

Sustainable Event Management: A Comparative Analysis of Protocols and Music Festivals

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Abstract. The sustainability of music festivals has gained increasing attention, reflecting broader societal concerns about environmental responsibility. While several sustainability protocols exist to provide guidelines for reducing the environmental impact of events, their adoption remains inconsistent. This study examines the alignment between sustainability protocols and the actual practices implemented by music festivals, identifying key gaps and emerging best practices. The research employs a comparative qualitative analysis, using a structured framework to systematically assess both protocols and real-world festival implementations. A distinctive aspect of this study is its collaboration with MI AMI Festival 2025, allowing for direct validation of theoretical insights in a real-world setting. The findings highlight critical gaps in long-term strategic planning, social inclusivity, and transparency, alongside emerging best practices in waste management, energy efficiency, and sustainable mobility. A strong variation in the depth and scope of sustainability practices across European countries is revealed, with Northern and Western European festivals demonstrating higher levels of implementation and transparency. Additionally, the European Green Festival Roadmap 2030 and the Green Festivals and Events through Sustainable Tenders emerged as particularly comprehensive and applicable protocols, offering concrete tools and solutions that remain underutilized across the broader festival landscape. By bridging the gap between policy frameworks and practical applications, this research contributes to the development of a standardized sustainability model for the festival industry, with potential broader applicability.

Keywords: Sustainability Protocols · Music Festivals · Environmental Impact · Sustainable Event Management · Best Practices

1 Introduction

Over the last years, the sustainability of music festivals and live events has emerged as a critical concern, reflecting broader societal shifts toward environmental awareness. Recent studies highlight that participants increasingly prioritize sustainable practices at

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events, with the decision to attend being increasingly influenced by a widespread recognition of environmental issues [1]. Specifically, environmentally conscious individuals are more inclined to attend eco-friendly events rather than traditional ones, which tend to have higher negative environmental impacts [2]. According to a research study by A Greener Future (AGF) and Bucks University, 49.8% of audiences would be willing to pay an increased ticket price to reduce the festival's environmental impact. Moreover, of this sample, 56% think festivals have a negative carbon footprint and 90% think that this was the responsibility of the organisers [3].

Furthermore, Sisson and Alcorn [4], demonstrated that positive festival experiences can significantly influence participants' willingness to adopt sustainable behaviors, with attendees displaying measurable increases in sustainable behaviors after attending the event. Their findings align with the research survey conducted by AGF and Bucks University, as 43.1% of the audience involved said that they had changed their behaviour as a result of green initiatives or ideas they had discovered at festivals [3].

However, it is crucial for festivals to effectively convey their sustainability efforts. Indeed, as emphasized by Ramli et al. [5], there is a strong correlation between the perceived environmental commitment of an event and attendee satisfaction. Critical questions emerge at this point: how can attendees distinguish between festivals truly committed to sustainability and those making empty claims? For organizers, this poses a specular challenge: how can they avoid being perceived as greenwashers and instead authentically commit to sustainability?

The implementation of sustainable practices across festivals appears fragmented, with most festivals devising their own rules. The fragmented adoption of sustainable practices, combined with lack of transparency over sustainability data, has led to skepticism about the credibility of sustainability claims and accusations of greenwashing against music festivals by activists and scholars [6].

However, this does not imply that certifications and standards for sustainable event management are entirely absent. Existing frameworks such as the *Greener Festival Certification* and ISO 20121 standards provide templates for sustainable practices. Deespite that, their limited adoption resulting from the voluntary nature and low public awareness undermined their potential as universal benchmarks.

This chapter originates from a collaboration with BetterDays srl[1] - a creative agency specialized in the planning, production and distribution of events (festivals and concerts, exhibitions, in-store, corporate events) - and the sustainability assessments conducted during MI AMI Festival 2024. The study was developed within the Alta Scuola Politecnica (ASP)[2], an interdisciplinary honors program jointly organized by Politecnico di Milano and Politecnico di Torino, which provided the academic framework and support for this initiative. The collaboration was initiated with the specific goal of developing a sustainability protocol that BetterDays could implement to improve its environmental impact.

