



**GREENING OF OPEN-AIR FESTIVALS: DRIVERS AND BARRIERS OF SELECTED  
MUSIC FESTIVALS IN EUROPE**

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By

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## Statement of Affirmation

Aaron Wilmink-Thomas

2021

I hereby declare that the master thesis submitted was in all parts exclusively prepared on my own, and that other resources or other means (including electronic media and online sources), than those explicitly referred to, have not been utilised.

All implemented fragments of text, employed in a literal and/or analogous manner, have been marked as such.

Aaron Wilmink-Thomas - Cologne, 31.10.2021

A handwritten signature in black ink that reads "A. Wilmink-Thomas". The signature is written in a cursive style with a horizontal line underneath the name.

# ABSTRACT

GREENING OF OPEN-AIR FESTIVALS: DRIVERS AND BARRIERS OF SELECTED MUSIC FESTIVALS IN EUROPE

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Thesis supervised by Anja Bierwirth.

This thesis follows the Mair & Jago (2010) model of drivers and barriers, adapted for open-air music festivals by Mair & Laing (2012), to examine motivating and hindering factors for festivals to become more environmentally sustainable. This thesis uses guideline-based, semi-structured qualitative interviews with six European open-air music festivals to assess drivers, barriers, and catalysts. Main findings largely confirm some previously found items: Drivers include strong personal/organisational ethos including a desire to educate the audience, competitive advantage strategies including differentiation and eco-efficiency, and external pressures, for example, in the form of regulations. The drivers moreover indicate that environmental sustainability increasingly becomes a hygiene factor for festivals. Barriers to greening were more multi-faceted, from lack of resources such as money, time, and personnel, to lack of sustainable suppliers, organizational/structural barriers, and lack of control over patron behaviour. Compared to earlier studies assessing drivers & barriers, my findings suggest that catalysts such as cooperation & networks, communication, culture, audience behaviour, and good data monitoring systems have become significantly more important for the process of greening. Additional insights into the effects of the global pandemic suggest an ambivalence, with a surplus of times to rethink festival operations as the most significant factor while slightly forfeiting strategic priority in light of hygiene regulations.

## Dedication Pages

Dank gebührt meinen Eltern, die mich in meinem Studium mental und finanziell immer unterstützt haben, selbst wenn es mit dem Studium und zuletzt auch mit der Masterarbeit vielleicht etwas länger dauerte als gedacht. Ich bin dankbar für den Support und die Liebe von Jana, ohne die ich in den dunklen, pandemischen Wintertagen mit einer nicht enden-wollenden Literaturliste vor mir wohl nicht die Energie gehabt hätte, das Projekt Masterarbeit weiter voranzutreiben. Meine Dankbarkeit gilt auch meiner großen Schwester Anna, die mir mit einem immer offenen Ohr und Korrekturlesen enorm geholfen hat. Unterstützt wurde ich natürlich nicht zuletzt auch von meinen Freund\*innen und wegweisenden akademischen Mentor\*innen Jakob und Jasmin, die mir ungemein geholfen haben im großen akademischen Labyrinth den Überblick zu wahren und einen Pfad für meine Arbeit zu finden!

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## List of Abbreviation

£	British Pound/ Pound Sterling
€	Euro
AEG Presents	Anschutz Entertainment Group Presents
AIF	Association of Independent Festivals
ca.	circa
CD	Compact Disk
CDN\$	Canadian Dollar
CEO	Chief Executive Officer
cf.	From Latin, <i>confer</i> : compare
CGA	Curren Goodden Associates, an international data & insight consultancy in the food & drink market
Ch.	Chapter
CO <sub>2</sub> e	Carbon Dioxide equivalent: “a metric measure used to compare the emissions from various greenhouse gases on the basis of their global-warming potential, by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.” (Eurostat, 2021)
Covid-19	Coronavirus disease 2019
CSR	Corporate Social Responsibility
DSLR	Digital Single-Lens Reflex
e.g.	From Latin, <i>exempli gratia</i> : for example
et al.	From Latin, <i>et alia</i> : and others
EU	European Union
FKP Scorpio	Folkert Koopmans Presents Scorpio
GEI	Green Events and Innovation Conference
GHG	Greenhouse gas
i.e.	From Latin, <i>id est</i> : that is
ISO	International Organization for Standardization
kg	Kilogram
kW	Kilowatt
MDMA	3,4-Methylenedioxymethamphetamine, a psychoactive drug
MICE	Meetings, incentives, conferences & exhibitions
NGO	Non-governmental organisation
p.	Page
PET	Polyethene terephthalate, a thermoplastic polymer
PLA	Polylactic acid, a thermoplastic polyester
PVC	Polyvinyl chloride, plastic polymer
Q&A	Questions & Answers
S <sup>2</sup> PS <sup>2</sup>	Sammeln, sortieren, prüfen, streichen, subsumieren
sec	Seconds
UK	United Kingdom
UN	United Nations
US	United States
US\$	United States Dollar



# 1. Introduction

When I was asked about my master thesis topic during conversations in the past few months, some dialogue partners recalled images and memories of waste-laden festival grounds after I told them about festivals and sustainability. 'Festivals cannot *really* be green, can they' was basically the quintessence – some were surprised to hear from any green ambitions of festivals at all. This paints a picture of how open-air music festivals are often considered a wasteful way of celebration, of holidays, a glorious but dirty distraction from everyday life. Festival industry professional Meegan Jones, however, introduces her best practice book as follows: "There is simply now no excuse for not producing events sustainably" (M. Jones, 2018, p. 19), showcasing that greening a festival is surely an achievable goal. With technological and strategic possibilities within reach, it begs the question of *why* or *why not* a festival would green its operations and engage in finding sustainable solutions? This thesis adapts the approach which aims at motivating and obstructing factors from Mair & Jago (2010) and Mair & Laing (2012),<sup>1</sup> who define these categories as 'drivers & barriers' as well as outlining other categories such as 'catalysts', which would (following chemistry origins of the term) support and accelerate but not start the process, and 'context' of drivers & barriers. Mair & Jago conflated research from tourism and the hotel industry and used qualitative interviews with organisers from the MICE industry to assess drivers & barriers of and to greening. Mair & Laing used the resulting model to adapt it to open-air music festivals in Australia and the UK to figure out which drivers & barriers play a role for festival representatives. This thesis follows the approaches of Mair & Jago and subsequently, Mair & Laing and utilises semi-structured, guideline-based qualitative interviews with European festival organisers to assess drivers, barriers, and catalysts of festival greening.

The thesis will first contextualise festivals and their current challenges to provide an understanding of organisational backgrounds and cultural influences. Moreover, a literature review of impacts from the music industry, and more specifically,

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<sup>1</sup> Although generally following APA citation guidelines, I will use the ampersand as a connector for the two main sources, Mair & Jago and Mair & Laing for easier readability throughout the text.

from music festivals, gives an insight into the dimensions and types of environmental impact while also presenting a few mitigation measures and environmental projects some festivals have implemented. Visitors play a vital role in shaping festivals, so the next step includes reviewing studies that assessed festival audience perception and attitudes. In the second part of the thesis, the Mair & Jago model, as well as the Mair & Laing adaption, will be presented and ensuing research on drivers & barriers amalgamated and discussed. The third part then focuses on my own interviews, including a detailed review of my methodological approach and the results and discussion of the findings from the interviews.

It seems to be a tradition to begin academic work on festivals and sustainability with claiming a gap of research (Arcodia & Dickson, 2009; Barber et al., 2014; Dodds, 2018; Dodds et al., 2019; Gause, 2017; Getz, 2009, 2010; Getz & Page, 2016; C. R. Gibson & Wong, 2011; Glassett, 2014; Holmes et al., 2015; Kim & Kim, 2018; Küçükakça, 2017; Laing & Frost, 2010; Mair & Laing, 2012; Martinho et al., 2018; Stettler, 2011; Zifkos, 2015), which increasingly ceases to be accurate. More recently, some researchers have acknowledged the growing body of literature (Brennan et al., 2019), with Laing (2018) denoting the research as generally “relatively well advanced” (Laing, 2018, p. 167) while also noting that there “are still gaps to be filled” (Laing, 2018, p. 167). The literature review in Chapter 2b) will investigate the current state of research and past developments more closely.

The concept of sustainable festivals is based on the three pillars of sustainability, also coined the “Triple-Bottom-Line” approach (Elkington, 2018; Jeurissen, 2000): social, economic, and environmental sustainability, sometimes complemented with cultural sustainability as a fourth pillar or part of social sustainability (M. Jones, 2018). Two of the leading researchers in festival studies, Getz and Page, comment that “there has been recognition that it [sustainability] is much more than a ‘greening of events’” (Getz & Page, 2016, p. 620), others criticise that “relative to environmental and economic sustainability, social sustainability is a little-used concept” (Quinn, 2019, p. 58); similar in Gratton et al., 2011; Zifkos, 2015). Indeed, the three/four dimensions are not always clearly distinguishable in studies (M. Jones, 2018), with overlapping influences and effects or tradeoffs: In Laing and Mair

(2015), for example, one festival organiser claims that some festivals focus “too much on environmental sustainability” and put “their money into recycling” (Laing & Mair, 2015, p. 263), while not paying their artists fairly. Some studies have already addressed social and cultural sustainability at festivals (Gration et al., 2011; Laing & Mair, 2015; Mair & Duffy, 2021; Moiescu et al., 2018; Quinn, 2019; Wilmersdörffer & Schlicher, 2019).

However, as an *environmental sciences* student and due to time limitations of a qualification work such as a master thesis, I will focus on the environmental pillar of sustainability, aware of the slightly imperfect and incomplete approach. Mair & Jago characterise ‘greening’ in the context of festivals as an “investment in environmentally friendly facilities and practices” (Mair & Jago, 2010, p. 78). For simplicity, I will use ‘greening’, ‘environmentally friendly’, and ‘sustainable’ interchangeably. Greening eventually is an iterative process; festivals can always work on being more sustainable. This thesis hence aims to examine which factors motivate and enable festivals to engage in greening and which factors hold them back, make greening difficult or disrupt efforts from the start.

## 2. Literature Review: Festival Industry & the Environment

### a) Festivals & Festival Culture

Before assessing drivers & barriers to the greening of open-air music festivals in particular, it helps to review the phenomena ‘music festival’ and consider what form of challenges music festivals currently have to deal with in general. This chapter shows how previous research tried to conceptualise music festivals, how festivals changed throughout the years and includes a brief outlook on the coronavirus pandemic. However, a closer analysis of the aftermath of the pandemic is outside the scope of this thesis and will presumably be the topic of further research in the coming years. The main sources for detailed accounts of festival history are the monography of Anderton (2018), specialising in the hippie- and counterculture roots of festivals, the recent Routledge Handbook of Festivals edited by Mair (2019b) as well as a frequently-cited overview by Webster and McKay (2016). Additionally, I will occasionally reference insights from one of the leading researchers in tourism research and festivals, Donald Getz, for example, his 2010 overview of festival studies (Getz, 2010) or his more recent event tourism overview in collaboration with Stephen Page (Getz & Page, 2016).

The precursors of modern open-air music festivals started in the 1960s, with music festivals such as the *Monterey International Pop Festival* in 1967 as one of the first of its kind (Koopmans, 2007), with the *Woodstock Festival* 1969 and the early editions of the *Glastonbury Festival* (Anderton, 2018) starting in 1972 as the archetype of open-air music festivals. However, these festivals, in turn, are loosely based on “medieval carnival” (Anderton, 2018, p. 3) and traditional festivities which, according to Mair, offered humans over millennia:

[...] respite from hard work and mundane daily life, injecting a certain amount of socialising, relaxation and rejuvenation into what Hobbes argued might otherwise be the solitary, nasty, brutish and short existence of many peoples throughout history. (Mair, 2019a, p. 3)

Due to the multifaceted forms of festivals, it seems difficult to closely define the phenomena. In the Introduction of the Routledge Handbook of Festivals, Judith Mair still presents a lengthy and rather broad definition, even though she comments that festivals appear to “defy any neat definition” (Mair, 2019a, p. 4):

Short term, recurring, publicly-accessible events that usually celebrate and/or perform particular elements of culture that are important to the place in which they are held or the communities which hold them; that provide opportunities for recreation and entertainment; and that give rise to feelings of belonging and sharing. (Mair, 2019a, p. 5)

While Stone (2009) suggests seventeen types of festivals, Webster and McKay (2016) cluster festivals generally in three types:

greenfield events which predominantly programme music, often involving camping, open-air consumption and amplification; venue-based series of live music events linked by theme or genre, usually urban; and street-based urban carnival. (Webster & McKay, 2016, p. 4)

This thesis focuses on the subtype of greenfield events including open-air live music<sup>2</sup>.

In his political ecology of the music industry, Devine (2019) argues that the tradition of celebrating live music has often been left out in the music historiography; Festivals, therefore, constitute an essential part of live music culture and have profound importance for the music industry – not only culturally, but also economically. Anderton, however, emphasises that the beginnings of festivals were not necessarily economically motivated but rooted in hippie-countercultures (Anderton, 2018). Free events with little to no hierarchy and “no clear divisions of tasks” (Anderton, 2018, p. 12) were often based on volunteers and their services. The organisation was sometimes chaotic (cf. Koopmans, 2007) or “inherently and deliberately unstructured and even anarchic” (Clarke, 1982, p. 31). However, in this setting, festivals fulfilled a role of “activism and protest, counterculture and catharsis” (Mair, 2019a, p. 3); Mair argues that festivals partially still serves this function today.

In the 1990s, the character of festivals changed: Increasing commercialisation and professionalisation as well as the arrival of sponsoring changed how festivals are organised, the importance for the music industry, and the amount of money involved. Anderton criticises this “commercialisation and corporatisation” (Anderton, 2018, p. 33) as “a contemporary commodification of the carnivalesque” (Anderton, 2018, p. 21), resulting in a certain de-politicisation in the early 2000s (Anderton, 2018). Starting in the late 1990s, a rapid expansion of a global festival industry took place (Anderton, 2018; Bünting, 2004; Yeoman, 2011) and continued to grow significantly in the 2000s (Anderton, 2018; Getz & Page, 2016; Webster, 2014). In light of tragedies

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<sup>2</sup> For simplicity's sake, I will subsequently refer to open-air live music festivals simply as ‘festivals’, unless otherwise specified.

and problems such as visitor deaths at the Pearl Jam concert at Roskilde Festival in 2000 (Fricke, 2000) and continued gate crashing at Glastonbury (cf. Koopmans, 2007), structural and organisational professionalisation and enhanced security concepts were implemented, a change that Webster describes as a general shift from “‘glorious amateurism’ to a more business-minded practicality across the live music sector” (Webster, 2014, p. 16). In addition, festivals changed other conditions: While in the 1980s, festivals were known for “prison-camp conditions” (Rob Ballantine/S. Lambert cited in Anderton, 2018, p. 122), the marketing of the *V Festival* advertised “more toilets than any other event of comparable size” (in Anderton, 2018, p. 122) in the early 2000s.

With physical CD sales and revenue from recorded music peaking in 1996 (Devine, 2019) or 1999 respectively (Yang et al., 2020), artist fees started to surge in the early 2000s and continue up to this day (Anderton, 2018; Siems, 2021; Yourope, 2020). When until the mid-1990s, artists fees amounted to ca. 35% of the overall budget, ten years later, it already constituted up to 60% of expenses (Bünting, 2004), only to double in total value again within the next ten years (Soethof, 2018).<sup>3</sup> The UK-based agency *Festival Republic* documented a 400% increase in artist fees from 2004 to 2014 (Webster, 2014). Meanwhile, revenue from recorded music decreased by three billion Euro since the early 2000s in Europe alone (J. Johnson, 2020b). In the 1990s, recorded music was the primary source of income for most musicians, with live music considered complementary. Today this share has turned around (Anderton, 2018; Brennan et al., 2019; Siems, 2021; Yang et al., 2020; Yourope, 2020), with the year 2008 as the turning point, when revenue from live music surpassed revenue from recorded music for the first time in the UK (Page & Carey, 2010). Furthermore, festivals have become essential for bands to gain popularity and increase their fanbase (cf. e.g. Followill from Kings of Leon in Barton, 2009).

