taken were sustainability talks, discussions and/or dedicated workshops or events, and themes

tended to align with the focus of the festival (i.e., food or broader sustainability themes including climate change). Festivals with high scores in this category had a series of environmental themed conversations, creative storytelling, events or demonstration projects on one or more days, often aimed at a variety of audiences. One rural festival used solutions-focused workshops to explore policy transformations (e.g. energy, mobility, fashion and lifestyles) to tackle climate and biodiversity emergencies.

**Energy use.** Only 15% of festivals communicated action on energy use. The main approaches used included restrictions on use of diesel generators and a focus on biofuel and renewable system generators. Festivals with high scores in this category invested in energy saving measures (i.e. LED lighting and encouraging energy efficiency by traders) and sourced energy from renewable sources (i.e. hydrogen, solar and hydrotreated vegetable oil).

**Sustainable procurement.** Fewer than 15% of festivals communicated information on their sustainable procurement practices. Approaches taken included ensuring goods and services were provided by partners, contractors and suppliers who had ethical practices and comprehensive sustainability programmes, and this formed part of the festivals' tender application process. Festivals with high scores provided certificates and awards for traders and farmers for sustainable practices that demonstrated consideration for the environment and habitat sensitivity.

**Environment and biodiversity, Water use and Community engagement.** A small proportion of festivals communicated action on 'environment and biodiversity', 'water use' and 'community engagement'. The focus for many on 'environment and biodiversity' was providing attendees with information on how to respect the natural environment at the festival site. Action on 'water use' tended to focus on information

for attendees using on-site camping facilities, and several festivals had invested in water conservation measures such as low volume flush systems in toilet units or compostable toilets.

Festival communication on 'community engagement' was also low (6%); however, approaches varied and depended on the focus of each festival. Some for example developed partnerships with local communities on environmental focused projects or supported rural communities across Wales on education or business projects. One festival had developed an international partnership focused on creating film creation opportunities for young people on sustainability and resilience in response to climate change issues.

<<<INSERT TABLE 4 ABOUT HERE>>>

**Discussion and Conclusion**

The purpose of this paper was to assess festivals' communication of environmental sustainability practices on their websites and their level of commitment towards reducing their environmental impacts. Although the results relate to a single country (Wales), they still have relevance for other festival organisers and policy makers, particularly given the growth of festivals and increased concerns around their environmental consequences and future sustainability.

The study provides a snapshot account of what festivals in Wales are communicating on their websites. The analysis shows that environmental categories of most priority were 'food and drink' and 'waste management' followed by 'sustainable transport'. This is contrary to Dodds et al. (2020) who found that 'transportation' and 'waste management practices' were most frequently communicated and Hutte et al. (2022) who identified 'waste and waste management' practices as the most frequently presented topic. Our study shows that

environmental issues relating to 'food and drink' (e.g., locally sourced and vegan/vegetarian options) are also an important consideration for festivals.

Our scoring framework also shows that the type and scope of environmental practices communicated on 'waste management', 'food and drink' and 'education and awareness' signals high levels of commitment by festivals. In contrast, practices on 'community engagement' were the least communicated by festivals, possibly because organisers did not perceive it as important, did not see it directly related to environmental sustainability, or considered it beyond their remit.

Similar to previous studies, our study also found variations between festivals in the provision of sustainability-related information and practices on their websites. Dodds et al. (2020) found that music festivals communicated most initiatives whilst agricultural and performing arts festivals scored low, and Hutte et al.'s (2022) results showed that sport-based festivals, followed by folk and music festivals scored highest. In contrast, our study found no significant differences by festival type, duration or region, but instead by location, suggesting that commitment to environmental practices might not necessarily be linked to festival type as suggested in previous studies.

Only three festivals had communicated extensively their environmental practices across all 9 environmental categories. Festivals with a dedicated sustainability section on their website also achieved higher scores. Festivals with highest scores also had a connection with the 'natural environment' due to their type of event or their rural location. They also had a dedicated member of staff or team with responsibility and expert knowledge for driving forward their sustainability agenda, and echoes findings by Mair and Laing (2012) that having an eco-champion was an important element in environmental sustainability.