This research aims to analyze current sustainability management practices within music festivals, focusing on exemplary cases and established protocols. Specifically, the study examines ten festivals and four sustainability protocols, applying a structured

[1] https://betterdays.it

[2] https://www.asp-poli.it.

comparison framework with common assessment criteria. For festivals, the comparison is based on five macro-criteria: energy, materials and waste, food and beverage, water management and travel and transport. The combined analysis of sustainability protocols and the sustainability practices disclosed by festivals is essential to understanding how sustainable initiatives are effectively implemented and where critical challenges persist.

By bridging the gap between theoretical frameworks and practical applications, this study seeks to identify both best practices and areas for improvement. The ultimate goal is to propose actionable recommendations for the development of a universally recognized framework. The 2025 edition of MI AMI Festival will serve as the pilot case to validate the theoretical approach. The chapter proceeds by presenting the methodology and analytical framework, followed by a comparative discussion of protocols and festival practices, and concludes with key findings and open challenges that require special attention in future sustainability efforts.

2 Methodology

This study conducts a systematic examination of both sustainability protocols and the sustainability practices disclosed by festivals. Currently, festivals selectively incorporate certain practices while disregarding others. Conversely, there are innovative initiatives proposed by festivals that are not incorporated into any existing protocol yet.

The intended outcome of this study is twofold. Firstly, it aims to identify critical gaps between established frameworks and festivals' implementations. Secondly, it aims to develop a comprehensive set of best practices by integrating both widely adopted sustainability measures and emerging innovative approaches.

The research is designed as a qualitative comparative analysis (QCA), allowing for a detailed comparison of specific sustainability dimensions across a limited number of cases. This approach is suitable for identifying patterns of convergence and divergence between protocols and practices. The main tools used for the evaluation include checklists to verify whether each festival implemented the initiatives proposed by the protocols, and comparison grids designed to juxtapose, for each sustainability dimension, the measures outlined in the protocols with the actual practices observed in the selected festivals.

The research is based on data collected from publicly accessible sources, including official festival websites, sustainability reports and impact assessments, as well as documentation from organizations developing sustainability protocols.

The geographical focus of this study is Europe, with a particular emphasis on the Italian context. Figure 1 illustrates the locations of the ten European festivals examined in this study. To ensure that the insights gathered could be applied to our pilot case, the research was naturally oriented towards the Italian landscape. Indeed, the study takes into account the regulatory constraints posed by national and EU legislation, which influence the transposability of sustainability initiatives across countries. The long-term ambition of this research is to extend the study beyond the European context.

To provide a comprehensive analysis, the study includes festivals of various sizes. While large festivals often lead when it comes to innovative sustainability initiatives due to their greater financial capacity, exclusively focusing on them would risk overlooking issues of scalability and feasibility. By incorporating small and mid-sized festivals, the research considers how event scale influences sustainability adoption.

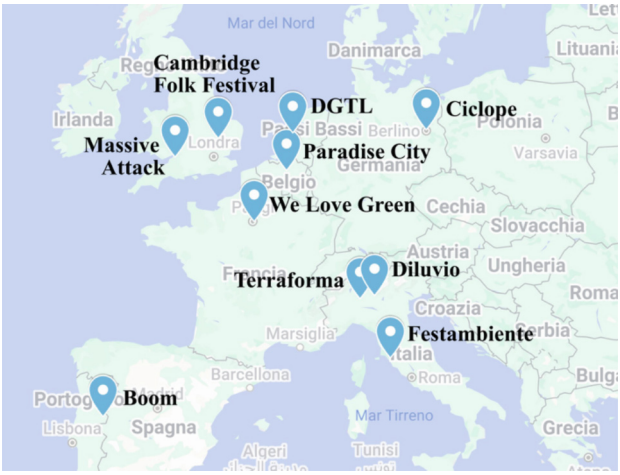

Fig. 1. Geographical distribution of the analyzed music festivals in Europe.