As ticket prices and artist fees rose rapidly, the overall number of staged events proliferated too (cf. Armbrrecht, 2019; Bünting, 2004), up to the forced hiatus due to the global pandemic starting in 2020. Anderton points out that the UK festival market doubled between 2005 and 2011 (Anderton, 2018). The music industry network *EE*

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<sup>3</sup> Both figures from the German festival market.

*Music* estimates 4200 music festivals in Europe from extrapolating data in 2014 (EE MUSIC, 2014). In 2018, the UK live music sector in total reached a value of £1.1 billion (Williams & Murray, 2019), a 10% growth since 2017, and £1.3 billion in 2019 (A. Edwards, 2020). The *Mu5ic by Num8ers* report (Williams & Murray, 2019) furthermore singles out festivals as the live music event type with the largest growth in the UK market:

Last year 29.8 million fans attended live music events in the UK, a rise of 2% from 29.1 million in 2017. Total concert attendance in 2018 remained level at 24.9 million, but again the biggest growth was festivals, where the total audience in 2018 soared by 23% to 4.9 million – up from 4 million in 2017. (Williams & Murray, 2019, p. 22)

Prior to the pandemic-forced cancellations in 2020, consumers in the UK, on average, planned on visiting even more festivals in 2020 (CGA, 2020). However, the continued growth in the past has frequently been called into question: Anderton brilliantly traces how media outlets have argued a festival market saturation in 1998, 2006 and 2009, claiming that “the festival ‘bubble’ had burst” (Anderton, 2018, p. 38). Even though arguably it was not exactly accurate, analyses that festivals have reached the peak of growth continued in research literature and media for the following years (e.g. Brennan et al., 2019). Describing the Australian festival market, Gibson et al. (2011) mention concerns of festival organisers that “there was a ‘limit’ to the endless proliferation of festivals” (C. Gibson et al., 2011, p. 22) and consequently, “festivals would start to fail as communities became ‘festivalled-out’ and competition became more fearsome” (C. Gibson et al., 2011, p. 22). A 2019 report considers the festival market “flooded with new entrants” (CGA, 2019, p. 25), and the EU festival umbrella organisation *Yourope* observes “tougher competition” (Yourope, 2020). Using an exploratory approach from organisational ecology, Andersson et al. (2013) calculated for the Scandinavian festival market a limit festival density of two events per 10,000 inhabitants above which festivals would be more likely to fail. In an older paper, Getz and Andersson (2008) describe how they view developments on the festival market in organisational theory processes: The places of long-established festivals might, on the one hand, be difficult to usurp for new entrants, as they would have to prove better than the already existing entities, adapting the concept of ‘Red Queen Adaptation’ (Barnett & Hansen, 1996). On the other hand, newer entrants might be more adaptable, efficient and effective and replace older festivals that display inherent structural inertia in a process called

'Selective Replacement' (Getz & Andersson, 2008). Meanwhile, in an analysis of UK festival data from 2005 – 2014, Anderton demonstrates a recent high failure rate as well as an average festival lifespan of only three years (with a median of just two years) (Anderton, 2018), indicating an extremely high level of competition on the festival market. Despite slim survival chances for new festivals, the high number of attempts also means that 47% of festivals as of 2019 had been established within the previous five years (CGA, 2019). According to *Yourope*, this competition pressure has led to consolidation processes and conglomeration in the sector (Yourope, 2020), a development that has been present in some ways throughout the boom of previous years (Badiali & Johnson, 2020a). As early as 2004, German festival agency *FKP Scorpio* and its founder Folkert Koopmanns were accused of forming an expansive "festival-mafia" (Bünting, 2004).

Following Porter's theories on competitive advantage, festival responses to high competition could mainly be low costs or differentiation (Porter, 1985). However, in the setting of a highly saturated festival market, festivals struggle to "construct identities for their events that distinguish them from rival festivals" (Brennan et al., 2019, p. 255) and "differentiate their offerings from the competition" (Anderton, 2018, p. 76). Chapter 3 will address differentiation in the context of festival greening in more detail.

Festivals have become a significant part of tourism and the overall economy. Live music and similar events can also be described as part of a fourth branch of economy, coined "experience economy" in the late 1990s (Pine II & Gilmore, 2011). Anderton describes rural festivals as part of the local "post-industrial mixed economy, or adventurescape" (Anderton, 2018, p. 133). However, critique of the expansion and economic success of the sector claims that festivals lose unique characteristics and become too uniform: Anderton laments the "weakening influence of the hippie countercultures" (Anderton, 2018, p. 6) and postulates that modern events are "increasingly controlled and sanitised" (Anderton, 2018, p. 4). Others scold festivals as "gentrified" (Davies (2005), quoted in Anderton, 2018), "overpriced carnival" (Danton, 2016), or as "modern cathedral[s] of consumption", which are "managerially puppeteered" (Flinn & Frew, 2014, p. 418).



The event branch in general and the live music sector in particular were hit hard by infection protection measures due to the Covid-19 pandemic starting in March 2020. While the full extent of economic loss will only be clear through thorough analyses after the pandemic, report predictions already show at this point what *UK MUSIC* CEO Njoku-Goodwin calls a “catastrophic” and “devastating blow” (A. Edwards, 2020, p. 5) to the whole sector. An analysis by finance experts from Goldman Sachs in July 2020 predicted a 75% drop in live music revenue globally in 2020 (Yang et al., 2020), with other sources claiming an 85% dip in the UK (Sweney, 2020) or up to 98% loss in Germany for 2021 compared to 2019 (Deutschlandfunk, 2021). However, Goldman Sachs predicts a swift recovery in the intermediate-term, with 2022 growing to 94% of the 2019 level (Yang et al., 2020), as well as an average growth of the sector of 6% between 2019-2030, reaching an estimated US\$142 billion by 2030 globally (Yang et al., 2020). A more recent report from business analysts at PricewaterhouseCoopers predicts a rebound with revenues close to 2019 levels for 2023 (PricewaterhouseCoopers, 2021). A *Live Nation & Ticketmaster* report from 2020 indicates that 91% of live music fans globally express their willingness to attend live music events post Covid-19 (Live Nation Entertainment & Ticketmaster, 2020), surpassing other events like “Movie Theater [sic]” (87%), “Theater” [sic] (78%) or “Sporting Event” (75%), even though “Music festivals” are ranked slightly lower than live music events in general with 86%. A CGA report shows that issues of safety and hygiene understandably shot to the top of concerns for future festival visitors, with the “environmental friendliness” ranking below on fifth place (CGA, 2020). The report also found that 21% of study respondents expressed concern about not feeling comfortable for “a considerable amount of time” at live music events (CGA, 2020), as well as estimating that 9% of previous attendants are being at risk of turning their back to live music events permanently (CGA, 2020). Overall though, a robust rebound of the festival sector with audiences eager to visit again seems likely.

To conclude this introductory chapter on the festival scene, it is helpful to review literature on why people visit festivals in the first place and thus what makes a festival such a special event. Gilbert and Lizotte (1998) postulate that ‘transience’ is the defining character of a festival. Holzbaur lists several characteristics that constitute an event, such as singularity, non-routine, well-definedness, multiplicity and diversity

of impressions, amongst other markers (Holzbaur, 2016, 33f). Devine argues that festival visitors seek to “encounter assembled communities (not just imagined ones)” (Devine, 2019, p. 167). Anderton suggests a similar concept with the “meta-sociality”, describing it as:

[...] an event’s over-arching identity and image: a shared frame of reference for attendees which is performatively produced on a festival site and supported by ongoing and informal mediations during the rest of the year. (Anderton, 2018, p. 5)

Anderton further points out that festivals are “[...] places where environmental, social, political, and religious concerns and alternatives can be discussed in an atmosphere of personal freedom and collective hedonism” (Anderton, 2018, p. 35).

Turner’s concepts of ‘communitas’ and ‘liminality’ (Turner, 1974, 1989, 2008), as well as Csikszentmihalyi’s seminal works on the ‘flow’ state of mind (1990), are often connected to the unique realm of festivals (Anderton, 2018; Getz & Page, 2016; Kinnunen et al., 2020), with Anderton explaining:

Turner argues that communitas involves the integration of awareness and action into a ‘flow’ state, where individual consciousness is narrowed and intensified into a limited bodily and sensory sphere: a complete immersion of the self into a group with no goal other than the experience of communitas itself. (Anderton, 2018, p. 142, emphasis added)

“Complete immersion” (Anderton, 2018, p. 142) is not only paramount for a ‘flow’ state but also points to hedonism, which is frequently referenced in festival literature. Different approaches exist, however, as to what extent social norms are relaxed or temporarily discontinued for the benefit of joy. Laing and Frost claim that “there might also be problems with linking a hedonic experience such as a festival with heavy or overt political messages” (Laing & Frost, 2010; similar cf. Mair & Laing, 2012). Anderton portrays the festival experience as a form of “hedonic consumption” (Anderton, 2018, p. 142; also cf. Hirschman & Holbrook, 1982). Green et al. (2016) describe live music in their research as a “hedonic product that in some aspects of its consumption [...] may be viewed as a luxury product for consumers” (Green et al., 2016, p. 234). In interviews with festival organisers, Laing and Mair found that the organisers considered their festivals as being able to create “connections and networks and provide attendees with a hedonic and celebratory experience” (Laing & Mair, 2015, p. 265). Specifically, this form of festival hedonism is often described as liberating “participants from social constraints” (Laing & Frost, 2010, p. 264), or as “real moments of release”

where social rules are suspended (Griffin in Barton, 2009; also cf. Griffin, 2005), while Blake argues that festivals are “a time during which normal rules of social hierarchy and acceptable behaviour [are] suspended or inverted” (Blake, 1998, 178f). Anderton somewhat curtails this concept of suspension of social norms, commenting that modern festivals “offer a relaxation of the social conventions of the everyday world, but that these conventions are not necessarily inverted” (Anderton, 2018, p. 137) and that the escape “is less political and more social” (Anderton, 2018, p. 137).

In research regarding visitors’ motivation to attend, this ‘flow’ or ‘release’ might be most closely related to what some researchers compare to the touristic element of ‘escape’ (cf. Perron-Brault et al., 2020). However, Gelder and Robinson point out that while touristic travellers often seek an escape from routine, festival visitors seem to be driven primarily by seeking “memorable experiences” (Gelder & Robinson, 2009, p. 193); Crompton and McKay (1997) also view the ‘seeking’ variable in the motivational ‘seeking-escape’ dichotomy of tourism (Mannell & Iso-Ahola, 1987) as the more relevant factor. Further research indicates what festival visitors might seek when attending a festival: In a meta-study, Abreu-Novais and Arcodia (2013) classify seven categories, namely socialisation, family togetherness, escape/relaxation, excitement/entertainment, event novelty, cultural exploration, and event-specific factors (e.g. at food festivals) (Abreu-Novais & Arcodia, 2013; also cf. Crompton & McKay, 1997; Leenders, 2010; Mair, 2019a; Pi-Ching, 2011). Even though it is not the main motivator, the music line-up is still a major component of visitor motivation: A poll by *Ticketmaster* similarly shows that 42% of visitors state the line-up as primary motive (quoted in Williams & Murray, 2019), while 45% of visitors seek the unique festival atmosphere.

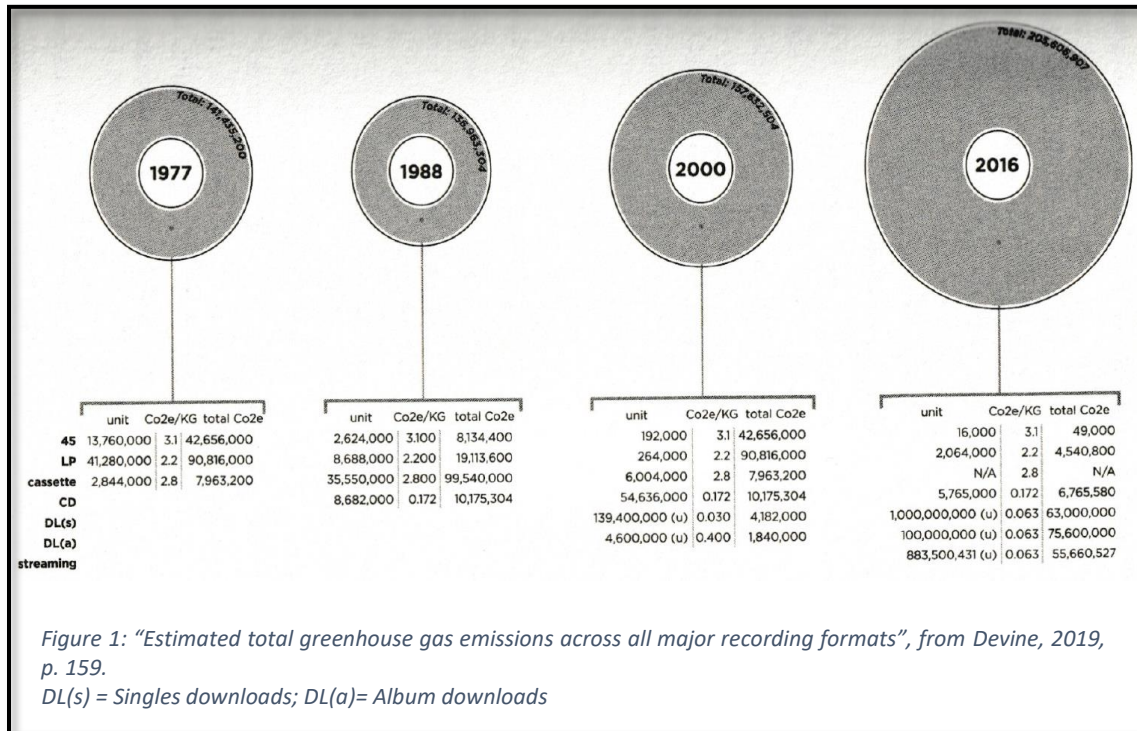
Chapter 2b)ii) assesses how certain sustainability factors also influence visitor motivation, while Chapter 3 includes findings from this chapter, since characteristics and history of festivals and visitors, as well as the current general economic situation, might influence the greening process of festivals. After reviewing the festival phenomena and its visitors in general, the next chapter focuses on sustainability issues in live music and festivals in particular.

