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ESG Summer Series 2024

Towards a green day for music

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- Revenues from live music events are on the rise as festivals and concert attendance reaches record highs…
- …but stakeholders should note major sustainability risks, such as travel emissions, and increasingly, biodiversity loss
- Also we think investors should scrutinise impact of streamed music on industry emissions and promote improved practices

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This is the first report in our **ESG Summer Series 2024** – looking at sustainability issues in less obvious places. These issues could grow to become bigger trends in the future.

Live events and concerts shine bright like a diamond for the music industry... Attendance at live music events, such as concerts and festivals, is reaching all-time highs and becoming a key growth driver for the industry. Live music promoters forecast 2024 ticket sales to reach or exceed the records set in 2023, despite rising ticket prices.

…but their sustainability impacts might lead some to lose that loving feeling. Media reporting creates the perception that onsite waste is the biggest environmental problem with live events, but **emissions from travel and transport are the main contributors to an event's total carbon footprint**.

Live streaming may be the elephant in the room. Before music streaming became popular, live events and physical products were the biggest contributors to the music industry's emissions. Streaming has changed that: researchers found that **streaming was primarily responsible for the US music industry's GHG emissions almost doubling between 1977 and 2016**. The growth in streaming globally is cause for concern for the industry, we think, due to the lack of transparency in measuring and reporting streaming emissions. Investor pressure can encourage streaming companies to be more transparent about emissions from end users.

Actions by industry stakeholders could be just the ticket. Stakeholders can work together to share equipment, improve energy efficiency, promote venues and sponsors that are aligned with sustainability practices, we think, and improve transparency of key ESG metrics. In our view, this would be more effective than steps such as using kinetic dance floors to create awareness at the event, which does little to ensure people integrate sustainable practices into their daily lives post-event.

Towards a better future? The live music industry can use its popularity and platform to raise awareness of climate change and sustainability. Investors should be aware of factors that contribute to the industry's carbon footprint, especially from concert tours and streaming. A global scale, and the lack of harmonisation of standards makes it hard to measure the exact impact of streaming. But working in concert, all stakeholders can drive the change necessary to help the industry reach its decarbonisation goals.

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The greening of live music events

Live events' rebound ensures the music industry "don't stop believing"

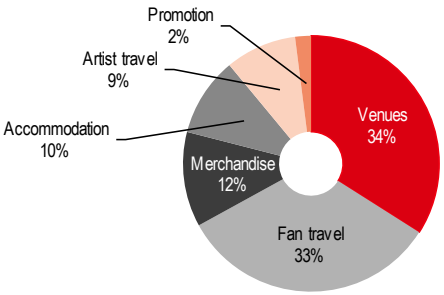
Live music events, including concerts and festivals, are a major revenue contributor to musical industry acts: live music events achieved revenue of USD30.1bn in 2023 according to market estimates, compared to music industry trade revenues (total streaming, physical product, performance rights, synchronisation, and downloads and digital sales) of USD28.6bn[1]. This trend is likely to continue in 2024 based on forecasts from major ticket promoters[2], and live event revenues are estimated to grow at four times the rate predicted for overall consumer spending[3]. Revenue growth is associated with ticket price increases above inflation, for example, in the US and UK.

Key ESG issues facing the entire live music industry

Growth in the live event sector has yielded benefits to local economies, but this is accompanied by higher associated environmental costs, impacting the event's sustainability:

- **Transportation** – Fans and artists travelling to the venue, whether by road or air, are the biggest contributors to a venue's carbon footprint (Figure 1).