To ensure a consistent and comparable analysis, the study adopts two complementary sets of analytical dimensions: one for sustainability protocols and the other for music festivals. The analysis of sustainability protocols focuses on multiple key aspects. First, it considers the publication context, including the publication date and the issuing organization, which provides both a temporal and institutional frame of reference, helping to assess the relevance and credibility of each protocol. Another fundamental dimension is the main objectives that each protocol sets out to achieve, along with the key thematic areas it covers, such as energy, waste management, food systems, and mobility. Moreover, the analysis accounts for the presence of innovative approaches, including practical tools, certification schemes, or incentive-based strategies designed to support the implementation of sustainable measures.

The assessment of music festivals, on the other hand, shifts the focus toward their operational context. Factors such as location, duration, and the scale of participation provide an initial framework for situating each festival within the broader landscape of sustainable event management. Another key aspect is the transparency of sustainability-related data, which was evaluated not only in terms of how openly festivals communicate their environmental impact and the measures undertaken, but also with regard to the involvement of external evaluators or research institutions. Additionally, particular attention is given to the four core areas in which sustainability efforts are typically implemented: energy use, waste and recycling, food and water management, and mobility solutions.

By applying this dual framework, the study makes it possible to draw meaningful comparisons between the strategic intentions outlined in sustainability protocols and the real-world practices observed in festivals. This approach makes it possible to highlight points of alignment, identify existing gaps, and bring forward best practices that may serve as references for future improvements.

3 Comparative Findings

3.1 Protocols

This section explores four key protocols aimed at guiding the sustainability of festivals and cultural events in Europe. It covers strategies for reducing environmental impacts through comprehensive frameworks, providing tools and practices to enhance ecological and social responsibility in event organization.

3.1.1 European Green Festival Roadmap 2030

Publication Context. Published in 2023 by YOUROPE, in collaboration with A Greener Future and Greener Events Norway, this roadmap provides a comprehensive strategy for enhancing sustainability in European music festivals.

Objectives. The roadmap aims to support festivals in reducing their environmental impact through long-term planning, aligned with the philosophy of "cathedral thinking", a model that promotes vision, strategy, and shared responsibility.

Key Areas. This protocol adopts the GreenHouse Gas (GHG) Protocol classification, dividing emissions into three categories:

- 'Scope 1': direct emissions from on-site sources (e.g., generators, organizational vehicles, operational activities)
- 'Scope 2': indirect emissions from purchased electricity, heating, and cooling
- 'Scope 3': indirect emissions along the supply chain (e.g., logistics, audience transportation, waste, and material production)

Building on this structure, the action plan is organized around seven thematic areas:

- 'Energy': use of renewable sources and improvement of energy efficiency
- 'Materials and Waste': reuse, recycling, and responsible waste management
- 'Food and Beverage': sustainable sourcing, food waste reduction, and compostable packaging
- 'Water Management': responsible consumption and wastewater treatment
- 'Travel and Transport': promotion of low-emission transport options (e.g., public transit, cycling, walking)
- 'Strategy': development of sustainability roadmaps, allocation of resources, and team involvement
- 'Community and Biodiversity': ecological protection, community engagement, and biodiversity conservation

Innovations. To support festivals in the ecological transition, the protocol introduces innovative tools, including the Future Festival Tools, a set of free resources designed to support the sustainability of events. This toolkit includes a 'Self-Assessment Tool', which helps organizers identify gaps in their environmental knowledge and practices. Additionally, 21 exemplary case studies are provided, showcasing successful experiences in applying sustainability to festivals. To further enhance skill acquisition, an e-learning course is available, consisting of six modules, with the possibility of obtaining a completion certificate. Finally, the toolkit includes training materials and support packages for educators and event organizers.

3.1.2 GreenFEST – Green Festivals and Events Through Sustainable Tenders

Publication Context. Published in 2019 by the European Commission under the LIFE 2016 Environmental Governance and Information program.