## b) (Live) Music & The Environment

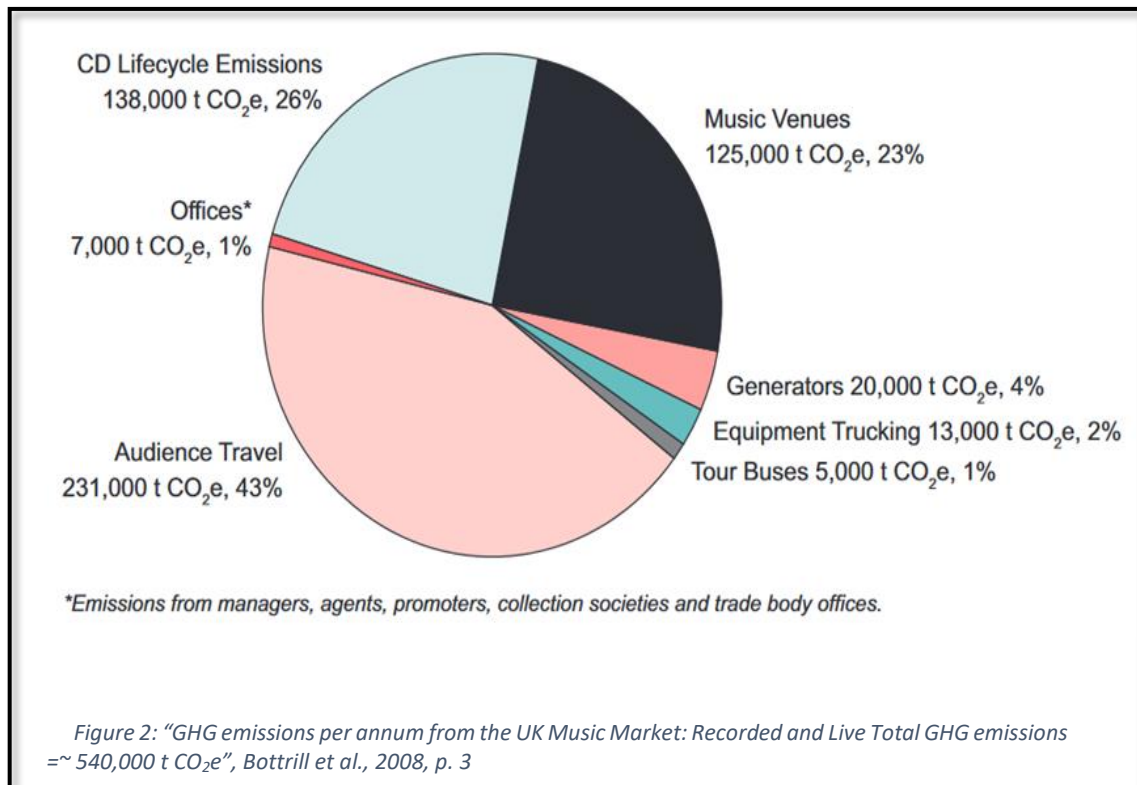
Environmental impacts of the music industry are multi-faceted and vary in the different branches of the industry. Devine (2019) meticulously traces the impacts from different stages of recorded music while *Julie's Bicycle's First Step Report* (Bottrill et al., 2008) produced one of the first detailed greenhouse gas inventory analyses for the music industry in the UK in 2008. In the mid-2000s, academic interest in the impact of live music concerts and festivals sparked first research into the topic. At this point, particularly innovative festival first-movers had already tried out environmental policy implementations, and NGOs had helped music acts and festivals become greener. A trend to a more sustainable festival organisation has been growing since then.

In a political ecology take, Devine shows how the different recording media caused material resource use and environmental impacts since the start of recorded music in the early 20<sup>th</sup> century. While the use of shellac and its material sourcing primarily in India raised social and economic questions in the first half of the century, the dominance of vinyl caused environmental concerns. As a derivative from crude oil, vinyl album production was a significant contributor to the use of fossil fuels, with Devine pointing out that in the late 1970s, vinyl for albums reached a production volume of 22,000 tons per year in the UK alone, constituting “five per cent of the country’s yearly PVC output” (Devine, 2019, p. 97). Additionally, Devine also shows how production plants illegally discharged polluted wastewater into rivers. The CD album, which replaced vinyl as the dominant record medium in the late 1980s/early 1990s, produces less than a tenth of CO<sub>2</sub>e per kg in comparison to vinyl. However, during the music industry boom in the 1990s, CD production peaked at two billion units globally per year, producing two megatons of CO<sub>2</sub>e annually during production (Devine, 2019). Even though the subsequent dominant media, downloads and streams, have seemingly lost their materiality, Devine emphasises that digital music is still handled by still material internet servers and data centres. As Devine criticises, these server farms need large amounts of electricity, often from unclear or fossil fuel origin. However, it is difficult to assess how much CO<sub>2</sub>e a stream or a download produces (Devine, 2019). Nonetheless, Devine lays out how all combined music media

produce more CO<sub>2</sub>e today than ever before, with downloads and the rapidly growing streaming services constituting the lion's share, as shown in Figure 1.



Of course, recorded music only constitutes a part of all music industry emissions. According to pioneering work by *Julie's Bicycle*, the entire recording sector only amounts to ca. 26% of all music industry emissions in the UK, as seen in Figure 2.



Live music is responsible for three-quarters of GHG emissions, with audience travel as the largest share, of which 24% of travel emissions can be ascribed to festivals (Bottrill et al., 2009).

Even before researchers' interest in this topic grew, a few frontrunner events and first-movers paved the way for event sustainability. The hallmark events of the Lillehammer Winter Olympics 1994 were "the first Games to explicitly include environmental impacts in their planning" (M. Jones, 2018, p. 26), while as early as 1992, sustainability guidelines called *Hannover Principles* for the Expo2000 in Hannover were developed (McDonough & Braungart, 1992). Another edition of the Olympic Games, the Summer Olympics 2012 in London, gave an additional boost in sustainable event planning: The planning process founded an international standard, the *Event Sustainability Management System* ISO20121, standardising sustainable event planning (cf. e.g. Holzbaur, 2016), even though subsequently it has sparked controversy about the implementability at music festivals (M. Jones, 2018; Richardson, 2019). In the music festival world, the Danish festival Roskilde pioneered environmental planning at music festivals with a sustainability plan in 1995 (Berridge et al., 2018) and has been at the forefront ever since: Industry expert Jones repeatedly calls the festival an "overachiever" (M. Jones, 2018, p. 264, 305). Other early movers include the German festival Tollwood, which has served food on porcelain plates since the early 1990s as well as providing fully organic food from 2003 on (M. Jones, 2018), or the Norwegian Øya Festival, which published guidelines to plan an event sustainably for other festivals to adapt as early as 2004 (Bermudez, 2015; Øyafestivalen, 2020; Tari, 2011) and shares international headliners from overseas with other Scandinavian festivals (M. Jones, 2018). Mair & Laing even claim that some "large outdoor music festivals" (Mair & Laing, 2012, p. 683) significantly led the way for event management in event greening. Since the mid-2000s, the trend towards a more sustainable festival organisation seems palpable for organisers (Berridge et al., 2018; Mair & Laing, 2012; O'Neill, 2006; Smith-Christensen, 2009).

In a comprehensive overview, Getz and Page elaborate on how the research field of event studies grew from within tourism and leisure studies but was barely recognised as an own research sector until the 1980s, with "'take-off' years for

academic institutionalisation of event management” (Getz & Page, 2016, p. 602) in the mid-1990s. At this point, tourism studies already had a “20-year head-start” (Laing, 2018, p. 165), but research on events expanded rapidly. In 1997, Getz defined events as the “fastest growing forms of leisure, business, and tourism-related phenomena” (Getz, 1997, p. 1) and research grew with it. With ecotourism quickly growing (S raphin & Nolan, 2018), research into sustainability aspects of tourism, for example, into attitudes to environmental management among Scottish hoteliers (Kirk, 1998), precluded sustainability research in the field of event management and festivals. While initial research included Shirley et al. (2001), C. Wong (2005), or O’Neill (2006), with the already mentioned Bottrill et al. (2008) as a larger starting shot, research into the sustainability of events or festivals was still scarce by 2010: In an often-cited overview, Getz drastically describes “the paucity of articles on festival or event environmental impacts” as “appalling” (Getz, 2010, p. 12). Even in 2016, Getz and Page claim that the “environmental impacts of events and tourism have remained a largely neglected area of academic research” (Getz & Page, 2016, p. 618) despite more recently “being addressed by researchers” (Getz & Page, 2016, p. 614). Since the hesitant start of research in the mid-2000s, multiple research strains have developed and filled several knowledge gaps. As a still-young academic research field, progressive research often stems from qualification works such as master theses or dissertations. Other foundational instances include supported or commissioned research by NGOs as well as grey reports. As traditionally tourism research prominently was produced out of Australian academia (Getz & Page, 2016; Stettler, 2011), this thesis’ research-strain was also significantly shaped by two Australian scholars: Mair & Laing (2012). Research of drivers & barriers of greening festivals from the perspective of festival organisers will be reviewed in Chapter 3.

Analyses of impacts, resource use, and pollution dimensions can reveal what problems live music festivals can cause in order to tackle these issues. This includes measuring and assessing greenhouse gas emissions (Bottrill et al., 2008; Bottrill et al., 2009), electricity usage (Baker, 2011; Fleming et al., 2014; Marchini, 2013) as well as assessing other related environmental impacts (Badiali & Johnson, 2020a; Bottrill & Tsiarta, 2010; Collins & Cooper, 2017; D avid, 2009; Dutta et al., 2016; C. R. Gibson & Wong, 2011; C. Johnson, 2015; Lamberti et al., 2009; Martinho et al., 2018; Timms,

2011; Toniolo et al., 2017; Wall & Behr, 2010; C. Wong, 2005). Chapter 2b)i) reviews the findings and what measures festivals have tried to implement to combat the environmental impacts. Some festival projects and practices have been examined in several case studies, for example, Burning Man (Benton & Radziwill, 2018; Holmes & Mair, 2018), Woodford Folk Festival (Gration et al., 2011; Holmes & Mair, 2018) or Way Out West (Andersson, Jutbring, & Lundberg, 2013) among many others. Another large subfield of research is focused on audience attitudes and perception of sustainability issues at festivals, environmental psychology, and audience decision analysis (Alzghoul, 2017; Barber et al., 2014; Bermudez, 2015; Biselli et al., 2019; Botha et al., 2017; CGA, 2019; Fleming et al., 2019; Gause, 2017; Gration et al., 2015; Green et al., 2016; Heberlein, 2011; Henderson & Musgrave, 2014; Hunger, 2013; Kim & Kim, 2018; Mair & Laing, 2013; Moore, 2013a, 2013b; Organ et al., 2015; Preso, 2014; Song et al., 2012; Tölkes & Butzmann, 2018; Viviers et al., 2019; I. A. Wong et al., 2015; I. A. Wong et al., 2020). In this context of rather well-advanced academic research, a meta-study of this audience attitude field, synthesizing results from similar surveys, could yield valuable results. However, Chapter 2b)ii) can only review and outline some of the findings within the scope of this thesis. Other contributions to the field of sustainability at festivals and events include marketing viewpoints (Arcodia & Dickson, 2009; Glassett, 2014; Richardson, 2009, 2018; Tinnish & Mangal, 2012), audience travel research (Bottrill et al., 2009; Chirieleison et al., 2020; Gause, 2017), environmental communication (Bermudez, 2015; Brennan et al., 2019; Hunger, 2013; Vogel, 2010), the role of stakeholder management (Andersson & Getz, 2008; Brennan et al., 2019; Hazel, 2018), micro-ethnographic approaches (Bendrup & Weston, 2015; Kennell & Sitz, 2010; Pedelty, 2012) and scathing overall dismissals of the sustainability efforts of most festivals (Zifkos, 2015).

Similar to research lagging behind ambitious early-mover festivals in the industry, NGOs often preceded academic studies. The initiative *A Greener Festival* follows in the footsteps of one of the earlier research in the field, a study by co-founder Claire O'Neill (2006). Nowadays, the *A Greener Festival Awards* single out ambitious festivals and provide visibility for green projects, as well as positive publicity (Berridge et al., 2018). Just slightly older, founded in 2006, *Julie's Bicycle* was one of the key NGOs driving the early knowledge base with already mentioned extensive studies



about greenhouse gas emissions (Bottrill et al., 2008), audience travel (Bottrill et al., 2009) and live music industry logistics (Bottrill & Tsiarta, 2010). While early on, NGOs such as *Reverb* (mainly US) or *Green Music Initiative* (Germany) significantly influenced first efforts to green live music, more recently, NGOs and interest groups like *Vision: 2025*, *Green Operations Group* or the influential *Music Declares Emergency* have been more vocal and visible. Particularly in the wake of the global movements *Fridays for Future* and *Extinction Rebellion*, *Music Declares Emergency* has addressed political and structural problems connected to the live music industry, for example, public transport infrastructure in the context of audience travel. Nearly 3000 music acts, including music industry heavy weights like *Radiohead*, *Billie Eilish* or *The 1975*, have rallied behind the NGO since the foundation in 2018.

Despite the focus on festival sustainability in this work, the initiatives and discussions about individual music acts and their live tours should not be wholly left out. In 2010, the prestigious music magazine *Rolling Stone* published a top 15 list of “most eco-friendly rockers” (Coscarelli, 2010), including acts like Thom Yorke from *Radiohead*, *Jack Johnson*, and *Guster* among others. *Guster’s* guitarist Adam Gardner and his wife, environmentalist Lauren Sullivan, founded the foundation *Reverb* in 2004, enabling other acts to green their touring practices. *Jack Johnson* has been a passionate proponent of environmental protection since the beginning of his career, including musical pieces like the 2006 song “The 3 Rs” (reduce, reuse, recycle) in his activism. *Radiohead*, on the other hand, have pioneered a thorough greenhouse gas inventory research for their 2007 world tour (Calland, 2009; Yorke, 2008), which led the way for a GHG-footprint analysis ever since and is still frequently referred to (Benkeser, 2019; Fleming et al., 2014; Tari, 2011). Similar to aforementioned early analyses by *Julie’s Bicycle* (Bottrill et al., 2008), *Radiohead’s* tour showed that audience travel accounts for the majority of GHG emissions (Calland, 2009) and showed that diligent planning could significantly reduce emissions up to 97% in some areas (switching from air to sea freight) (Calland, 2009) and even achieve financial savings. Not on the Rolling Stone list, but also noteworthy in the (live) music industry are *Coldplay* and *U2*, two controversial industry giants. Although *U2* worked with the non-profit organisation *Music Matters*, studiously recycled ink-cartridges and offset all emissions, their 360° world tour with their gigantic 350 ton ‘claw’ stage structure

required 120 trucks to move around and caused as much greenhouse gas emissions as a flight to Mars and back (Benkeser, 2019; Pedelty, 2012; Savage, 2019). Criticised as “industrial excess” and “artistic overkill” (quoted in Pedelty, 2012, p. 1), the UK analysis firm *CarbonFootprint Ltd.* calculated that *U2* would have to plant at least 20,000 trees in order to offset their footprint (cf. Pedelty, 2012). However, *Coldplay* proved that solely planting trees is not necessarily sufficient: Many of the Mango trees *Coldplay* financed with good intentions to offset the production of their second album in 2002 did not survive long. By 2006, 40% of all trees had died because the fundraiser did not include a strategy or payment for nurturing costs and equipment (Dhillon & Harnden, 2006). Environmentalists also pointed out that such an offset strategy could also lead to mono-cultures, social issues like land owner displacement, and other conflicts (Robbins, 2006). More recently, *Coldplay's* announcement to pause touring out of environmental reasons (Savage, 2019) has provoked discussions about the large-scale operations of live-acts going on tour, ranging from agreement (Reilly, 2020) to head-shaking conceptlessness how to achieve significant environmental improvements (Rolling Stone, 2020). Other music acts have spoken out that pausing touring is not the solution, as *Massive Attack's* Robert Del Naja explains in an article in *The Guardian*:

We've also discussed ending touring altogether – an important option that deserves consideration. In reality, however, an entire international roster of acts would need to stop touring to achieve the required impact. In a major employment industry with hundreds of acts, this isn't about to happen. Any unilateral actions we take now would prove futile unless our industry moves together. (Del Naja, 2019)

*Savages'* Fay Milton, *Music Declares Emergency* co-founder, points out the systemic dimension of sustainability issues in the music industry, especially for smaller music acts:

It's not one person's fault – there's a huge industry around it. If an artist decides that they don't want to tour anymore, they have their whole management and agents and tonnes of people relying on them for their work and their income, and it affects a lot of people. It's a systemic thing, and not a case of simply being able to say that no bands should go on tour. (Richards, 2019)

Meanwhile, *The 1975* were attacked as well as applauded for collaborating with *Fridays for Future's* icon Greta Thunberg on their opening track for the album *Notes On A*

*Conditional Form* (Bassett, 2019; Snapes, 2019), with singer Matt Healy stating that “to make a real difference to young people, you need to be in pop culture” (Bassett, 2019).