Figure 1. Carbon footprint of a tour



Source: BBC (2019)

- **Venues** – Food wrappers and plastic cups are a usual occurrence on the floor of music venues after an event is over, producing tonnes of waste that requires sorting.
- **Merchandise** – Printed artist t-shirts are a fan favourite amongst other products; however, their production and disposal face the same issues that the fashion industry does. They are often produced cheaply with low quality materials that don't last long, adding to the fast fashion problem.
- **Energy** – Lighting, sound systems, heating/cooling requirements, instruments and refrigeration are all major contributors to a venue's energy consumption. **Power use accounts for almost two-thirds of a live event's operational (or core) carbon footprint.** Research shows that live events are inefficient in their power usage. For example, Netherlands-based Watt-Now monitored 270,000 data points from outdoor events over a two-year period and found that 77% of generators being used had an average load of less than 20%, which correlates with data compiled by the University of West England (UUWE) and *Glastonbury Festival*[4]. Generators using hybrid power are becoming best practice in the sector (see Figure 2) although we caution that some alternative energy sources come with their own sustainability risks.
- **Music venues, e.g., stadiums** – Beginning with design, venues must be adaptive to a changing climate including rising temperatures and extreme weather events. Additionally, they must be constructed in a sustainable manner, adhering to labour rights and conditions.

1 IFPI Global Music Report, March 2024
2 Live Nation Entertainment First Quarter 2024 Results
3 PwC, Global Entertainment and Media Outlook 2023-2027
4 The Powerful Thinking Guide: Smart Energy for Festivals and Events, 2017

Case Study: Taylor Swift's Eras Tour

The tour is expected to boost the US economy by USD4.6bn[5] and provide a nearly GBP1bn boost to the UK economy[6]; Taylor Swift has travelled more than 37,000 miles just during the American leg of her tour, generating 77.5 tons of CO_2e[7]. Adding the carbon footprint of fan travel, venue costs, merchandise sales, accommodation, and promotion increases this by more than ten-fold (Figure 1). Also, Taylor Swift's deal to make Singapore her only Southeast Asian venue was estimated to result in 210,000 fans flying into the country from oversees[8]. The Singapore Monetary Authority said that Taylor Swift, Coldplay, Ed Sheeran and others' concerts contributed to increased tourism and generated between USD259m and USD333m in Q1 2024 (and year-on-year economic growth of 2.7%)[9].

Industry stakeholders and researchers have suggested several steps that can help improve the sustainability of the music industry, which we summarise in Figure 2.

Figure 2. Actions to improve the sustainability of the music industry

Sustainability issues	Solutions for the music industry
Waste	Providing convenient recycling facilities, eliminating plastic use, and implementing measures to reduce food waste are essential to reduce waste.
Merchandise	Integrating recycled materials into merchandise can help move towards a circular economy. An example is Coldplay who made a commitment to make all physical records of their upcoming 2024 album from recycled plastic bottles.
Transportation	Incentivising the use of public transport and car sharing as well as providing bike storage and electric car charging points can help address emissions. For example, Radiohead opts for ship transport instead of airfreight for their equipment; and Live Nation teamed up with Coldplay in 2022 to offer fans free or discounted rides in a bid to encourage mass transportation of concert attendees, which resulting in almost 60% increase in public transport usage across four US cities.
Energy	Measures to increase equipment efficiency, improve building design and integrate the use of renewable energy sources is key to minimising energy requirements and emissions.
Music venues, e.g., stadiums	Integrating renewable energy sources, developing building designs that maximise energy efficiency, using green construction materials and providing favourable labour conditions.
Biodiversity	Recruit relevant in-house expertise on biodiversity or consult with a local not-for-profit for insight on local wildlife. Mitigation actions may include changes to the site layout or educational workshops for attendees on respectful wildlife behaviour.

Source: HSBC

A closer look at music festivals

Still a fan favourite despite rising ticket prices…

Music festival attendance has rebounded over the past two years, and has exceeded pre-pandemic levels, despite higher ticket prices. For example, attendance at *Coachella* in the US is up 66% in the current decade compared to the 2010s and has estimated attendance of 750,000 over the duration of the festival. Rising attendance accompanying the growth in live events, more international performing acts and the resulting infrastructure needs are likely to increase the environmental impacts of the sector.

Visually, onsite waste at live music festivals draws the most public attention, although as mentioned earlier **travel and transportation are the largest contributors to a festival's carbon footprint**. Growth in inbound tourism due to festival attendance compounds the sustainability impact from tourism, adding to the overall emissions from the sector. For example, Spain, a major destination for touring musical acts, attracted more than 6.5 million people to over 805 festivals in 2019. At an estimated average per-capita carbon footprint of festival attendees and workers of 25kg CO_2e[10], this added 160,000 tonnes to Spain's 2019 carbon emissions[11]. Tourism accounts for 14.7% of Spain's emissions, versus a global average of 8%.