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Only 35% of festivals did not communicate any information about environmental practices on their websites. This contradicts previous studies which found a much larger proportion of festivals not communicating sustainability-related information via their websites, i.e. 64% of Canadian festivals (Dodds et al., 2020) and 68% of Australian festivals (Hutte et al., 2022). In the specific context of this study, festivals in Wales may be supporting the Welsh Government in delivering its National Events Strategy, or festivals reporting how they are reducing negative environmental impacts may have become a condition of funding. CGA's Festival Report 2023 has also highlighted that 81% of festival-goers expect festivals to address their environmental impact and 70% agreed festival communication of environmental sustainability is important (CGA by NIQ, 2023). Similarly, Hutte et al. (2022, p. 448) found that almost one quarter of event organisers "noticed event participants had been showing an increased level of environmental awareness compared to before the pandemic", which may imply festival organisers feel pressure to inform attendees know about their sustainability initiatives. Whilst Hutte et al.'s (2022) study was conducted in Australia, similar shifts in the festival industry are also apparent in the UK (BBC News, 2024b).

Although 65% of festivals communicated practices relating to at least one environmental category, the level of engagement was low based on the type and scope of practices, and only a few stated the rationale for their approach. Those that did focused on reducing operational impacts and explained how attendees could contribute to their sustainability efforts. The lack of communication points towards some potential barriers faced by festival organisers in terms of their ability to reduce negative impacts and progress towards staging a more sustainable event. Although this study did not explicitly seek to identify challenges, it is likely that festival

organisers in Wales face similar barriers to those identified by Dodds et al. (2022), including a lack of resources, awareness, knowledge and skills. A further reason could be that festival organisers are reluctant to communicate their environmental sustainability practices and initiatives ('greenhushing') due to fear of being criticised either for greenwashing or for not having made significant progress across some or all areas (Font et al., 2017).

Findings from this study highlight that assessing and comparing festivals' communication and commitment towards environmental sustainability is both complex and challenging. We acknowledge that festivals' communication of their environmental practices via websites may not provide a comprehensive assessment of their engagement and progress. However, as highlighted by Dodds et al. (2020) communicating and raising awareness of efforts is significant for cultivating attendee support for festivals in their pursuit for sustainability. While website communication may lack certain detail or not fully reflect a festival's actual practice or performance, our scoring framework offers valuable insight into the image a festival seeks to project to its audience and stakeholders, as well as the priority it places on being environmentally responsible.

The academic contribution of this research lies mainly in the development of the scoring framework for assessing and comparing festivals' environmental sustainability communications. This framework is unique in the events literature because it moves beyond a binary 'yes/no' assessment of festival communication of sustainable environmental practices, offering instead a nuanced evaluation of commitment levels from 'none' through to 'high'. Our analysis shows how the scoring framework can provide a greater understanding of the extent to which festivals are engaging with environmental sustainability issues and reducing their negative

environmental impacts. It can identify those environmental categories festivals are prioritising and consider most important in terms of reducing impact. Furthermore, the scoring of 9 environmental categories based on level of commitment/ investment allows for comparisons across festivals (different types, scale and location) and environmental topics. Our methodology also provides valuable insights to potential barriers and drivers influencing festival organisers approaches and progress towards staging more sustainable events and has the potential to illustrate ways in which they may improve their sustainability performance - by looking at which festivals achieve high scores and the types of practices they have adopted. Furthermore, it could also be used as benchmark for future events.

In terms of its practical contribution for policy makers, our scoring framework provides a valuable approach to monitoring, assessing level of engagement and progress across various environmental issues. In particular, its ability to identify environmental categories that festivals are engaging with most and least, and this could assist in identifying support required by festivals in future event planning to mitigate negative environmental impacts. Such information could inform benchmarks and reporting by festivals in receipt of sustainability focused funding. Our study also provides a comprehensive analysis of sustainability practices for each environmental category communicated by festivals in Wales, and has value for festival organisers, policy makers and other stakeholders in terms of identifying innovative sustainability practices and a benchmark of sustainability-related communications.

## Limitations and Further Research

Inevitably, this study is not without its limitations. It focuses only on environmental sustainability topics and does not include an assessment of festival practices and communications around social or economic sustainability issues.

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Furthermore, the analysis was based only on information communicated on festival websites at a given point in time and so may not necessarily reflect all environmental practices undertaken by a festival or indeed equate to actual practice. Although the findings relate to a single country (Wales), the scoring framework does provide valuable insights to festival commitment on environmental sustainability and current practices. It allows for comparisons across festivals and environmental categories and has identified festivals' key strengths and areas requiring further improvement. It does have potential value for policy makers that want to better understand how festivals are enabling them to progress and achieve wider environmental goals. The scoring framework can be used to establish a benchmark for future festivals, although further consideration may be required where some environmental practices are not applicable to certain festivals (e.g. provision of food and drink). It could also be extended to include additional categories, such as festival merchandise. Future studies could use the scoring system to study festival environmental practices communicated on social media, festivals in other countries and compare results, or to conduct a longitudinal study of festivals in the same country.