While festivals are also limited in their possibilities to become genuinely green festivals by external factors, they have an advantage compared to the live concert tours of individual music acts: Fans can watch live shows of many favourite artists at the same location, with only one trip back and forth. Furthermore, especially world renowned festivals such as *Glastonbury* can be considered a melting pot and annual highlight of music pop culture – how festivals approach sustainability issues can be impressively influential for the audience. However, in order to change from “parasite festivals” (Zifkos, 2015, p. 10) to greener festivals, it is vital to understand the impacts first. Therefore, the next chapter will review how literature describes the environmental impacts of festivals.

### i) Festival Impacts & Projects

Open-air music festivals on greenfield sites resemble small, temporary cities in areas usually a lot less populated. Much like other human infrastructure, festivals consequently produce a variety of impacts. This chapter reviews which impacts have been identified in literature and lists some ways festivals try to mitigate those impacts.

Assembling an exhaustive list of all impacts from festivals is complex and could be the topic of a thorough environmental assessment or audit of a festival. Nonetheless, previous literature has named some of the most important impacts. The evaluation of the significance of those impacts has partially changed throughout the years: Impacts on climate change are considered more thoroughly nowadays than in early literature of festival impacts. Environmental impacts of festival production include:

- Greenhouse gas emissions (A Greener Festival, 2020a; Bottrill et al., 2009; Fleming et al., 2014; C. R. Gibson & Wong, 2011; Harvey, 2009; M. Jones, 2018; C. Jones et al., 2021; Petrusich, 2020) from different sources such as audience and artist travel, diesel generators, logistics, waste treatment, other scope two and three emissions, e.g. from the production of materials used in the festival
- Waste production (Dodds, 2018; Moisescu et al., 2018; Musgrave & Raj, 2009) and litter diffusion into the environment (e.g. tent pegs, small particles or shattered glass on camping grounds commonly used as pastures, cf. e.g. Rohde (2019), Dodds and Graci (2012), Fisher (2008))
- Resource use, e.g. water (Badiali & Johnson, 2020a; Moisescu et al., 2018), resource use from food and beverage production (Andersson, Jutbring, & Lundberg, 2013), energy resources, resources for material production, e.g. plastics, metals, etc.
- Soil compression (Dávid, 2009)
- Water pollution (Aberg et al., 2021; M. Jones, 2018)
- Influence on behaviour patterns of animals and biodiversity (e.g. feeding, breeding, activity durations and starting points) (Dávid, 2009; Shirley et al., 2001)
- Noise and light pollution (Getz, 1997; Moisescu et al., 2018; Musgrave & Raj, 2009; O'Neill, 2006; Yeoman, 2011)
- Air pollution (Badiali & Johnson, 2020a), e.g. from combustion engines and generators, fireworks

As mentioned in Chapter 2b), studies repeatedly show that audience travel accounts for the majority of GHG emissions. The 2020 *The Show Must Go On* report states that audience travel can be responsible for up to 80% of all GHG emissions related to the festival (Badiali & Johnson, 2020a), the 2009 report *Jam Packed* from *Julie's Bicycle* lists 68% (Bottrill et al., 2009), an analysis of the 2007 *Live Earth* event attributes 87% to audience travel, even though public transport was widely available. *Glastonbury* claims approximately 50% of all emissions to be audience-related (Robathan, 2011), while the urban festival *Way Out West* connects only 31% of GHG emissions to travel (Andersson, Jutbring, & Lundberg, 2013). Other research yields similar results, with

61% (Collins & Cooper, 2017) and, in the case of individual concerts from the already mentioned *Radiohead* analysis, up to 86% or even 97% stemming from visitors travelling to the location. Following the *The Show Must Go On* report, the remaining on-site emissions from festivals are mostly energy (76%) and waste (24%). In total, this amounts to 1.9 kg CO<sub>2</sub>e per person per day (=“audience day”) or 24,261 tons of CO<sub>2</sub>e for all UK festivals for on-site emissions (Badiali & Johnson, 2020a) as well as 126,860 tons CO<sub>2</sub>e for audience travel (crew, artists and contractor travel excluded) (Badiali & Johnson, 2020a). A study by the *Aeris Futuro Foundation* into the carbon footprint of the Kraków-based festival *Unsound* found that the indoor-venue-based urban festival with ca. 25,000 visitors caused ca. 1040 tons of CO<sub>2</sub>e overall (Petrusich, 2020; Unsound Festival, 2019), while *A Greener Festival* averaged one UK festival to produce 2299 tons of CO<sub>2</sub>e (A Greener Festival, 2020a).

One of the most visible impacts is waste. The German live music mogul Marek Lieberberg points out that already in 1972, journalists had written scathing reviews about the amount of waste being left on the festival site (Koopmans, 2007). Industry experts estimate that waste left by festival attendees gradually increased in the last years (Armbrecht, 2019; Badiali & Johnson, 2020a; Webster, 2014). Particularly left-behind tents constitute a problem: The compostable tent firm *Comp-A-Tent* collected data showing that in worst-case scenarios, up to 77% of tents at a festival might be left behind, resulting in about 250,000 abandoned tents annually in the UK alone (Badiali & Johnson, 2020a). Henderson and Musgrave (2014) claim that ca. 17% of waste-to-landfill from UK festivals consists of thrown-away tents. According to the latest *Show Must Go On* report, UK festivals produce ca. 23,500 tons of waste per year (Badiali & Johnson, 2020a). The cost implications of waste are significant: In 2007, the *Download Festival* in the UK reported a cost of £250,000 for the clean-up, while the waste removal costs of the 2003 Canadian benefit concert *Molson Canadian Rocks For Toronto*, including the likes of *The Rolling Stones* or *Rush* amounted to CDN\$100,000 from only one concert day (Dodds & Graci, 2012); after a particularly rainy and muddy festival edition in 2007, *Glastonbury* estimated clean-up costs to be up to £800,000 for approximately 30,000 left-behind tents (BBC, 2008).

A festival with all its visitors uses up resources: Materials that are used for the installation of the festival, such as stage equipment, banners, signs, but also the resources to accommodate the festival audience. This includes electricity and fuel to power the whole festival. Scaled up estimates from *EE MUSIC* (2014) project the use of 100 million liters diesel in the European festival market per year in 2014, while estimates for the UK festivals range between 5 million litres (C. Johnson, 2015), 7 million litres (Badiali & Johnson, 2020a) and 12 million litres (Baker, 2011). Ultimately, a festival such as *MELT!* consumes ca. 73,000 kW energy (Tari, 2011). Visitors, crew, and artists furthermore need food and beverages, as well as water. In the UK, the current benchmark shows a festival usage of 184.5 million litres of water per year (Badiali & Johnson, 2020a) in total. At the same time, festivals can be responsible for deteriorating water quality in the area, from diesel generator spills to the problem of visitors urinating outside of designated facilities, close to water streams. Jones (2018) portrays how *Glastonbury* was nearly shut down in 2015 due to excessive urine contamination in the nearby stream. Very recent insights from a study analysing water contaminations at the 2019 *Glastonbury* edition moreover show how up to 104-times higher water concentration levels of illicit drugs such as MDMA during and after the festival can have harmful effects on the fish population (Aberg et al., 2021).

With this multitude of impacts, festivals have worked on projects to tackle the problems. From the early pioneers until today, festivals have implemented a broad range of interesting projects and mechanisms to mitigate the impacts – green guides and best practice literature such as M. Jones (2018) often describe those projects in detail. The following sections aim to highlight some successful strategies of different festivals.

Although the topic of carbon footprint and climate change has gained more traction within the last few years, some festivals claimed carbon neutrality through compensation relatively early, with, for example, *T In The Park* becoming carbon neutral in 2006 (Baker, 2011) and *Flow Festival* in 2010 (Okolo-Kulak, 2015), when pioneers like the *Hove Festival* had already turned away from simply buying compensation funds (Bermudez, 2015). Instead of outsourcing the planting of trees to sequester CO<sub>2</sub>, the *Woodford Folk Festival* planted ca. 100,000 trees on and close to

their own festival area over the years (Holmes & Mair, 2018). Compensation mechanisms remain a disputed topic because even though many festivals work with carbon compensation companies (e.g. FKP Scorpio (Becker, 2020; Kreiszeitung, 2020)), critics claim that solely relying on compensation instead of extensive impact mitigation measures does not address the cause. *Massive Attack's* Del Naja points to studies that 85% of carbon offsets within the UN's *Clean Development Mechanism* are unlikely to generate meaningful emission reductions as one of the reasons why the band recently questioned their previous offset payments for their touring carbon footprint (Del Naja, 2019). The aim for festivals is, therefore, to reduce emissions in the first place and compensate remaining emissions as the last step.

As roughly 60-80% of all GHG emissions from a festival are caused by travel, some festivals have worked on less carbon-intensive transport options for visitors to arrive than their individual cars. The *Sziget Festival* as well as the *MELT! Festival*, for example, introduced designated festival trains for visitors to arrive collectively and even use the train as accommodation on-site (Coldwell, 2015; Green Music Initiative, 2020; M. Jones, 2018). Among others, the *Roskilde Festival*, as well as the Electric Castle Festival, have a temporary train station at their festivals (Moisescu et al., 2018), and the *Electric Castle's* project *Eco-Games* rewards visitors who biked more than 250 km to the festival with a free festival pass and other rewards (Moisescu et al., 2018). Similarly, *Glastonbury* started a *Green Traveller Initiative*, which introduced, for example, a reward tombola for sustainable travel choices, including watching live performances on the famous Pyramid stage from the side of the stage (Robathan, 2011). Besides incentives, many festivals opt to disincentivise car travel with parking fees (Gause, 2017; Robathan, 2011). To boost the use of public transport, the *Hurricane Festival* was one of the pioneers to include a train ticket in the festival ticket (Kreiszeitung, 2020). Some festivals promote lift-sharing programmes, although safety concerns and convenience issues cause lift-sharing schemes still to play an insignificant role (Bottrill et al., 2009). The *Way Out West* festival focussed on a different source of GHG emissions: As an urban festival, audience travel, as well as generator-based energy, are less significant factors in the emissions mix, while food & beverages are more central. In 2012, *Way Out West* decided to switch to be an entirely vegetarian festival – and claims to have decreased CO<sub>2</sub>e emissions by 40% (Way Out

West, 2020). *DGTL* followed the example in 2016 and mitigated 54,000 kg CO<sub>2</sub>e (M. Jones, 2018).

As mentioned before, on-site energy usage can be the second most significant factor of GHG emissions after travel. In rural areas, greenfield festivals often do not have the choice of connecting to the grid and choosing a green energy provider (as e.g. the *Øya* festival has done) and instead have to rely on generators. *Glastonbury*, for example, utilises roughly 200 generators on the festival weekend (C. Johnson, 2013). While festivals such as *Rocco Del Schlacko* or the *Hurricane Festival* invest in cable infrastructure to reach a grid connection (Behr et al., 2013; Kreiszeitung, 2020), the remaining generators are often not used as efficiently as they could be. Diesel generators should be operated on at least 60-75% of their maximum capacity (C. Johnson, 2013) but frequently run on much lower loads (Fleming et al., 2014; Marchini, 2013). Copious research by Marchini and Fleming (Fleming et al., 2014; Marchini, 2013) has shown that different actors in the supply chain add safety margins to prevent blackouts at maximum load, ending up wasting fuel. Downsizing generators alone could save between 2% and 80% of fuel (Marchini, 2013), with some generators regularly running on only 20% of their capacity (WATT-NOW quoted in M. Jones, 2018). The overall saving potential of combined measures for better utilisation could be up to 50% (Fleming et al., 2014), resulting in emission reduction of ca. 10,000-20,000 tons CO<sub>2</sub>e in the UK (Fleming et al., 2014). Some festivals deploy detailed energy forecasts to improve generator capacities: *Rocco Del Schlacko* was able to reduce the energy costs by €10,000 with better planning and more efficient technology (Behr et al., 2013). Other approaches to more eco-friendly energy production on-site include the utilisation of waste vegetable oil as fuel (Baker, 2011), combining multiple power sources to a smart grid (Marchini, 2013) or using generators with adjustable base-load, battery power or hybrid systems (Fleming et al., 2014). *MELT!* and *Glastonbury* have moreover installed solar systems to provide power, with innovative projects such as the *Sunplugged Stage* (C. Johnson, 2013). *Glastonbury's* 1,116 solar panels system is the UK's largest private-owned solar power installation (C. Johnson, 2013; Robathan, 2011). However, during the festival itself, the installation can only supplant ca. six diesel generators (C. Johnson, 2013).



Reducing the amount of waste is a multi-faceted task, as waste reduction projects have to address different sources, from plastics and discarded tents to food waste or faeces from sanitary facilities. In order to reduce plastic waste, most festivals have nowadays transitioned to reusable plastic drinking cups instead of disposable cups, with the *Gurtenfestival* claiming to have been the first in Europe in 2004 (Hardegger, 2019), others use steel cups (M. Jones, 2018). However, introducing reusable cups carries a different problem: As reusable cups are produced with heavier, thicker plastic, the number of required uses to reach the break-even point at which reusable cups are more GHG-efficient in their lifecycle than singular-use cups (e.g. foam, paper, plastics) range between 10 and 450 times (Glassett, 2014). Reducing waste thus might even worsen the carbon footprint of a festival. *Glastonbury* encountered a different problem when the festival banned the use of singular-use plastic bottles in the festival operation: When the festival closed, visitors still left a sea of discarded plastic they brought to the festival (Cambridge, 2019; Lücker, 2019; Marsh, 2019). If the waste is recycled, it reduces the environmental impact. Sorted waste is easier to recycle, so some festivals try to establish on-site waste separation. As adequate assorting cannot always be guaranteed with exuberant visitors, the *Hurricane* festival pioneered a waste sorting system for the festival waste before handing it over to their disposal contractor in 2012 (Kreiszeitung, 2020). Moreover, the festival was one of the first to introduce a waste deposit, encouraging visitors to clean up after themselves (Kreiszeitung, 2020).

Left-behind tents, however, still pose a problem, not least since they are virtually non-recyclable. Campaigns such as *Love Your Tent* or video messages on the festival screens have partially proven to improve the situation: *Glastonbury* reports that in 2010, showing fields full of deserted tents from the last year on the video screens decreased the left-behind tent number by ca. 80-85% (Robathan, 2011), other festivals show similar results (Badiali & Johnson, 2020a). In 2019, *Glastonbury* reported that an all-time high of 99% of visitors' tents was taken back home again after the festival (Bassett, 2019). Other approaches include collecting intact tents for charity (e.g. *Hanseatic Help* at the *Hurricane*) or upcycling tent fabrics for rain jackets (e.g. *Attention Attire*), although those options risk sending a wrong message about leaving behind tents as charitable action. Lastly, left-behind tent pegs pose a risk for cattle and

other livestock grazing the fields after festival visitors have left; *Glastonbury* has given out potato-starch-based pegs to festival visitors on the camping ground to combat this problem (Fisher, 2008).