Objectives. The protocol aims to contribute to the management and reduction of environmental impacts in the sector of cultural activities funded, promoted, or organized by public authorities. The document, published in 2019, has among its main objectives the introduction of Minimum Environmental Criteria (C.A.M.) in tender procedures to ensure that cultural activities are managed sustainably. Furthermore, the protocol seeks to facilitate the exchange of knowledge and best practices on Green Public Procurement (GPP) between public authorities and private operators, thus contributing to greater sustainability in cultural events.

Key Areas. This protocol identifies sustainability priorities across various stages of a cultural event's life cycle (organization, communication, implementation, and follow-up). The key areas include:

- 'Energy Consumption (pre-event and during the event)': efficient energy use before and during activities
- 'Transport of Materials': logistics and supply chain sustainability
- 'Waste Management': reduction, separation, and proper disposal of waste
- 'Setups and Furnishings': use of recycled/reused materials and sustainable furniture
- 'Catering': environmentally friendly food services
- 'Audience Transportation': promotion of sustainable travel options for attendees
- 'Communication Materials': reduction of paper use and use of eco-friendly printing
- 'Gadgets and Merchandise': selection of low environmental impact items
- 'Venue Selection': prioritization of biodiversity-conscious locations
- 'Accessibility and Equality': inclusive access for all participants
- 'Staff Training': capacity building on sustainability topics
- 'Public Information': awareness and transparency toward the audience

Innovations. GreenFEST introduces some innovative measures to promote the ecological transition in events, such as rewarding criteria for sustainability, with additional points for events that adopt advanced CO_2 reduction strategies, recovery of unsold food in collaboration with non-profit organizations, compensation of emissions through reforestation programs and carbon offsetting, and the use of certification systems such as ISO 20121 and EMAS to ensure compliance with sustainability goals.

3.1.3 Guidelines on Sustainable Event Organisation

Publication context. The 4th updated edition was published in August 2020 by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) and the German Environment Agency (UBA).

Objectives. The document provides a detailed framework for planning and managing sustainable events, with the goal of reducing environmental impact through practical measures and operational tools. The protocol aligns with Germany's Climate Action Plan 2050 and the European Green Deal, offering guidelines applicable to events of any size.

Key Areas. This protocol outlines thematic areas essential for planning environmentally and socially responsible events. Each area includes qualitative objectives and targets for emissions reduction:

- 'Energy and Climate': minimization of energy use, efficiency improvement, and offsetting unavoidable emissions
- 'Waste Management': strategies for reducing and properly handling waste
- 'Catering': sustainable food choices and waste reduction
- 'Water Management': efficient water use and treatment
- 'Mobility': sustainable transportation for participants and logistics
- 'Venue and Accommodation': selection based on sustainability criteria
- 'Procurement': environmentally conscious purchasing policies
- 'Guest Gifts': sustainable and meaningful gifting practices
- 'Communication': transparent and effective sustainability communication
- 'Social Aspects': equity, inclusiveness, and social responsibility

Innovations. The protocol enhances accessibility by implementing gender mainstreaming principles, ensuring the use of gender-neutral language, promoting balanced representation of experts across genders, and facilitating the participation of individuals with caregiving responsibilities through measures such as the provision of childcare services.

3.1.4 The Guide to Sustainable Events

Publication Context. The updated version was published in 2020 by the City of Stockholm.

Objectives. The document provides guidelines to reduce the environmental, economic, and social impact of events, aligning with the Sustainable Development Goals (SDGs) of the 2030 Agenda.

Key Areas. This protocol provides a comprehensive roadmap for event sustainability, covering all phases from planning to evaluation. The thematic areas are:

- 'Sustainability Management': organizational structures and responsibilities for sustainability
- 'Venue Selection': environmental impact, safety, and accessibility considerations
- 'Community Engagement': dialogue with local residents and businesses
- 'Sustainable Procurement': setting environmental criteria for suppliers and partners
- 'Food and Beverages': sustainable options and waste reduction strategies
- 'Health and Safety': ensuring well-being and protection of all stakeholders
- 'Sustainability Communication': informing stakeholders about sustainability efforts
- 'Event Evaluation': assessment and monitoring of sustainability outcomes

Innovations. The protocol introduces innovative tools to facilitate the adoption of sustainable measures, such as detailed checklists for each phase of the event, providing practical support for organizers, CO_2 emission offsetting, with suggestions to reduce and offset the carbon footprint of events, support for local businesses by encouraging local suppliers to reduce transport impacts and strengthen the local economy, and a guide to sustainable communication, with strategies to raise awareness among the public about the environmental impact of events (Fig. 2).