Our approach does not assess the performance or effectiveness of festival practices - for example, the separation of waste materials by audiences on site, number of attendees using sustainable or active travel methods, or approaches to environmental governance. It does, however, relate to the environmental impacts, resource consumption and community engagement of an event, and has many potential applications. It could be applied to sporting or business events of similar types or across a single country.

Future studies could involve a follow-up survey with festivals focusing on what environmental practices they put into practice and comparing this with their website

communications. Qualitative or quantitative methods could also be used to further examine festival organisers' motives for adopting specific environmental practices to reduce their negative impacts and providing insights to different engagement levels. For example, follow-up interviews with the top 10 scoring festivals could include a focus on environmental issues receiving least attention such as 'water', 'environment and biodiversity' and 'community engagement'. The notions of greenwashing and greenhushing could also be integrated into future research to further advance understanding of the drivers and barriers in reducing environmental impacts and staging more sustainable events.

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# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

**Table 1.** Festival type, frequency and location (n=110)

| Festival Type | Frequency | Festival Location | | | |
| --- | --- | --- | --- | --- | --- |
| | | *Urban* | *Rural* | *Semi-urban* | *Urban & Rural* |
| Agriculture | 5% | 0 | 5 | 0 | 0 |
| Comedy & Film | 8% | 8 | 1 | 0 | 0 |
| Cultural | 7% | 4 | 1 | 1 | 2 |
| Food and drink | 16% | 12 | 2 | 4 | 0 |
| LGBTQ+ | 4% | 4 | 0 | 0 | 0 |
| Literature & Arts | 10% | 8 | 1 | 1 | 0 |
| Music | 42% | 18 | 21 | 7 | 0 |
| Other | 8% | 3 | 5 | 1 | 0 |
| **Total** | 110 (100%) | 58 (52.7%) | 36 (32.7%) | 14 (12.7%) | 2 (1.8%) |

# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

**Table 2.** Scoring framework developed for analysis of festival website communication

| Score | Description of engagement | Example practices per environmental category | | |
|---|---|---|---|---|
| | | **Transport** | **Food & Drink** | **Waste Management** |
| 0 | Festival provides no information on environmental category. No action taken to reduce its environmental impact. | No information | No information | No information |
| 1 | Festival has limited engagement in addressing or reducing the impact of this environmental category. Action requires limited commitment and investment. There is limited communication as to how action contributes towards reducing the festival's environmental impact. | Provides basic information on how to access the festival site by public transport, but no direct link/mention of how this relates to reducing the environmental impact of the festival. | Vegetarian and vegan food options provided by some festival stalls/vendors. | Communicates that general recycling facilities available on site. |
| 2 | Action is relatively small-scale or short term. Action does not involve too much commitment or investment by festival organiser beyond the standard activities of the event. | Provides information on public transport/low carbon transport options and explains the benefits (e.g. reducing carbon emissions and reduced ticket costs). | Organiser favours vendors that only use local and seasonal food produce. | Communicates that separate recycling facilities are available on site for attendees to separate waste items (i.e., paper, cardboard, plastic, glass). |
| 3 | Action taken requires a high level of commitment and investment by the festival. Festival organiser communicates to attendees and suppliers the importance they attach to improving the environmental impact of the festival. Festival organiser prioritises decisions to achieve a more environmentally responsible festival. | Festival discourages attendees from travelling to the festival by car and provides a shuttle bus service from key locations (i.e. train or coach/bus station) to the festival site. | Vendors are required to adhere to festival sustainability requirements and/or sustainable food policy. | Communicates that vendors only serve drinks in reusable cups and/or food in biodegradable packaging and how this helps to reduce waste at the festival. |
| 4 | Action taken includes a range of projects that will reduce the impact of this environmental category. Environmental sustainability is a key feature of the festival. Festival organiser communicates to attendees and suppliers the importance of reducing the environmental impact of their festival. Action requires a significant investment by the festival organiser. | Organisers have selected a festival site close to or has good public transport connections and cycle lanes; or is moving the event/part of the event to a virtual setting. Incentives (e.g. discount on admission tickets) for attendees that do not travel by car. | All food provided by vendors are sustainable, vegan/vegetarian and/or produced locally and organic, and or provide sustainable food policies. | Organisers are committed to separating recyclables on site and removing plastic completely from the festival. Attendees incentivised to bring their own reusable cup (e.g. discount on cost of drink) and/or required to take home their own waste (e.g. food and drink packaging and camp items). |

# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

**Table 3**. Top 10 scoring festivals

| Festival ID | Year established | Type | Est. no. attendees | Duration (days) | Location | Dedicated festival site or venue | Dedicated sustainability section | Overall Score (/36) |
|---|---|---|---|---|---|---|---|---|
| **91** | 2014 | Other | 3,000 | 4 | Rural | Yes | Yes | 34 |
| **56** | 1987 | Literature & Arts | 100,000 | 11 | Rural | Yes | Yes | 29 |
| **51** | 1985 | Music | 20,000 | 4 | Rural | Yes | Yes | 27 |
| **52** | 2003 | Music | 25,000 | 4 | Rural | Yes | Yes | 20 |
| **84** | 1904 | Agricultural | 240,000 | 4 | Rural | Yes | No | 15 |
| **1** | 1999 | Food & Drink | 30,000 | 2 | Urban | Multi-venue | Yes | 13 |
| **98** | 1929 | Cultural | 100,000 | 7 | Both[2] | No | No | 13 |
| **86** | 2014 | Music | 800 | 3 | Rural | Yes | No | 11 |
| **73** | 1861 | Cultural | 150,000 | 8 | Both[2] | No | Yes | 11 |
| **11** | 2003 | Agricultural | -[1] | 2 | Rural | Yes | Yes | 11 |

[1] Information was not publicly available

[2] Festival location alternates yearly between rural and urban location

# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK

**Table 4.** Summary of festival sustainable environmental practices (by category)

| Environmental Category | Number of Festivals (/110) | Type of sustainable environmental practices (number of festivals) |
|---|---|---|
| Food and Drink | 47 (42.7%) | Locally sourced food and/or drink (34)<br>Vegan and/or vegetarian food options (33)<br>Fairtrade ingredients (9)<br>Organic food (8)<br>Sustainable food policy (8)<br>Seasonal ingredients (7) |
| Waste Management | 41 (37.3%) | Information for attendees on reducing waste, recycling and/or disposing of waste at the festival (29)<br>Provision of onsite recycling facilities (28)<br>Provision of free on-site drinking-water refill points (25)<br>Environmental policy includes a focus on waste and/or packaging procedures (22)<br>Provision of reusable, recyclable, sustainable, biodegradable and/or compostable serve ware (21)<br>Reducing single-use plastics e.g. removing provision of plastic straws and condiment, sachets, and ban on sale of plastic bottles (17)<br>Volunteers/stewards ensuring waste is disposed of, removed from festival site and/or litter picking (14)<br>Providing reusable cups (11)<br>Penalty or exclude traders for poor waste management (10)<br>Attendees encouraged to separate waste on-site (6) |
| Sustainable Travel | 30 (27.3%) | Providing general travel information on getting to festival site incl. public transport and other sustainable modes including cycling (15)<br>Promoting car sharing (12)<br>Promoting organised coach and shuttle bus services (12)<br>Promoting use of Park and Ride facilities (9)<br>Incentives for using sustainable travel methods e.g., discounts, free and secure bicycle storage (6) |
| Education and Awareness | 26 (23.6%) | Scheduled sustainability talks, discussions and/or workshops at festival (20)<br>Designated activity area(s) at festival for sustainability issue(s) (9)<br>Promoting a festival's environmental campaign (7) |
| Energy Use | 16 (14.5%) | Restrictions on use of generators (14)<br>Introduced energy saving measures (e.g. LED lighting, controlling energy usage, encouraging festival vendors to use energy efficiently (9)<br>Energy from renewable sources (4) |
| Sustainable Procurement | 13 (11.8%) | Recognition of sustainable traders to encourage good practice (8)<br>Sustainable sourcing of goods or services used by festival (e.g. merchandise, building materials, camping supplies) (7) |
| Environment and Biodiversity | 9 (8.2%) | Information on respecting the natural environment (7)<br>Involvement with tree planting project (4)<br>Installation of on-site wildlife habitat facilities (2) |
| Water | 8 (7.3%) | Investment in water conservation measures at festival venue (4)<br>Provision of information to reduce water usage (4) |
| Community Engagement | 6 (5.5%) | Collaborate with community group to support an environmental issue/project (4)<br>Provide equipment, food and drink or other materials to support an environmental issue/project (4)<br>Established a non-profit arm to provide environmental benefits in area adjacent to the festival site (3) |