Besides their tents, some visitors leave behind other parts of their equipment, including provisions for the festival such as the infamous canned ravioli. Left-over canned food is not the only food waste on festivals, though: Backstage catering, as well as over-calculations at food stalls, might cause still enjoyable viands to be wasted. Festivals such as *Roskilde* collect left-over amounting up to 30 tons and redistribute them (M. Jones, 2018), the German NGO *foodsharing* saves thousands of food cans from wastage on several festivals, mainly in Germany (Hurricane Festival, 2019). Meanwhile, the Dutch Festival *Into The Great Wide Open* processes organic material waste such as food waste and compostable packages in rapid composters, even offering visitors seed bundles with soil from waste produced the days before (Badiali & Johnson, 2020a).

Furthermore, visitors leave something else at the festival site: Whereas in cities, sewage disposal facilities treat the inhabitants' excretions, a temporary town such as a festival often needs to find different solutions if the capacities of local sewage facilities are exceeded. Pioneering festivals such as *Roskilde* or *DGTL* have, for example, spearheaded ways of using urine as fertilisers, with *Roskilde* humorously offering the beer "Pisner" from ingredients that have been fertilised that way (M. Jones, 2018). Following in these footsteps (and initially a rare sight), compost toilets such as the German *Goldeimer* project are now quite common at many festivals, conserving water on top of recovering phosphorus for manuring.

Considering all impacts and resource depletion, some voices from inside as well as outside the industry claim that despite ambitious projects, a large festival can never be truly sustainable (e.g., Hardegger, 2019) – and the greenest festival would be a festival that does not take place (Becker, 2020; Bermudez, 2015; Getz & Page, 2016). Industry expert Jones comments: "It may be said that the most 'sustainable event' is no event at all, but that's no fun" (M. Jones, 2018, p. xviii). However, there is also an argument that going to a festival might be more sustainable than staying at home, due to mainly two reasons: On the one hand, festivals can have a profound impact on

visitors and change their mindset up to the point that their everyday life becomes (slightly) more sustainable, although this is often difficult to measure. On the other hand, some data shows that the ecological footprint or the carbon footprint respectively for a visitor on a festival might be smaller than the individual's footprint at home, as, of course, staying at home is, in most cases, not a carbon-neutral activity either.

Gibson and Wong (2011) were some of the first to suggest that “attending a festival is less demanding on environmental resources than staying at home” (C. R. Gibson & Wong, 2011, p. 95). Even though energy from a diesel generator usually has a higher impact than electricity from the grid, these forms of energy are “consumed collectively” (C. R. Gibson & Wong, 2011, p. 95, emphasis in original). Nevertheless, more recent data from festivals is ambivalent with regards to this argument. In Switzerland, waste audits from *Open Air St. Frauenfeld*, *St. Gallen Open Air*, and *Gurtenfestival* show that visitors produced less waste on the festival ground than the Swiss national average per day, visitors at the *Gurtenfestival* even less than half of the Swiss 1,9 kg/day average (Hardegger, 2019). Other festivals, such as the urban *Way Out West* festival, report a higher ecological footprint for festival visitors, in the example of *Way Out West* 10,2% higher than the national average (Andersson, Jutbring, & Lundberg, 2013) despite their ambitious vegetarian strategy. Overview research from many UK festivals shows that the UK festival average (festivals with camping) for waste with 2 kg/person/day is still “nearly twice as much as is produced per person per day from household waste” (Badiali & Johnson, 2020a, p. 2). The *Sziget Festival* similarly produces ca. double the domestic waste per person per day (Dávid, 2009). The crucial difference, however, is that the collective waste at festivals is substantially more visible than in cities with structured garbage collections (Armbrecht, 2019; Hardegger, 2019). Besides waste, overall travel from visitors exceeds the usual national average (C. R. Gibson & Wong, 2011), up to eight times higher (Collins & Cooper, 2017). Weighing up possible savings and higher transport resource use notwithstanding, is it essential to factor in alternative scenarios for festival visitors: In case of them not attending a festival, it is unclear but ultimately unlikely that all potential visitors simply stay home, but rather “engage in alternative leisure activities” (Collins & Cooper, 2017, p. 160).

Several researchers stress that apart from a material consideration, festivals might be able to influence visitor behaviour and perception (Bermudez, 2015; Brennan et al., 2019; Chirieleison et al., 2020; M. Jones, 2018; Kim & Kim, 2018; Mair & Laing, 2012; Mair & Laing, 2013; Musgrave & Raj, 2009; Pedelty, 2012; I. A. Wong et al., 2015) and “induce favourable eco-friendly behaviours beyond the event” (I. A. Wong et al., 2020, p. 1) as well as to “promote a green message” (Laing & Frost, 2010, p. 264). Pedelty (2012) takes the example of *Live Earth* and stresses that music was the vital difference to a simple Al Gore speech about climate change, coining this combination of environmentalism and live music as “ritual simulacra” (Pedelty, 2012, p. 29). Jacob Bilabel points out that music has always been a driver of cultural change (Jogschies, 2012), and Tölkes and Butzmann claim that green events have an “inspirational function” for visitors (Tölkes & Butzmann, 2018, p. 3734). Festival experiences such as the “leave-no-trace” policy of *Burning Man* constitute a “transformative experience” (Benton & Radziwill, 2018, p. 336), reverberating into daily routines. More detailed research from I. A. Wong et al. shows that, on the one hand, improved ecological literacy and knowledge from the event could “gradually diffuse into attendees’ everyday life” (I. A. Wong et al., 2020, p. 17), on the other hand, however, the impact might weaken over time and needs repeated stimulus. Data from *Way Out West* after the festival turned fully vegetarian suggests that ca. a third of survey-respondents from festival visitors have “reduced their meat and fish intake since the festival” (Badiali & Johnson, 2020a, p. 109) while 43.1% of fans agreed or strongly agreed in a 2013 survey that they had “changed their behaviour as a result of green initiatives or ideas they had discovered at festivals” (Moore, 2013a).

Studies such as Song et al. (2012) or I. A. Wong et al. (2020) examine the psychological mechanisms behind discernible changes in visitors’ mindsets. However, there is a slight gap of research on how environmentally friendly messaging by festival artists as well as behaviour from other festival visitors influence individual festival-goers. Deducted from theories of role model emulation (Bucher, 1998; Goodin, 2018), beloved idols such as music stars can have a lasting impact on fans with their messages. Initiatives such as *The 1975*’s commitment mentioned in Chapter 2b) could utilise their stardom and “weaponise the current system” (Snapes, 2019) to make a

change in their fans' life. In a literature review, Brennan et al. (2019) condense four further categories how (live) music can bring about change:

Music's ability to communicate and exemplify; its potential for emotional engagement; its capacity to reach wide and diverse audiences beyond those interested in academic studies; and its creation of a space for dialogue. (Brennan et al., 2019, p. 269)

Studies from Goldstein et al. (2008) moreover show how the behaviour of peers can significantly influence an individual's choices in favour of environmentally-friendly actions driven by a wish to comply with a perceived social norm. Nonetheless, M. Jones (2019) admonishes that there is "a huge gap between the supposition that festivals are change-vehicles and proof they are achieving these lofty ambitions" (M. Jones, 2019, p. 78). More detailed research is thus needed to examine the extent to which live music on festivals can truly cause change.

Although festivals often seem wasteful and resource-intensive from an outside perspective, it is easy to forget that the everyday life of visitors is often only marginally greener than their leisure time at the festival. Overall, claiming that from an environmental perspective, not holding a festival was the better option thus does not appear as indisputable as it seems at first sight – the mindset of visitors is an essential factor that should not be forgotten. In this regard, festivals still embody, to a certain extent, places of discussion and public discourse from early counterculture beginnings (cf. Ch. 2a)). The following chapter aims to review research to investigate further what festival visitors think about different aspects of sustainability at festivals.

## ii) Festival Audience Attitudes

'Sustainability' and 'green' as buzzwords increasingly appear in public discourse. In this context, it is interesting to review to what extent festival visitors pay attention when visiting a festival or deciding which festival they would like to go to, as well as to explore if visitors are willing to pay more for a greener festival. Good environmental management from the festival notwithstanding, visitors, of course, also contribute to how green a festival can become. Therefore, this chapter will also review which kind of green festival projects visitors support and what measures visitors are wearier to

implement. Finally, the idea of responsibility for sustainability at a festival is discussed and whom visitors deem accountable.

Many festival visitors claim that they are generally in favour of sustainable practices and mitigating festival impacts, ranging from 70% (Heberlein, 2011), 74% (O'Neill, 2006), 75% (Hunger, 2013), 81.7% (Gause, 2017), 83% (Badiali & Johnson, 2020a) to 79-88% (Hazel, 2018, for different festivals) for similar questions. However, when inquired whether sustainability practices influence the decision to buy tickets for the festival, fewer respondents affirm that, with 21-24% (CGA, 2019), 27% (O'Neill, 2006), 28.1% (Moore, 2013a), 36% (Challis & Moore, 2013), 39.8% (Glassett, 2014), 45.4% (Heberlein, 2011), 59.4% (O'Neill, 2009) saying that festival sustainability influences their decision to attend a festival (also cf. Alzghoul, 2017). Nonetheless, in one example from British Columbia, the importance of environmental practices rank even higher for festival visitors than other usually dominant festival elements like ticket price or line-up (Hazel, 2018). As implementing complex environmentally friendly projects at festivals can be costly, several studies also asked if visitors were willing to pay an eco-premium on top of the festival ticket: 43% (Bottrill et al., 2009), 48% in 2008 (A Greener Festival, 2020b), 49.8% (Moore, 2013a), 65% (Glassett, 2014), and 40-88% (Hazel, 2018, for different festivals) answered that they would pay more for environmentally friendly festivals. However, other factors are often more important when choosing a festival (cf. also Ch. 2a)), such as atmosphere, line-up, previous experience. 65% (A Greener Festival, 2020b; Fisher, 2008) up to 86.5% (Moore, 2013a) would still go to a festival even if it is not environmentally friendly, or vice versa, only 8% consider no sustainability measures as a disqualifier for attendance (Guntermann, 2017).

Despite the variance in percentage depending on the study, these numbers can already illustrate a tendency of visitors' mindsets. Nonetheless, it is difficult to pinpoint concise numbers. Responses differ from country to country, within a country between different festivals and genres (cf. Hazel, 2018), they depend on age group (Ticketmaster, 2019) and also change over time: 55% of respondents in a CGA-survey agreed that they cared "more about the overall environmental, social and sustainability impact of festivals than I did this time last year" (CGA, 2019, p. 12). The NGO *A Greener*

*Festival* worked on interconnected, longitudinal studies surveying similar topics in 2006, 2008, 2009 (A Greener Festival, 2020b; O'Neill, 2006; 2009) and 2013 (Challis & Moore, 2013; Moore, 2013a). More regular and more recent studies monitoring the development of audience attitudes could further increase confidence in the numbers and comparability.

Another reason to view these numbers with caution is that mechanisms like social desirability bias (M. F. King & Bruner, 2000) and attitude-behaviour gap (e.g., Johnstone & Tan, 2015) might lead to distorted survey results. Respondents might answer survey questions with a greener mindset than their actions could deliver, as they would like to comply with a perceived social norm of being environmentally friendly or to their own personal ambition. Although many respondents in a survey by Hazel (2018) asserted that sustainability at festivals is important to them (79-88%), only 22% “check the environmental policies of a festival before purchasing a ticket” (Hazel, 2018, p. 65). Research from other fields delivers similar numbers: While ca. 58% of survey respondents in a recent Zalando-issued study claim that they “believe it is important to buy from brands with ethical labour policies” (Heiny & Schneider, 2021, p. 11), only 23% “ever investigate policies themselves” (Heiny & Schneider, 2021, p. 11). A practical example from the festival world is waste. In O'Neill's 2006 survey, 81% of respondents “agreed or strongly agreed that if provided with separate bins they would separate their rubbish” (O'Neill, 2006), whereas the actual separation rate from separate bins levels out at ca. 30% (O'Neill, 2006), with O'Neill commenting that “this may indicate some level of idealistic responses” (O'Neill, 2006). The journey to the festival is another example. Significant parts of survey respondents often express positive opinions on public transport to festivals (A Greener Festival, 2020b; Badiali & Johnson, 2020a; Bottrill et al., 2009; Hunger, 2013), for example between 69.5% (Moore, 2013a) and 88% (Glassett, 2014) claim that if public transport was included and more accessible to the festival site, they would use it to get to the festival. About 78% of all festival visitors (including arriving by car) would agree that festival-goers arriving by public transport should get a discount on their ticket (Bottrill et al., 2009; similar results in Gause, 2017). At the same time, the percentage of visitors arriving via public transport overall constantly decreased from 18.3% to only 7.9% arriving by train between 2007 and 2017 (Badiali & Johnson, 2020a; Webster, 2014), and bus arrivals

decreased by 2.7% between 2007 and 2013 (Webster, 2014) as research from the *Association of Independent Festivals* shows. Visitors arriving by car still amount to ca. 66% (Glassett, 2014), 70%, (Bottrill et al., 2009; Glassett, 2014), 84% (Badiali & Johnson, 2020a), up to 90% (Yeoman, 2011) at non-urban festivals. Research by *Julie's Bicycle* suggests that car users mostly understand that their mode of transport is often more GHG intensive than public transport options (Bottrill et al., 2009), while Gause's study on transport at the *Fuchsbau* festival finds that visitors travelling by car often underestimate the true cost of the car as transport option (similar results in Bottrill et al., 2009; Gause, 2017) while placing more emphasis on factors such as convenience, fun, storage room and flexibility (Gause, 2017). This follows earlier research from Abale and Gatersleben on modes of transport (2005), which suggests that for leisure-time travel, people are more likely to be influenced by affective factors such as relaxation, perceived freedom or convenience (Anable & Gatersleben, 2005; also cf. Barr & Prillwitz, 2012; Prillwitz & Barr, 2011). Brennan et al. (2019) called this problem the risk of 'responsibility holidays':

Festivals have the risk of becoming 'responsibility holidays' for audiences: individuals can broadly support pro-environmental behaviours at home, but are less likely to give up lifestyle choices such as air travel when on holiday, for instance, or when undertaking leisure activities more generally. (Brennan et al., 2019, p. 261)

The study furthermore shows that there is a tendency to be more sustainable at home than at a festival (Brennan et al., 2019). These results follow earlier research from tourism studies showing that, for example, disposable products are more frequently used during holidays than at home (Perić, 2015). One visitor told Brennan et al. (2019) in their survey that despite trying to act sustainably in everyday life, the festival would be considered as "a break in general – not that I stop caring, I'm more likely to indulge" (Brennan et al., 2019, p. 265). Although festival visitors may be aware of sustainability topics and discussions about green policies, the 'hedonic' nature of festivals (cf. Ch. 2a)) could bar visitors from taking decisive action (Gration et al., 2015; also cf. Green et al., 2016). This discrepancy between proclaimed green demand by the visitors and less environmentally friendly action can be tedious for festival organisers, with one festival representative in an interview by Hazel (2018) resignedly saying:

I think it is one of those things that people do not pay attention to, for one. As much as they say they do. [...] Most people just go to the stages, going to meet their friends, and enjoying



themselves. They're not worried about how the garbage is separated. They are just not. (Hazel, 2018, p. 37)

Despite the risk that festival visitors hedonically indulge and take responsibility holidays, survey statistics show that festival and concert audiences tend to be greener, for example, with a higher percentage of vegans (Pawlik, 2020d), a disposition to spend more on green products (Pawlik, 2020c) and being significantly higher educated compared to the national average (Pawlik, 2020a, 2020b). Further research indicates that festivals with green policies generally attract more sustainability-minded visitors than other festivals with less ambitious projects or with a public image that is less green (Dodds et al., 2019; Gration et al., 2015; Richardson, 2009; Tölkes & Butzmann, 2018; I. A. Wong et al., 2015). Unsurprisingly, green-minded visitors express higher support for green projects at festivals than visitors with less affinity for sustainability (Botha et al., 2017)(Botha et al., 2017). Mair and Laing comment that those “individuals already significantly committed to sustainable behaviour” are not the ones “that the organisers need to reach in order to achieve their aim of behaviour change on a broader scale” (Mair & Laing, 2013, p. 1113).