Protocol	Year	Focus	Approach	Tools/Innovations
Green Festival Roadmap 2030	2023	Music Festivals	Long-term strategy (Scope 1–2–3, 7 thematic areas)	Free toolkit, e-learning, case studies
GreenFEST	2019	Public Cultural Events	Environmental criteria in tenders (GPP)	Sustainability awards, certifications, CO_2 offsetting
German Guidelines	2020	General Events	Operational measures across 10 areas	Gender mainstreaming, accessibility, social inclusio
Stockholm Guide	2020	Urban Events	SDGs and local impact	Practical checklists, local economy support, communication

Fig. 2. Comparative overview of key sustainability protocols for cultural and festival events.

3.2 Sustainability Practices in European Music Festivals

This section offers a comparative overview of ten European music festivals that stand out for their commitment to sustainability. Each case is examined through a structured framework focused on transparency, energy, waste and materials, food and water, and mobility, with the aim of understanding how sustainability principles are applied across different contexts.

3.2.1 Boom Festival

Location, Duration, and Scale. Held in Idanha-a-Nova, Portugal, Boom Festival is a seven-day event that welcomes around 40,000 participants.

Transparency and Data Accessibility. Boom Festival regularly publishes detailed sustainability reports covering key impact areas such as energy, waste, and resource use. Data is made publicly available, supporting a culture of transparency and continuous improvement.

Key Areas. The festival's sustainability strategy is structured around targeted actions aimed at reducing environmental impact and fostering regenerative practices:

- 'Energy' relies entirely on renewable sources like solar panels and biofuel generators, enhanced by smart monitoring systems to optimize consumption.
- 'Materials and waste' is addressed through a zero-landfill policy, extensive composting, and initiatives that promote repair, reuse, and circularity.
- 'Food and beverage' focuses on organic, locally sourced vegetarian options, with a strong commitment to reducing packaging waste through compostable materials.
- 'Water management' includes free refill stations and a greywater recycling system used for irrigation.
- 'Travel and transport' is managed through car access restrictions, eco-shuttles from major cities, and a platform that facilitates carpooling.

3.2.2 Cambridge Folk Festival

Location, Duration, and Scale. The Cambridge Folk Festival takes place in Cambridge, United Kingdom. It spans four days and hosts approximately 14,000 participants.

Transparency and Data Accessibility. The festival outlines its sustainability commitments publicly on its website and conducts ongoing assessments of its carbon footprint and resource consumption, demonstrating a clear intent to monitor and improve its environmental impact.

Key Areas. Sustainability efforts at the Cambridge Folk Festival focus on practical interventions aimed at reducing the festival's ecological footprint:

- 'Energy' is managed through solar-powered stages and energy-efficient LED lighting, supported by hybrid generators to lower fuel consumption.
- 'Materials and waste' are addressed through a comprehensive recycling program, a ban on single-use plastics and disposable cutlery, and a returnable cup system to reduce waste.
- 'Food and beverage' initiatives include sourcing from local and sustainable suppliers and offering a growing range of plant-based options.
- 'Water management' is promoted through free refill stations to encourage the use of reusable bottles.
- 'Travel and transport' efforts include discounted train tickets, secure bicycle parking, and a shuttle service connecting key transport hubs to the venue.

3.2.3 Ciclope Festival

Location, Duration, and Scale. The event takes place in Berlin, Germany, spanning three days and welcoming approximately 5,000 participants.