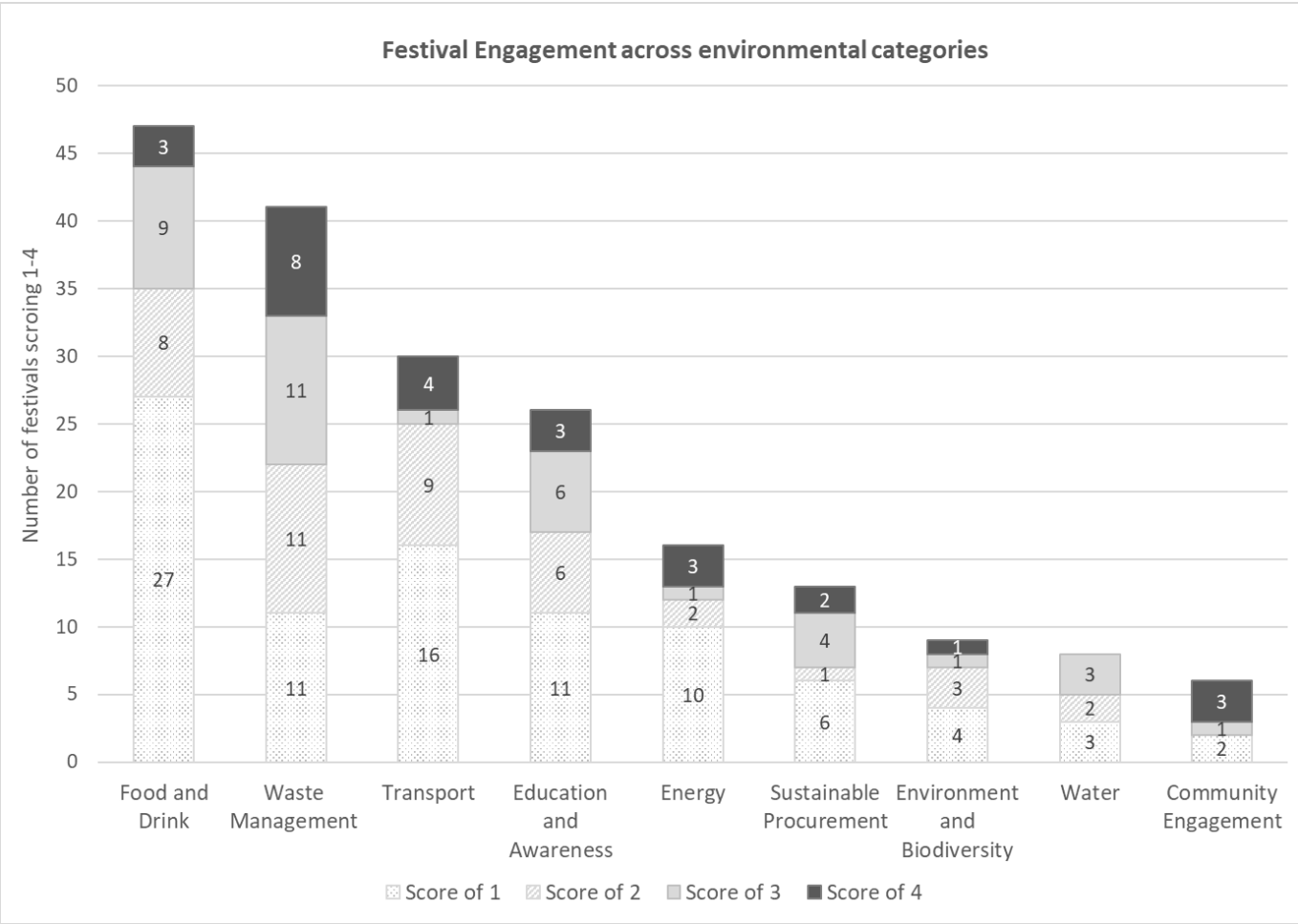# FESTIVAL SUSTAINABILITY SCORING FRAMEWORK



**Figure 1.** Festival engagement scores across environmental categories