Although the majority of visitors generally support sustainability policies at festivals in surveys, some do not care as much. Over a quarter (27%) of respondents said in a survey by Hunger (2013) that the topic of sustainability annoys them on festivals. In an interview with *The Guardian* about the 2008 survey by *A Greener Festival* (*A Greener Festival, 2020b*), *Glastonbury's* Ben Challis scolds parts of the audience:

When asked if they would recycle, 25 per cent of festival-goers said no. They don't care at all. You only have to go to a festival to see that's true. Some people leave no trace whatsoever packing up, but they'll be next to someone who leaves behind a bombsite, with broken tents, discarded armchairs and bin liners. (Fisher, 2008)

Especially regarding left-behind tents, it is apparent that festival visitors do not always follow the green ambitions of the festivals or themselves. Surveys by the *Association of Independent Festivals* indicate that 10% of visitors left their tents at the festival ground in 2018 (Taylor & Wolfe, 2018). *Ticketmaster* found out that 13% of polled festival visitors always leave their tent, and an additional 25% occasionally (Ticketmaster, 2019). Moore's *Tent Waste Survey* in 2013 revealed that 60% of respondents admitted to having left behind a tent at least once (Moore, 2013b). Reasons for leaving the tent are diverse: In a *Festival Republic* survey in 2017, 39%

believed tents to be donated to charity (Badiali & Johnson, 2020a), *Comp-a-Tent* found that nearly as many people falsely think that tents are recyclable (Badiali & Johnson, 2020a). The latter report also showed that “those who believe this are four times more likely to leave their tent behind” (Badiali & Johnson, 2020a, p. 55). In contrast, Moore’s survey found that over 60% of respondents maintained that their tent broke, while some admitted to laziness or insobriety as the reason. In some cases, it was also believed that charitable organisations would reuse those tents (Moore, 2013b).

This partial unawareness regarding tents prompts the question as to what extent visitors understand the environmental impacts of festivals. A survey from *Love Saves The Day* in 2016 suggests that visitors have “little knowledge of the environmental impacts of festivals” (White & Séraphin, 2018, p. 67). Visitors thus tend to identify the most visible impact as the most significant aspect by far, namely waste (Hazel, 2018; Heberlein, 2011; Hunger, 2013; J. Johnson, 2020a; Moore, 2013a; Ticketmaster, 2019). In 2013, 85.30% considered festivals to have a waste impact, while only 54.20% believed festivals to have an impact on GHG emissions (Moore, 2013b). Brennan et al. (2019) similarly report that despite its “relatively low environmental impact, [...] waste produced during festival events received a disproportionate amount of attention in our discussions and interviews” (Brennan et al., 2019, p. 260). Heberlein (2011) found that this attention on waste is mirrored in large approval ratings for waste reduction and management practices among festival audiences. Botha et al. (2017) moreover found that waste removal was the highest supported practice at the two festivals included in the study. A further study by the research group suggests that festival visitors rather support “effortless and ‘convenient’” (Viviers et al., 2019, p. 12) sustainability policies, or in other words, practices that imply less austerity from visitors themselves. Hence, sound waste management by the festival might seem less intrusive for visitors than switching the perceived freedom of car travel to the festival with public transport. Dodds et al. argue, on the other hand, that waste management “may be received as more ‘institutional’ in nature that may not necessarily encourage future attendance at a green festival” (Dodds et al., 2019, p. 696). Festival visitors might support waste management because they take it for granted or expect it in any case. Qualitative data from Brennan et al. moreover portends issues of perceived control regarding sustainability measures:

“Qualitative answers indicated that respondents felt that they had little control, particularly in terms of conserving water” (Brennan et al., 2019, p. 265), which could also influence the audience attitude towards specific pro-environmental practices.

Who then is responsible for a festival to be green? Every individual visitor for taking tents home, separating waste, and arriving via public transport? The government for exerting stricter oversight? The festivals for implementing structural changes so that visitors are nudged or urged to behave more sustainably by design? In the majority of research, the festival organisers are deemed to be responsible by the visitors: “virtually all respondents” (Brennan et al., 2019, p. 265), 90% (Moore, 2013a), 91% (O'Neill, 2006), 88% (2008, A Greener Festival, 2020b), 55-57% (Hazel, 2018) and ca. 33.5% (Bottrill et al., 2009, single choice as to who is most responsible for travel emissions only) believed it is the festival organisers' responsibility. Visitors considered themselves less responsible in most cases, except when it comes to travel emissions: With 39.1%, the *Jam Packed* study showed that visitors see themselves slightly more responsible for travelling sustainably than festival organisers with 33.5%. The *A Greener Festival* study cluster shows festival visitors as being responsible behind festival organisers in second place, with 79.7% (Moore, 2013a), 79% (O'Neill, 2006) and 57% (2008, A Greener Festival, 2020b), in Brennan et al. (2019) amounting to “four-fifth” of respondents. Government and/or local authority is thought to be responsible by ca. 18% (single choice regarding travel emissions, Bottrill et al., 2009), 30.3% (Moore, 2013a), 36% (O'Neill, 2006) or 42% (2008, A Greener Festival, 2020b).

Although a non-negligible, but small part of visitors cares little about sustainability, with some leaving their tents or even actively “trashing their campsites on the last night as some sort of rite of passage” (M. Jones, 2018, p. 309), most visitors appreciate and expect green practices from festivals. There is a risk, however, that despite the positive attitude towards pro-environmental festival projects, festival visitors get carried away in the moment resulting in less compliance and caring about the environment. Moreover, even though festival visitors tend to be greener and better educated, it can be difficult for the festival audience to understand the full scope of impacts. It can also be understandably challenging for festival organisers to adapt their environmental policy design to the attitude-behaviour gap, with visitors proclaiming to

care more about green practices than they actually do. Nevertheless, with many visitors repeatedly and in different contexts stating their positive attitude towards sustainable festival policies, greening festival operations can be a plus for festivals. Contrasting this audience attitude chapter, the next chapter will portray the festival organisers' side and introduce a model of motivational factors and barriers which was adapted to design the interviews with festival organisers for this thesis.

### 3. Drivers & Barriers of Greening Open-Air Festivals

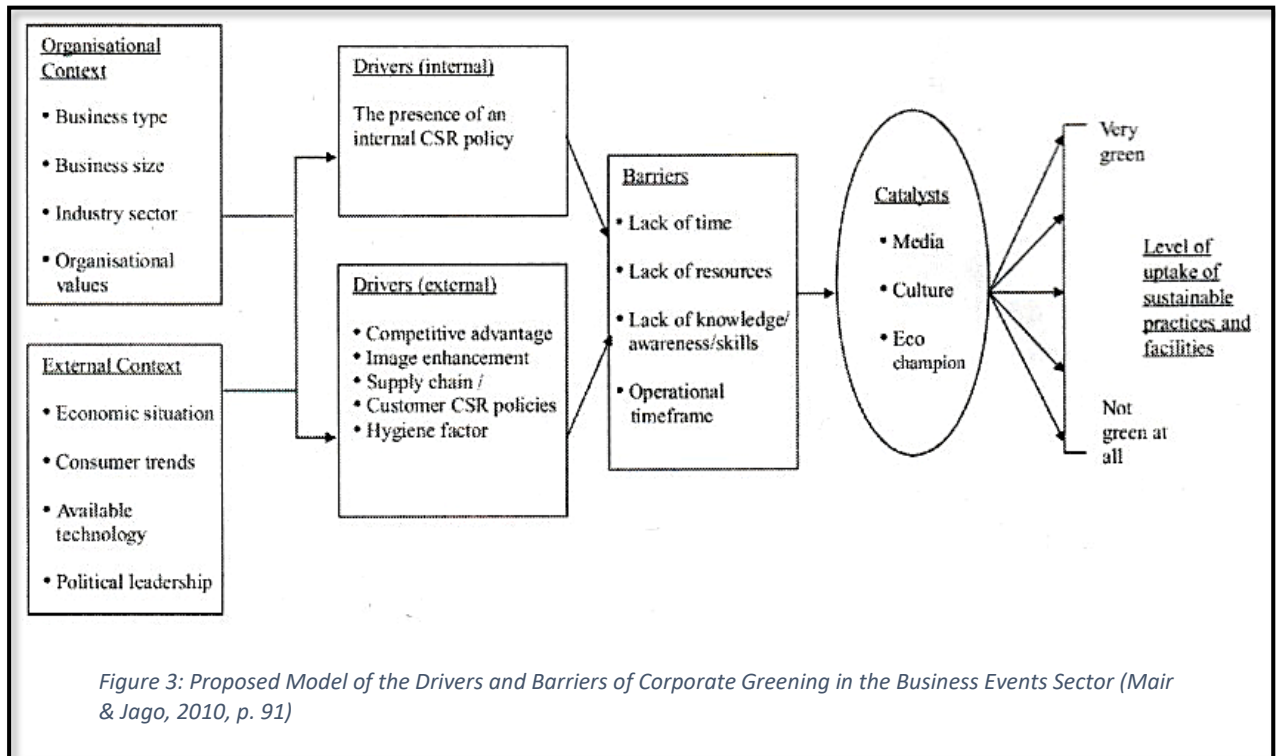
This chapter lays out the model on which this thesis' interviews about drivers & barriers are based, and traces literature that further assessed potential drivers & barriers to get a full overview prior to the interviews. In a second step, this chapter presents the methods and setup of data collection and provides case descriptions.

#### a) Previous Research on Drivers & Barriers: Mair & Jago / Mair & Laing Model And Literature Review

This thesis uses qualitative interviews to assess drivers & barriers for festival greening from the organisers' viewpoint of selected festivals throughout Europe. It follows the innovative research of Mair and Jago (2010), who used qualitative interviews with organisers of green events to evaluate a set of drivers & barriers they previously had synthesised from tourism and hotel research. While Mair & Jago assessed events from the MICE Industry (=Meetings, Incentives, Conventions, Events), Mair and Laing (2012) two years later adapted the Mair & Jago model to festivals in an Australian and British context. This chapter reviews the leading model by Mair & Jago as well as the adjusted model by Mair & Laing for festivals and traces subsequent research on drivers & barriers.

Mair & Jago meticulously bring together studies from different economic sectors with regards to their attitude and actions concerning green initiatives, with a range from car manufacturers and the US wine sector to hotel managers and airlines. Despite heavily drawing from motivator modelling by Bansal and Roth (2000), who identify 'competitiveness', 'legitimation/regulatory compliance', and 'environmental responsibility' as driver categories (Bansal & Roth, 2000), Mair & Jago point out that the model lacks barriers and mainly analyses drivers. While Bansal and Roth categorise 'contexts' in which management decisions are made besides the factors of drivers & barriers, Mair & Jago also lend the term 'catalyst' from Lynes and Andrachuk (2008) as an analytic category which "helps shape influences by acting as a medium for encouraging/discouraging corporate environmental responsibility" (Mair & Jago,

2010, p. 82). After ten semi-structured in-depth interviews with business event professionals, Mair & Jago slightly modify their initial model with new insights and propose the structure pictured below (Figure 3).



Mair & Jago emphasise that this model is derived from a small sample size of interviews and that this proposed “general conceptual framework [...] requires empirical testing in a number of different industrial sectors” (Mair & Jago, 2010, p. 92) to improve generalisability. Mair & Laing then apply this model to the context of music festivals in order to “provide a clearer understanding of how barriers and obstacles can be overcome” (Mair & Laing, 2012, p. 684). Mair & Laing carry out seven in-depth interviews with festival sustainability managers, one festival director and a manager of a UK-based organisation which “aims to help festivals become more sustainable” (Mair & Laing, 2012, p. 688). In total, Mair & Laing include four Australian festivals and two UK-based festivals. The selected festivals are all green award laureates, either awarded the *A Greener Festival Award* or the *Banksia Award*. Mair & Laing thus focus on a specific subset of festivals, namely those already showing significant ambition to green their festival operations. The results from the qualitative interviews partially confirm factors from the Mair & Jago model but also detect new elements and identify a

stratification of significance in the drivers & barriers. Summarised, Mair & Laing present the following overview pictured in Figure 4.

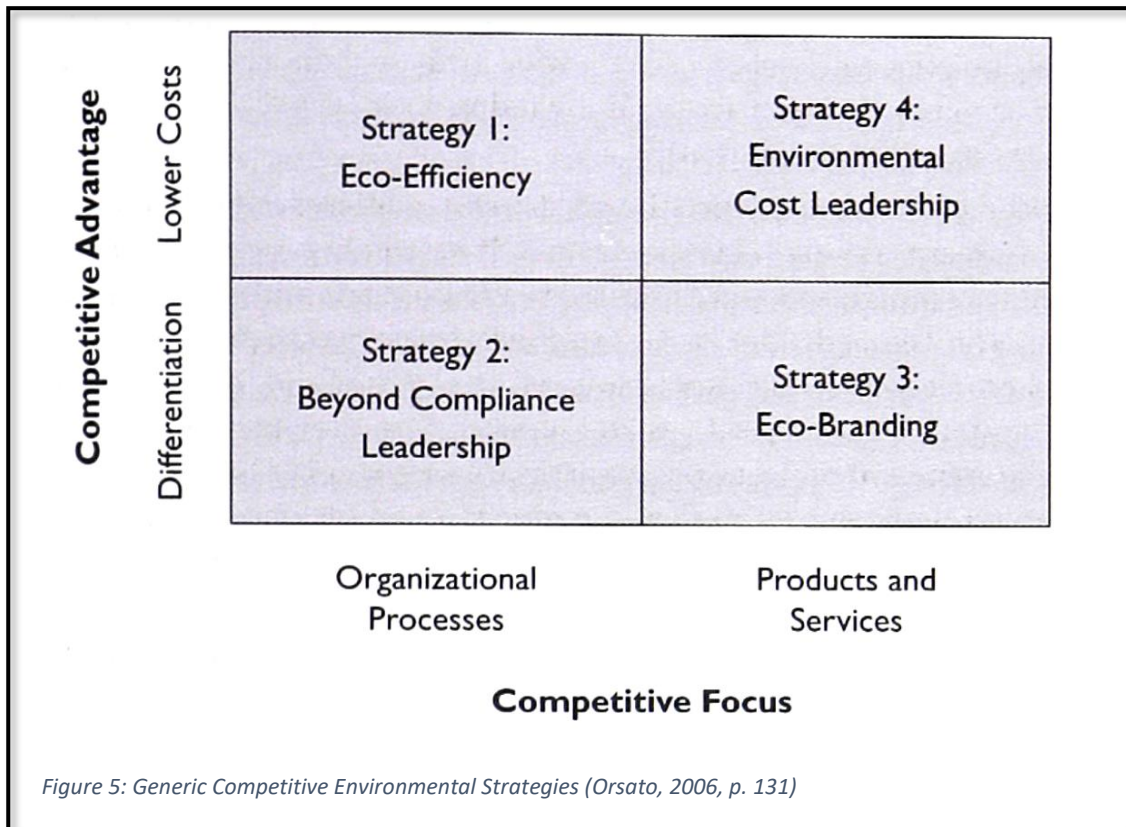
Drivers	Obstacles/barriers
<b>Main drivers</b>	
Organisation/personal values	Financial costs/lack of financial/other support from stakeholders
Consumer demand	Lack of time
Desire to educate/advocate	Lack of control over individual venues/split incentive
<b>Less significant drivers</b>	
Financial benefits	Lack of control over patron behaviour
CSR policy/mission statement	Availability of sustainable suppliers/supplies
Competitive/marketing advantage	
Image/reputation	

*Figure 4: Drivers & Barriers of Festival Greening (Mair & Laing, 2012, p. 690)*

The most significant differences in the results of Mair & Laing are the emergence of the new driver ‘desire to educate’ or, in other words, playing “an advocacy role” for visitors as a festival (Mair & Laing, 2012, p. 692). The ‘organisational/personal values’ or ‘ethos’ additionally seem of overwhelming importance, which convinces Mair & Laing that for the interviewees, “sustainability is a way of life, not a management choice” (Mair & Laing, 2012, p. 691). While in Mair & Jago, event organisers in the MICE industry mainly report that the push for sustainability does not primarily originate from attendees, Mair & Laing analyse that festival organisers also feel visitors demanding certain environmental action. Additionally, in contrast to the Mair & Jago model, Mair & Laing place more emphasis on differentiating significant and less significant drivers.