Transparency and Data Accessibility. A dedicated sustainability section outlines the event's environmental policies, with annual reports detailing carbon offset initiatives to enhance transparency and accountability.

Key Areas. The event prioritizes sustainability through targeted initiatives across several key areas:

- 'Energy' is managed through renewable energy credits that offset all electricity usage, in collaboration with green energy suppliers.
- 'Materials and waste' policies include a strict ban on single-use plastics and the design of festival materials for reuse in future editions.
- 'Food and beverage' efforts focus on locally sourced vegetarian and vegan options to minimize.
- 'Water management' is supported by refill stations, eliminating the need for bottled water.
- 'Travel and transport' strategies encourage train and bus travel over flights, while a car-free festival area offers bike rental options to promote sustainable mobility.

3.2.4 DGTL Festival

Location, Duration, and Scale. The event takes place in Amsterdam, Netherlands, spanning three days and attracting approximately 50,000 participants.

Transparency and Data Accessibility. A detailed sustainability roadmap is published annually, supported by collaborations with circular economy experts to drive innovation. Publicly available data on energy consumption, waste management, and carbon footprint ensures transparency and accountability.

Key Areas. Sustainability initiatives are embedded throughout the event, addressing critical environmental aspects: several key areas:

- 'Energy' is fully renewable, with no diesel generators. Smart battery systems optimize usage, while partnerships with local energy cooperatives ensure clean power and grid stability.
- 'Materials and waste' are managed through a circular economy approach, achieving zero waste-to-landfill. Single-use plastics are eliminated in favor of biodegradable alternatives, and festival waste is repurposed into new production cycles. Compost toilets replace traditional chemical options, converting human waste into nutrient-rich compost.
- 'Food and beverage' offerings are entirely plant-based, with a focus on local and organic.
- 'Water management' includes refill stations to eliminate bottled water waste and clo-sed-loop systems to minimize overall consumption.
- 'Travel and transport' initiatives promote sustainable mobility, with electric shuttle buses connecting key transport hubs. No private car parking is available, encouraging public transportation, while attendee travel emissions are offset through carbon reduction programs.

3.2.5 Diluvio Festival

Location, Duration, and Scale. The festival takes place in Brescia, Italy, spanning two days and welcoming approximately 8,000 participants.

Transparency and Data Accessibility. Sustainability data is made available to attendees, with collaborations established with universities to study the festival's ecological footprint.

Key Areas. Sustainability initiatives focus on reducing environmental impact across multiple aspects:

- 'Energy' is managed through solar-powered installations and battery storage systems, with LED lighting minimizing overall consumption.
- 'Materials and waste' efforts emphasize composting organic waste and implemen-ting a reusable cup scheme across bars and vendors.
- 'Food and beverage' strategies prioritize local farmers and seasonal produce while eliminating plastic bottles in favor of refill stations.
- 'Travel and transport' initiatives include a bike-sharing program with docking stations near the venue and partnerships with train operators for discounted travel.

3.2.6 Festambiente

Location, Duration, and Scale. The event takes place in Grosseto, Italy, spanning ten days and hosting approximately 20,000 participants.

Transparency and Data Accessibility. An official sustainability report is published annually, complemented by workshops on ecological responsibility and activism.

Key Areas. The festival prioritizes long-term sustainability through targeted interventions:

- 'Energy' is supplied entirely by solar and wind power, with energy-efficient infrastructure reducing emissions.
- 'Materials and waste' are managed through a zero-waste strategy, high recycling targets, and a ban on non-biodegradable materials.
- 'Food and beverage' initiatives focus on locally sourced, organic food adhering to strict sustainability guidelines.
- 'Water management' includes conservation measures to reduce the festival's footprint.
- 'Travel and transport' efforts feature free shuttle services from nearby towns and discounted rates for attendees using public transportation.

3.2.7 Massive Attack Bristol

Location, Duration, and Scale. Held in Bristol, UK, the event lasts for one day and attracts approximately 34,000 participants.

Transparency and Data Accessibility. The festival partnered with the Tyndall Centre for Climate Change Research to analyze and publish live music event carbon footprints, with findings shared publicly as a resource for the industry.