5 H McIntyre, Taylor Swift's The Eras Tour Could Generate $4.6 Billion For Local Economies, Forbes, 9 June 2023
6 'Liverpool to become 'Taylor Town' for Eras shows', BBC, 21 May 2024
7 B S Dunn, Taylor Swift's Carbon Footprint Revealed in New Study, Newsweek, 4 April 2024
8 K Magramo, Singapore defends Taylor Swift's exclusive Southeast Asia stop after neighbors cry foul, CNN, 5 March 2024
9 D Loh, Taylor Swift buoys Singapore GDP to 2.7% Q1 growth, Nikkei Asia, 23 May 2024
10 Association of Music Festivals (FMA), including data from the Ministry of Education, Culture and Sport
11 According to Statista Spain's annual GHG emissions were 309.8 million tonnes in 2019

In our view, open-air **festivals' impact on wildlife and biodiversity is largely overlooked by corporates**. Most open-air music festivals take place in countryside locations and farmland where the impact on local wildlife can be significant. For example, studies suggests that high intensity noise pollution reduces the activity of bats by 47%[12] and birds' ability to communicate, affecting their breeding behaviour and leading to reduction in species diversity after the musical festival in the event site[13]. Another study on beach music festivals shows that about 35% of the dune vegetation was removed due to extended pre-festival construction works[14].

A closer look at stadiums and music venues

Host to touring artists throughout the entire year

Stadiums host many touring artists, attracting thousands of fans – great for the artists, but not so much for sustainability. At one event at the 90,000-capacity Wembley Stadium, nearly 30 tonnes of waste was collected, produced by over 77,000 attendees[15]. Multiplied by the 46 events hosted at Wembley per year[16], total waste generated at Wembley annually rises to over 1,200 tonnes. The sustainability of a stadium begins with its design and construction, integrating efficient solutions to minimise energy, water, and waste, while maintaining social and ethical priorities. As events return in a post-pandemic world, the ESG credentials of stadiums and music venues is increasingly being assessed.

We think investors should ask firms in the music industry for more detail on how they improve sustainability practices of their events. As figure 3 suggests, arenas around the US and Europe are beginning to take innovative steps to improve their sustainability profile.

Figure 3. Stadiums integrating sustainable practices

Stadium	Region	Sustainable practise
Climate Pledge Arena	US	Powered entirely by renewable energy sources, incentivising the use of public transport, eliminated the use of single-use plastics, on-site waste sorting and harvesting rainwater equipment.
Tottenham Hotspur Stadium	UK	Single-use plastic reduction drive, 100% renewable energy supply, recycling facilities and biodiversity initiatives including green roofs and wildflower meadows.
Mercedes-Benz Stadium	US	Integrated efficient design to reduce energy usage by nearly 30% and provides low emission transportation options including bicycle valet services.
Johan Cruyff Arena	Netherlands	Installed over 4,200 solar panels and a wind turbine to provide clean energy to the stadium.
Nef Stadium	Türkiye	Installed over 10,000 solar panels on its roof, powering both the stadium and surrounding local area.

Source: BBC, stadium websites

The industry is responding by starting with the man in the mirror

Are times changing?

Several live music industry participants, such as Live Nation Entertainment, have signed up to the "Festival Vision: 2025 Pledge", committing to a 50% reduction in festival-related greenhouse gas (GHG) emissions (Scope 1 and 2) by 2050. Regarding music streaming, which we discuss below, major record labels, including Sony Music Group, Universal Music Group (UMG) and Warner Music Group, came together in 2021 to sign a pact aimed at decarbonising the recorded music industry. This pact required signatories to either have verified science-based net-zero targets, or join the UN's Race to Zero programme. In December 2023, these same record labels also announced the establishment of a new music industry alliance called the Music Industry Climate Collective ("MICC") to address challenges presented by global climate change.