Although Mair & Jago as well as Mair & Laing pioneered ground-breaking work with their models and classifications, some categories seem to lack clear contours, such as ‘competitive advantage’ and ‘image/reputation’ are conceptionally similar. Mair & Laing, unfortunately, do not spend much time elaborating the category ‘competitive/marketing advantage’, mainly referring to the awards which the interviewed festivals won. The luminous figure of competitiveness research, Michael E. Porter, defined two main strains of competitive advantage: differentiation and low cost (Porter, 1985). Porter later postulated that “strict environmental policy will inevitably

enhance competitive advantages against foreign rivals“ (Porter 1998, quoted in Ni et al., 2015, p. 6). In the 1990s, discussions over sustainable practices as competitive advantage unfolded, as discussed, for example, in Bonifant et al. (1995) or Reinhardt (1998). In 2006, Orsato presented a model of different forms of competitive environmental strategies, as seen below (Figure 5).



It could be argued that some of the less significant factors of Mair & Laing’s proposed drivers & barriers could fall under the umbrella of “environmental competitive advantage” (Orsato, 2006, p. 131). Mair & Laing present ‘competitive advantage’, ‘financial benefits’ as well as ‘image/reputation’ as separate items. However, following Orsato as well as Porter, ‘financial benefits’ refers to ultimately lower costs, for example, with more efficient diesel-generators in the context of festivals, while ‘image/reputation’ is a form of differentiation within the festival market. Adapted to the event sector, Henderson pointed out that events can be competitive through sustainability mainly by being more cost-effective or building a better image (Henderson, 2011). Orsato stresses that outside of highly price-sensitive markets, eco-branding can help to obtain a “price premium” (Orsato, 2006, p. 135), or eco-premium:



In Chapter 2b)ii), results from audience surveys suggest that a significant part of visitors would be willing to pay for an eco-differentiation of their festival. In Mair & Jago's research, however, event professionals seemed unsure whether green practices can indeed be a "competitive edge" (Mair & Jago, 2010, p. 87). Mair & Jago analyse that event organisers expect sustainability at events to become taken-for-granted by visitors, an issue known as 'hygiene factor'. Following the work of Herzberg (1966), the term "refers to factors that tend to provide the basic conditions for satisfaction" (Mair & Jago, 2010, p. 87). The presence of these factors hardly constitutes a differentiation in the field of competitors, but without the factors, "business is unlikely to be won" (Mair & Jago, 2010, p. 87). Research on competitiveness similarly postulates that competitive environmental practices can only achieve leadership "in a relatively short window of opportunity" (Orsato, 2006, p. 133) before a former "differentiator becomes normal" (Orsato, 2006, p. 134). The "beyond compliance frontier" (Orsato, 2006, p. 134) progresses further and might pressure pioneering festivals to constantly innovate their environmental management practices to stay top of the class. Golemann coined the term "perpetual upgrade" for this process in 2009 (quoted in Tinnish & Mangal, 2012, p. 242). A hygiene factor as a driver for greening seems to be partially missing from Mair & Laing, possibly because the festivals included in the study have the reputation of green pioneers. As pioneers, the driving motivator for greening is unlikely to be keeping up with higher environmental standard levels of competitors. However, elaborations of the 'consumer demand' driver suggest that the 'hygiene factor' driver of Mair & Jago might partially be channelled into the former driver: Mair & Laing report that the interviewees felt that their audiences "tended to be made up of people who expected a certain level of sustainability from the festival organisers" (Mair & Laing, 2012, p. 692, emphasis added). One event organiser in the Mair & Jago study furthermore stresses that "if a venue becomes known as a green 'offender', this might have a negative effect on their business" (Mair & Jago, 2010, p. 87). The Mair & Laing driver 'consumer demand' might therefore be multi-faceted and also include the motivation to avoid boycotts. In a recent German report, 26% of young people (between 16-29 years) said they had boycotted a company with insufficient environmental policy in the past (Statista, 2021). Green et al. (2016) moreover underline that "socially irresponsible behaviour" of music artists resulted in a "much

stronger response by consumers as compared to socially responsible behaviour” (Green et al., 2016, p. 240). This shows that, adapted to festivals, catching up to the assumed level of greening in the industry to avoid negative attention (cf. Brennan et al., 2019) might drive change in festivals which lag behind.

As mentioned in Chapter 2b)i), environmental projects from *Rocco Del Schlacko* or *Radiohead* prove the opportunity to lower operational costs. In addition, research from I. A. Wong et al. (2015) shows that green practices “could be a cash cow” (I. A. Wong et al., 2015, p. 310) and “would pay dividends” (I. A. Wong et al., 2015, p. 311). However, in the interviews of Mair & Laing, responses from the interviewees suggested that “although the costs benefits are desirable, they are unlikely to represent a major influence on the decision to be more sustainable” (Mair & Laing, 2012, p. 693) in the eyes of festival organisers. On the other hand, high costs for environmental project implementations “were seen as an irritant rather than a major obstacle, but were still brought up by interviewees as a barrier” (Mair & Laing, 2012, p. 694).

Moreover, while the barrier ‘lack of knowledge/awareness/skills’ of the Mair & Jago model is missing in the festival research of Mair & Laing, the more sector-specific problem of ‘lack of control over patron behaviour’ appeared. The lauded green champion festivals of Mair & Laing’s study apparently did not have problems with conceptualisation and strategic planning resulting from a lack of expert knowledge. Instead, they expressed a difficulty to retain control over their visitors’ compliance in the context of the hedonic world of the festival weekend. Chapter 2b)ii) previously looked into difficulties with visitors barely separating waste and leaving their tents behind. Finally, from the three proposed catalysts of the Mair & Jago model, Mair & Laing identified ‘eco-champion’ as the only catalyst present in the interviews with festival representatives, often the founder of the festival him/herself.

With their systematic structure, the work of Mair & Jago and Mair & Laing can be considered a cornerstone in the research on what motivates and hinders festivals from becoming greener. A growing body of academic research followed the methods of Mair & Jago and Mair & Laing and conducted interviews with festival organisers in different regional as well as organisational settings and contributed to the understanding of the greening process. In the following section, this thesis aims to not

only review the studies with a similar research question and method as Mair & Laing but also contextualises research which only peripherally identifies motivational factors or obstacles. A way to access festival organisers outside of academia can also include interviews or industry meetings as well as fairs. Festival industry insider associations such as *Vision: 2025* or *AIF* moreover occasionally publish valuable quantitative findings via reports or industry surveys.

Among those studies following Mair & Laing's research strain, Brennan et al. (2019) conducted interviews with six festival organisers and carried out focus group sessions with mainly Scotland-based festival organisers. Brennan et al. confirm drivers from Mair & Laing, such as financial benefits and the importance of "ethical ethos" [sic] (Brennan et al., 2019, p. 261), reputational pressure and described regulatory compliance as a driver. The festivals in this study express their "lack of technical expertise concerning the adoption of low-carbon-energy technologies" (Brennan et al., 2019, p. 261) as well as a lack of resources and structural deficits in the form of poor public transport as main barriers, partially mirroring Mair & Jago's 'lack of resources' and 'lack of knowledge'. Apart from the interviews with the organisers, Brennan et al.'s audience survey part (which has already been mentioned in Chapter 2b)ii)) shows that a 'lack of control over patron behaviour' can be observed, although not explicitly stated by the organisers. During the exchange of the focus groups, Brennan et al. identified networks and cooperation to be a supporting catalyst. Whereas media reports are also discussed as a catalyst, Brennan et al. describe that "the majority of Scotland-based festivals [...] do not have a dedicated green champion" (Brennan et al., 2019, p. 259) as a catalyst for change.

Richardson put forward two studies with festival representative interviews, one study with eleven representatives from six UK-based festivals in 2014 (Richardson, 2018), the other including 21 semi-structured interviews with both suppliers and organisers from seven festivals. Both studies feature festivals that are not "overtly 'sustainable'" (Richardson, 2019, p. 1266). Particularly Richardson's 2018 study analyses barriers of greening with many festival representatives judging sustainable practices rather as a competitive disadvantage due to cost implications; organisers seem to shy away from taking ambitious steps as they fear "losing out to

nonsustainable competitors” (Richardson, 2018, p. 566). This indicates once again how tense the competition on the festival market can be and that some festivals apparently prefer to bet on low-cost instead of differentiation to stay competitive. Overall, respondents from the independent festivals in the study also indicate a general lack of resources as small business operations to realise festival greening. Regulatory compliance, however, seems to drive the festivals to review their environmental management. Richardson’s 2019 study points towards a lack of knowledge (in his example, environmental management standards like ISO20121) as a barrier, but mentions quasi- “philanthropic” reasons for both organisers and suppliers to go “beyond the basic legal requirements” (Richardson, 2019, p. 1269), or, in words of the model of Mair & Laing, personal ethos.

More qualitative interview data overwhelmingly comes from academic qualification works mainly in the form of master theses. Although not precisely peer-reviewed, a close and critical reading of these research projects can provide valuable insights. One example comes from Stettler’s master thesis (2011), in which the author uses a mixed-methods approach with a survey of 30 US-based festivals and qualitative interviews with five festival representatives. Stettler defines seven barriers and four success factors “associated with sustainable event management” (Stettler, 2011, p. 74). Ranked by the number of responses, the barriers include:

cost-prohibitive sustainability solutions; implementation of sustainability practices and methods; festival viability; attendee engagement; internal support, commitment & priority; infrastructure & local resources; government support. (Stettler, 2011, p. 74)

The first factor overlaps with Mair & Laing’s financial cost barrier. The second barrier, ‘implementation’, constitutes a mixture: It includes structural problems of implementation that seem to be rooted in a certain structural inertia or organisational barriers, while also including a lack of expert knowledge as well as a lack of suppliers. The third factor of ‘festival viability’ is used as an umbrella term for a problem which is also mentioned in Richardson’s 2018 study: Low-profit margins and high competition in a saturated festival market often make bare survival the highest priority. Indirectly, however, this still refers to financial costs, as any investment in sustainable festival solutions might render the festival – in the eyes of the organisers – uncompetitive. The barrier ‘attendee engagement’ mainly refers to a lack thereof, corresponding to a ‘lack

of control over patron behaviour' in Mair & Laing's model. As described in Chapter 2b)ii), even sustainability-minded visitors can be a problem with hedonic priorities diluting compliance to environmental festival practices, as one respondent in Stettler's study confirms: "Even if you have a very aware crowd, it can be hard to connect with them when everyone is in party mode" (Stettler, 2011, p. 79). Missing internal commitment and priority or even staff resistance is an interesting new barrier, while 'infrastructure & local resources' can partially be found in Brennan et al. with insufficient infrastructure in the form of public transport options on which festivals can only exert limited influence; Stettler complements Brennan et al.'s findings of poor infrastructure by describing a lack of recycling facilities or composting collection in the festivals' regions. The other part of Stettler's defined barrier, however, addresses legal problems, or as one respondent in Stettler's survey words it, "weaknesses in the legal system to implement sustainable practices" (Stettler, 2011, p. 81). That includes either too restrictive regulations (illegality of compost toilets) or a lack of regulation. Stettler's last barrier, a lack of government support, in parts ties in with regulatory issues but also lists a lack of direct government funding and communication.

For the motivational factors, Stettler similarly synthesizes survey results with interview data and defines four 'success factor' categories: including sustainability in festival goals; understanding context, relationships and networks; attendee engagement; support from top management and decision-makers (Stettler, 2011, pp. 84–90). The list indicates that Stettler did not aim to differentiate between drivers and catalysts but merges both into the category 'success factor'. While 'including sustainability in festival goals' broadly follows Mair & Laing's 'CSR policy/mission statement', the other items are more difficult to entangle in order to analyse it with regards to drivers, barriers and catalysts following Mair & Laing and Mair & Jago. Brennan et al. found that cooperation increases chances of success for festival greening, similarly to Stettler's 'relationship and networks'; however, these factors do not drive a festival to strive for greening but rather support the process. Similarly, 'attendee engagement' in the form of visitor participation and compliance bolsters the green ambitions of festivals but is likely not the root of the greening process and can be considered a catalyst. Naturally, the lines of category differentiation are blurred and not in total clear-cut. Nonetheless, this thesis aims to evaluate drivers & barriers in a

stricter sense, even though occasionally, this arguably poses a definition problem, for example, whether 'support from top management and decision makers' can be considered a driver or a catalyst. Eventually, this indicates a matter of different agency responding to the research: The top management and decision-makers will also act on certain factors driving the decision to support the festival greening, which are not always accessible for the researchers. This thesis uses this item thus reservedly as a driver in the coding process, as the research design does not enable scrutinising the top management's reasoning if those individuals are not interviewed.

In a master thesis examining the German festival market, Binder (2018) interviewed ten festival representatives and two festival-independent industry experts. Like Stettler, Binder uses two categories instead of Mair & Laing's three: success factors and barriers. Analysing Binder's detailed list with a Mair & Laing model viewpoint, Binder's success factors underpin some drivers & barriers from Mair & Laing as well as others already singled out in this thesis. Binder's interviews reveal a strong personal ethos of the festival organisers or company and show that financial benefits, regulatory compliance, and competitive/marketing advantage can be a motivator for festivals to become greener. Festival networks and cooperation are considered a formidable success factor, underlining the importance of this catalyst; other catalysts include culture and successful attendee engagement. Lack of resources (personnel & time), financial costs, lack of control over patron behaviour, restrictive regulations, and lack of internal support are analysed as barriers (Binder, 2018). Lack of internal support can refer to both personal resistance as well as internal structural and organisational problems or, following Andersson and Getz (2008), structural inertia. Binder points out that the lack of expert knowledge can be a barrier; in contrast, a systematic long-term strategy significantly contributes to the success of sustainability measures. Sound strategic planning could thus be considered a catalyst.