Key Areas. Sustainability measures focus on minimizing environmental impact:

- 'Energy' is entirely battery-powered, charged with renewable energy. The largest battery, covered by a solar array, is displayed next to the stage, while electric trucks transport power units across the site.
- 'Materials and waste' initiatives enforce a no-landfill policy, dedicated bins for recycling vapes and batteries, compostable bathrooms, and a reusable cup scheme at all bars.
- 'Food and beverage' offerings are 100% plant-based, with multiple water refill stations promoting reusable bottles and accommodations for special dietary needs.
- 'Travel and transport' strategies include no general public parking, road closures, a partnership with Train Hugger to support UK reforestation, free e-bus transfers, an event shuttle within Bristol, and dedicated bike parking.

3.2.8 Paradise City Festival

Location, Duration, and Scale. The festival takes place in Steenokkerzeel, Belgium, spanning three days and welcoming approximately 43,000 participants.

Transparency and Data Accessibility. CO2 Logic provides extensive carbon footprint reporting, with a structured sustainability vision based on seven key pillars. A biodiversity assessment is planned to update the previous 2016 report.

Key Areas. The festival integrates sustainability into every operational aspect:

- 'Energy' management includes the Contrast Stage running on 99.22% solar power, algorithm-controlled generators to reduce surplus energy use, and 100% LED lighting.
- 'Materials and waste' initiatives feature reusable KioBox plates, off-site cleaned reusable cups, distributed pocket ashtrays, and recycled cardboard ashtrays. Production materials are reused whenever possible.
- 'Food and beverage' policies ensure a fully vegetarian menu, locally sourced and seasonal ingredients for food trucks, and non-alcoholic drinks served in large glass bottles to minimize single-use waste.
- 'Travel and transport' strategies promote night train schedules, electric shuttle buses between the venue and Vilvoorde train station, and high parking fees to discourage car use.

3.2.9 Terraforma

Location, Duration, and Scale. The event is held in Milan, Italy, spanning three days and attracting approximately 10,000 participants.

Transparency and Data Accessibility. While the festival has a sustainability section, it is somewhat hidden, and data is only approximate and aggregated. Visitor transportation choices are assessed through questionnaires, achieving a 98% participation rate.

Key Areas. Sustainability measures focus on low-impact solutions:

- 'Energy' is managed with a low-impact lighting system for the campsite, built with recycled materials and powered entirely by solar energy. LED and low-voltage lighting further reduce consumption, while electric cars and vans are used for staff and artist transportation.
- 'Materials and waste' initiatives enforce a plastic-free beverage policy, a no-straws policy, durable and reusable cups, biodegradable dinnerware, and waste sorting stations managed by 'Green Stewards.'
- 'Water management' strategies include self-closing valves on showers and sinks, alongside awareness campaigns promoting responsible water use.
- 'Travel and transport' solutions offer free shuttles from local train stations to Villa Arconati, along with car-sharing and carpooling promotions to minimize solo car trips.

3.2.10 We Love Green

Location, Duration, and Scale. The festival takes place in Bois de Vincennes, France, lasting three days and drawing approximately 80,000 participants.

Transparency and Data Accessibility. The festival features a dedicated "Green" sustainability section, conducting regular audits, measurements, and assessments to track progress. It also collaborates with associations and external partners to develop innovative eco-friendly solutions.

Key Areas. The event integrates circular economy principles across all operations:

- 'Energy' is supplied entirely by renewable sources through a partnership with Enercoop.
- 'Materials and waste' efforts enforce a ban on all single-use plastics, replacing them with reusable cups, plates, and cutlery. Waste collected through the EliSE program is reintegrated into new production cycles.
- 'Water management' features free refill stations to encourage reusable bottles and dry toilets to significantly reduce water consumption.
- 'Travel and transport' policies prohibit car parking near the festival, with strong incentives for public transportation as the preferred access mode.