For of listed music companies, investors should scrutinise and assess the credibility of their emissions targets and transition plans. We think music can serve as a catalyst to affect cultural and social change, and the live music industry could do more to improve its sustainability record.

12 J Hoker et al., Assessing the impact of festival music on bat activity, Ecological Solutions and evidence, 30 June 2023
13 C Battisti, Changes in bird assemblages following an outdoor music festival: A BACI (before-after-control-impact) monitoring from central Italy, Environmental Pollution, V344, 1 March 2024
14 U Andriolo and G Goncalves, Impacts of a massive beach music festival on a coastal ecosystem — A showcase in Portugal, Science of The Total Environment, 25 February 2023
15 'Ever wondered how we clean up Wembley Stadium after a game?', The FA, 28 August 2019
16 Brent Council Planning Committee Report, April 7, 2021

Let's talk about streamed music

The environmental impact of recorded music is challenging to estimate

Some commentators expect the rise of live streaming, hybrid events and on-demand concerts/videos to lower the carbon footprint of the music industry; but, in practice, the environmental impact **of digital music** is hard to evaluate. A joint study by the Universities of Glasgow and Oslo[17] found that the **US music industry's GHG emissions almost doubled from 200,000 tonnes CO2e to 350,000 tonnes CO2e between 1977 and 2016**, which has been attributed to the rise in streaming services. Carbon emissions from streaming have been declining in recent years despite a rise in total streaming activity. Streaming of content involves data centres and content delivery networks; internet network transmission; and end-user devices (e.g., smartphones, TVs, tablets). Studies suggest that between 36g CO2e and 77g CO2e is emitted during every hour of video streaming.[18], but complexities in calculating the various elements involved, such as the energy efficiency of technology or energy/emissions allocation to shared elements, make it difficult to narrow the range to a more precise number.

Adding to the challenge of measuring global streaming emissions is the fact that **emissions vary significantly between markets** due to country-specific electrical grid emission factors. For example, according to the Carbon Trust, the European average footprint of video streaming is approximately 55g CO2e per hour; the estimate for Germany is 76g CO2e/hour, and for Sweden 32g CO2e/hour.[19] As countries decarbonise their electricity supply and modernise their grids, leading to lower intensity of data transmission, we expect the climate impact of recorded music to fall globally.

Greening of streaming

Major music streaming services aim to 'change the tune' about their sustainability impact

Investors are increasingly scrutinising **digital service providers' approach to negating environmental impacts**, especially from listener streaming; despite firms' best efforts calculation challenges remain. For example, *Spotify*, which committed to net-zero emissions by 2030, reduced the size of its mobile app, optimised cloud usage and introduced 'a dark mode' for TV to reduce emissions. At the same time, the company in 2023 excluded Scope 3 Category 11 'Use of sold Products' from reported emissions highlighting the lack of widely accepted measurement methodologies for streaming-related emissions.[20] In our view, stakeholder pressure on firms for more transparency in this area will continue to increase.

We think digital platform users should consider how they enjoy music as **user devices make up the largest portion of the carbon footprint** of music streaming (just over 50%, while home routers account for c38%, and data % of total emissions).[21] To adopt more climate-friendly practices, music lovers can, for example, play music on smaller devices that emit less CO2, such as mobile phones rather than larger devices, e.g. a TV,[22] or download favourite songs and play from storage which also uses less battery capacity than streaming.[23]

17 The Cost of Music, Kyle Devine, the University of Oslo, Dr Matt Brennan, the University of Glasgow. 2019
18 G Kamiya, The carbon footprint of streaming video: fact-checking the headlines, IEA, 11 December 2020
19 The Carbon Trust, Carbon impact of video streaming, 2021
20 Spotify Technology S.A., Impact Report 2023
21 The Carbon Trust, Carbon impact of video streaming, 2021
22 The Carbon Trust, Carbon impact of video streaming, 2021
23 D Flakes et al, What You Should (and Shouldn't) Do to Extend Your Phone's Battery Life, NY Times, 25 February 2016

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