3.3 Comparing Protocols and Festival Practices

The analysis of ten festivals and four sustainability protocols has revealed both critical gaps and emerging best practices in the implementation of sustainable event management. While festivals have made significant strides in adopting environmental measures, several aspects of the protocols remain underutilized or inconsistently applied.

A major gap lies in the long-term strategic planning recommended by frameworks such as the European Green Festival Roadmap 2030. Despite 9 out of 10 of the analyzed festivals publishing sustainability reports or commitments, many fail to develop a comprehensive, long-term strategy with measurable reduction targets for emissions, energy use, and resource consumption. Only 4 out of 10 of the festivals implement smart energy monitoring or optimized power management systems, indicating a disconnect between recommended strategies and actual execution. Furthermore, the lack of collaboration with external research institutions limits the ability of festivals to accurately assess their environmental impact, with only four out of ten festivals engaging in independent impact evaluations.

Another critical shortfall is the lack of focus on social sustainability and inclusivity, that is highlighted in the Guidelines on Sustainable Event Organisation. The prevailing focus remains on ecological responsibility, with limited recognition of how festivals can contribute to social well-being and community engagement. As a result, diversity, accessibility, and gender inclusivity are largely overlooked. Similarly, although some festivals engage in biodiversity conservation and land restoration, there is insufficient effort in ensuring that festivals positively impact local businesses, artisans, and communities. Despite their economic influence, most festivals fail to collaborate with local businesses or implement strategies that distribute economic benefits to surrounding areas. That said, early steps toward stronger community engagement are visible in food procurement: 6 out of 10 of the festivals analyzed prioritize local and seasonal food sourcing.

A further disconnect concerns communication and audience engagement. While festivals could serve as powerful platforms for environmental education and advocacy,

few actively educate attendees on sustainability measures. The lack of transparent and structured sustainability communication limits the potential for festivals to influence long-term behavioral changes among participants.

In contrast to these gaps, several best practices have emerged as industry-leading sustainability initiatives that transcend festival size, duration, and location, positioning themselves as standardizable approaches for the sector.

Waste reduction strategies are at the forefront of sustainable festival management. Reusable cups, bans on single-use plastics, and comprehensive waste sorting systems are now widely implemented, with many festivals achieving zero-waste or circular economy approaches. Composting and waste reintegration programs are also gaining traction. Energy management has similarly become a cornerstone of sustainability efforts, with LED lighting and the integration of renewable energy sources appearing as standard features across most festivals. Some leading events have successfully deployed solar-powered stages, smart energy monitoring systems, and hybrid generators, significantly reducing their carbon footprint. Food sustainability initiatives are increasingly common, with a shift towards plant-based menus, local food sourcing, and food waste reduction programs. Nearly all festivals analyzed now offer vegetarian or fully plant-based catering, demonstrating a growing recognition of the environmental impact of food choices.

Mobility remains a complex challenge, yet strong alignment with sustainability protocols is evident. A significant 8 out of 10 of the festivals implement measures to reduce private car use, including shuttle buses, train partnerships, and public transport incentives. Additionally, 6 out of the 10 have eliminated or restricted parking, further encouraging low-carbon transportation methods.

Another key finding is the importance of transparency in driving sustainability improvements. Festivals that disclose their environmental impact through independent third-party assessments establish a higher standard of accountability and industry-wide progress. However, the lack of standardized sustainability reporting remains an obstacle, as many festivals still lack structured environmental impact assessments.

4 Conclusion

This study highlights the inconsistent implementation of sustainability protocols in music festivals, despite increasing environmental commitments. While waste reduction, renewable energy adoption, and low-carbon mobility solutions are becoming industry norms, long-term strategic planning, transparent reporting, and social sustainability remain critical weak points.

Looking ahead, enhancing data transparency, standardizing best practices, and fostering stronger industry-wide collaboration will be essential for ensuring that music festivals evolve into models of environmental and social responsibility. Furthermore, future research should focus on scaling such a framework across diverse festival sizes and regulatory contexts, ensuring greater standardization and long-term impact in the cultural events sector.

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