The literature review suggests that there can be notable differences when analysing drivers & barriers of 'green champion' festivals compared to other festivals, particularly regarding a lack of expert knowledge and the festivals choice of competitiveness through cost-efficiency or differentiation. An interesting addition to the research is thus the master thesis of Bermudez (2015), who interviewed the early

green pioneers *Hove* and *Øya*. Noteworthy results include a high readiness to share experiences with other festivals in a cooperative network, with one organiser saying that “it’s obviously not a competition, we have a common goal and it’s necessary to share the failures and successes we’ve had” (Bermudez, 2015, p. 50). Although in Bermudez’ adapted model of Mair & Jago’s original model, the driver ‘competitive advantage’ was consequently left out, the interviews suggest that both Norwegian festivals do profit from their image as green champions. Be it by attracting a highly trained workforce or being able to fulfil artists’ demand (in this example, *Björk*) with their exceptionally green reputation: Both festivals display a significant differentiator, boosting their competitive advantage. Intriguingly, despite this green reputation, Bermudez shows that *Hove* and *Øya* still struggle with the barriers of partial internal non-support, financial costs, lack of time, and lack of control over patron behaviour. Confirming results from Mair & Laing’s interviews with green champions, both Nordic festivals accentuated their desire to educate and displayed personal and organisational values as drivers.

A very technical-focused master thesis from the UK festival market (Baker, 2011) included interviews with suppliers and festival representatives concerning energy and, more specifically, generators at festivals. Baker’s data shows that financial cost is a major barrier for festival organisers to utilise renewable energy solutions such as biofuel from vegetable waste oil sources. One major festival, however, claimed that cost would not matter at all as consumer demand would guarantee to sell all tickets either way. Instead, for this festival (among others), a perceived lack of availability of sustainable energy solutions was seen as a barrier – with equipment suppliers disputing this claim, blaming organisers for chaotic planning and a “lack of understanding” (Baker, 2011, p. 46). Baker mentions that the smaller festivals in his sample tend to act on personal ethos regarding green energy solutions, while the larger festivals seem to respond to “public awareness and support” (Baker, 2011, p. 50). Even though media reports and culture are seen as catalysts in the Mair & Jago model, external pressure can therefore also be categorised as a starting point or driver to green the festival. Additionally, Baker’s results show that in the field of renewable energy utilisation at festivals, UK festival organisers feel that a lack of government regulation is a barrier, as a legally enforced standard would both level the field of

competition as well as lower the price of the hitherto rarely used green energy solutions.

In other academic works, festival organisers from the US in Glassett's study (2014) coined one barrier "the human element" (Glassett, 2014, p. 21), describing once again a lack of control over patron behaviour; a student research paper from Lisbon University interviewing the Parisian *We Love Green* festival similarly found that "attendees are indeed a problem" (Biselli et al., 2019, p. 20). In a Dutch thesis, a lack of knowledge in the form of a lack of awareness of the environmental impact emerged as a barrier (Preso, 2014): With a lack of data, it is difficult to assess which impacts have to be mitigated.

Outside of academia, journalistic interviews with festival organisers occasionally cover the topic of drivers & barriers and can slightly substantiate academic results, although journalistic interviews certainly need to be treated with caution. The example of festival interest group *Vision: 2025* interviews with member festivals shows, however, that texts from within the industry as well as events (such as fairs) can reach organisers who have not been accessible for researchers so far. *Live Nation's* Head of Sustainability in UK & Ireland, Victoria Chapman, for example, admits in a Q&A that introducing the green practice of a 'Meat Free Monday' for crew catering was met with a lot of internal resistance (Vision 2025, 2021b). Van Dooijeweerd from the Dutch *DGTL* festival, which ambitiously climbed to the ranks of green leadership in the industry and pioneered, among other measures, a thorough material flow analysis of the festival, in a Q&A confirms findings by Preso (2014): When asked about the "most significant challenge for the event industry becoming more sustainable", he answers "Lack of data for material flow and footprint analysis" (Vision 2025, 2021a). The Paris-based festival *We Love Green* representative Marie Sabot states financial costs as the severest barrier to greening (Vision 2025, 2020). Music journalism pieces can also shed light on festival organisers' motives: In a 2010 interview with the German journal *Die ZEIT*, *Roskilde's* Esben Danielsen states "philanthropic reasons" for *Roskilde* to strive for greening, but also admitted that they expected their measures to pay off in the long term (Weihser, 2010).



Academic case studies can, in some cases, single out significant drivers & barriers of singular festivals in their analyses. Assessing the strategic choice of switching the entire festival to vegetarian food supply, Andersson et al. (2013) found that besides the ecological footprint analysis, it was crucial for the *Way Out West* organisers to be the “first festival to adopt a vegetarian strategy” (Andersson, Jutbring, & Lundberg, 2013, p. 228). Whilst the strategic decision negatively affected economic turnover and the festival’s profits of the 2012 festival edition, the opportunity to “be daring, to stick out, [...] to strengthen the brand” (Andersson, Jutbring, & Lundberg, 2013, p. 228) was considered more important by the festival. This case study highlights how *Way Out West* valued the competitiveness factor of differentiation more than cost-efficiency, emphasising Mair & Laing’s driver of ‘competitive/marketing advantage’ and ‘image/reputation’ as starkly as no existing qualitative interview study could so far.

A case study of the *Woodford Folk Festival* similarly lays out that among the five objectives of the *Woodford Environmental Statement*, the festival aims for “market leadership” (Holmes & Mair, 2018, p. 589). It shows how besides excellent environmental management practices, competitiveness is integral for the environmental strategy of the pioneering festival. In another example, first-hand experience of Dodds and Graci (2012) illustrates the overwhelming staff resistance and lack of internal support with the case of the *Toronto Pride*, even though structural differences in organisational form curb the comparability to music festivals. The already mentioned case study of the 2007 *Live Earth*, on the other hand, showed that a lack of control over patron behaviour regarding the visitors’ transport options resulted in the public transport not being used as extensively as it could have been (Harvey, 2009). Additionally, despite being a concert about environmental activism, audience members littered significantly and displayed a high failure rate of waste separation, resulting in waste stream contaminations. Harvey furthermore describes a lack of time as a barrier to implementing a reusable drinking cup system, as well as scepticism among the staff and suppliers towards green practices such as vegetable waste oil utilisation for generators, which could be interpreted as a lack of internal support and a lack of sustainable suppliers. Finally, research into festivals which strive to receive an *A Greener Festival Award* by passing an external audit shows that the

reputational gain and media coverage connected with the award can motivate festivals to request an assessment (Berridge et al., 2018). The assessment itself can then act as an external pressure to drive the greening process or in the words of one environmental manager, the audit “provides a focal point for everyone” (Berridge et al., 2018, p. 25).

Although mainly written as a best practice guide, Jones’ book *Sustainable Event Management* (2018) deserves to be mentioned in this context. With years of consultancy experience with festival organisers, Jones summarises several problems festival organisers face as well as benefits to the greening process, based on her practical knowledge. Jones states that, among other factors, corporate commitments drive change, along with “regulatory climate” (M. Jones, 2018, p. 20) and external pressure in the form of “stakeholder expectations” (M. Jones, 2018, p. 20). She outlines “benefits” (M. Jones, 2018, p. 66) to greening for festivals which resemble Mair & Laing’s category of drivers: “Positioning” (M. Jones, 2018, p. 66) is paraphrasing the competitive advantage path of differentiation in the market, “public relations opportunity” (M. Jones, 2018, p. 66) links to how positioning can be achieved. The benefit of “financial savings” (M. Jones, 2018, p. 66) complements the previous points of competitive advantage. Listing factors limiting the success of greening, Jones confirms several items of Mair & Laing and Mair & Jago: structural inertia in form of a lack of willingness to change and a lack of leadership; lack of resources, including time and money; lack of ecological literacy or expert knowledge as well as lack of internal support (M. Jones, 2018). Less explicitly, Jones also indicates that a lack of control over patron behaviour can diminish green strategic planning by festival organisers, especially when it comes to travel and waste.

Apart from qualitative data, festival organiser surveys can point at drivers & barriers. O’Neill’s 2006 research already indicated that at least half of the surveyed organisers judge good environmental practices to yield a competitive advantage (O’Neill, 2006). Moreover, the survey responses mention artist demand as external pressure, financial benefits and “demand from public” (O’Neill, 2006) as drivers, which could refer to consumer demand as well as media reports or other external pressure. In research from 2009, a part of the surveyed festival organisers guesses that “their

festivals' environmental credentials" (O'Neill, 2009, p. 22) likely positively influence some potential ticket buyers. This can be interpreted as an acknowledgement of their competitive advantage through differentiation with green practices. More survey data comes from the *Powerful Thinking* interest group with their *Powerful Thinking's Industry Green Survey* (Badiali & Johnson, 2020a, 2020b; Riach, 2019): In 2019, results from 64 UK festivals indicate that the three most common barriers were financial costs, lack of time and lack of sustainable suppliers, while the most prevalent drivers were the festival's personal values and consumer demand (Badiali & Johnson, 2020a). Interestingly, *The Show Must Go On Report* points out that a key barrier of the 2015 survey, "lack of expertise" (Badiali & Johnson, 2020a, p. 112), no longer plays a major role at the festivals surveyed in this study in 2019. The report moreover implicitly refers to the hygiene factor as progressing within the festival industry: "Practices and interventions that seemed pioneering five years ago are now commonplace" (Badiali & Johnson, 2020a, p. 8)

Lastly, the forced hiatus of festivals due to the global pandemic affected the whole industry, as mentioned in Chapter 2a). This quite extraordinary situation can conceivably influence drivers & barriers of and to festival greening. Early indications originate from a special edition of the *Vision: 2025 Green Industry Survey*, which delves for impacts of the pandemic situation on the green plans of the festivals. Although most respondents claim to maintain their plans to implement environmental measures or even plan to expand, a small part of festivals says they would reduce their ambitions (Badiali & Johnson, 2020b). The main reasons for the reduction are a lack of budget and a "lack of staff resource" (Badiali & Johnson, 2020b). Interestingly, a significant part of organisers (35%) stated that sustainability has become a higher priority for them during the pandemic, even though the survey does not specify why that is the case. This spring's online edition of the *Green Events & Innovations Conference*, the GEI13 on March 2, 2021, hinted at a possible answer: Festival organisers appearing as conference speakers numerous reflected that they had substantially more time at their disposal to develop rigorous strategic sustainability projects and policies, with a representative from industry giant *AEG Presents*, Anna Golden, claiming: "I think we're further ahead than we would have been if we hadn't had time to think about it [sustainability]" (Golden et al., 2021). Chris Johnson of *Shambala* festival and co-

founder of *Powerful Thinking* analogically said that his team had “too much time to think” during the pandemic (C. Johnson, 2021). In an open online meeting organised by *A Greener Festival* two months prior to the conference in January, *Sziget’s* Dominicus, in contrast, said that some sustainability measures would have to be postponed and partially side-lined in the next edition due to budgetary reasons resulting from the difficult economic situation due to the pandemic (*A Greener Festival*, 2021). These relatively informal hints indicate that the extraordinary situation of the pandemic can both have positive influences as well as drawbacks to environmental management at festivals.

Overall, the model of drivers & barriers as well as catalysts by Mair & Jago and Mair & Laing, respectively, provides a brilliant categorisation attempt to assess why and why not festivals work on their environmental performance. Data from different types of sources throughout the years since the Mair & Laing study illustrates that the drivers, barriers, and catalysts can vary from festival to festival and over the years. Several studies have also enlarged the possible list of drivers & barriers as well as catalysts: Festival cooperation and knowledge exchange appeared as a catalyst, government regulations and legislation can play a role, and a lack of internal support can pose a problem if not the entire staff is on board and agrees with environmental practices. Green pioneers seem to display slightly different drivers, and even ambitious festivals with long successful years of green projects and innovative ideas can face ‘ordinary’ barriers such as financial costs or internal non-support. Generally, the personal convictions of the festival managers and organisers still constitute a major driver while market considerations of pioneering differentiation and responding to consumer demand complement ethical reasons for organisers. For average festivals which are not leading sustainability role models, environmental impact mitigation and costly green projects can be a matter of bare survival. Small overall margins and harsh competition can cause a reluctance to spend money on environmentalism, while the fear of boycott or lagging behind the hygiene factor standard of the industry can urge festival organisers to green their festivals, nonetheless. The hibernation due to the global pandemic could possibly change up drivers & barriers or catalysts: A difficult financial situation can make the barrier of financial costs or lack of resources even more significant, while additional time to re-examine festival processes has the

potential to decrease the importance of the barrier 'lack of time'. The Annex of this thesis includes a code-handbook (Table 2) which lists previously found drivers & barriers as well as catalysts. After this chapter reviewed several studies, which included qualitative interviews with festival organisers and other stakeholders, the next chapter will describe this thesis' methods and how I conducted my interviews.

## b) Interview Methods & Case Description

Mair & Jago's and Mair & Laing's studies, as the first systematic research into drivers & barriers at events and festivals, used qualitative interviews for their analysis. In their conclusion, Mair & Laing suggest expanding their model and adapting their study design for other geographical areas as well as suggesting to look into festivals that lack a green trendsetter function (Mair & Laing, 2012). This thesis thus largely followed the approach of qualitative interviews and thematic analysis while focussing on the European festival market and including festivals from six different national settings. This chapter aims to lay out in detail how the interviews were prepared, conducted, and analysed to ensure a high degree of transparency and therefore improve the validity of this thesis' qualitative method.

Following Mair & Laing, I used semi-structured, guideline-based interviews with festival organisers. Rather than focussing on the interviewees *as a person* in a biographic approach, the interviews were designed as expert interviews (Flick, 2017; Kruse & Schmieder, 2014), addressing procedural knowledge of festival representatives (Kruse & Schmieder, 2014). In the first thesis design draft and exposé, I planned to use purposive sampling to compare different festivals in similar national settings. This proved difficult due to the general inaccessibility of some festivals that were unwilling or did not have the time to participate in the research. The Covid-19 pandemic increased non-response additionally. Some festivals explained, for example, that parts of their team worked with reduced working hours. After several contact attempts (listed in the Annex, Table 3), the sample switched more to convenience sampling. Luckily, I eventually found six festivals that were willing to sit down for an

interview with me. Unfortunately, *Open Air St. Gallen* could only provide a written answer due to time constraints. The participant list includes festivals with green credentials, such as the German *Hurricane Festival*<sup>4</sup> (e.g. cf. M. Jones, 2018) and the Swiss *Open Air St. Gallen*, which received a *Green Operation Award* in 2020 (Green Operations Europe, 2020). The festivals included in the thesis have different organisational backgrounds: With the *Provinssi Festival*<sup>5</sup> and *Hurricane*, I interviewed two festivals from the *FKP Scorpio* festival roster, while *Barcelona Beach Festival*<sup>6</sup> and *Bergenfest* are integrated into the *Live Nation* festival family. The two remaining festivals, *Open Air St. Gallen* and *Home Festival*<sup>7</sup>, are more independent and not embedded in large international music industry corporations. Finally, the list includes three greenfield camping festivals, two more urban-based camping festivals (*Home* and *Bergenfest*), and one non-camping urban-based festival which lasts one day only, the *Barcelona Beach*. Five out of six festivals mainly include a genre-mix of Pop/Rock/HipHop; The *Barcelona Beach* focuses on electronic music genres. In total, a sample size of six is considered to be the bottom line of good scientific practice, but considered a sufficient and frequently used sample size of academic qualification works (Helfferrich, 2011; Laing & Mair, 2015).

Table 1: Festivals Included In This Thesis

Festival	First edition	Visitors	Company	Country	Camping
<b>Hurricane Festival</b>	1997	ca. 70,000	FKP Scorpio	Germany	Yes
<b>Provinssi Festival</b>	1979	ca. 32,000	Full Steam/FKP Scorpio	Finland	Yes
<b>Barcelona Beach Festival</b>	2014	ca. 70,000	Live Nation	Spain	No
<b>Bergenfest</b>	1994	ca. 12,000	Stiftelsen Bergen Music Fest / Bergenlive / Live Nation	Norway	Yes
<b>Open Air St. Gallen</b>	1977	ca. 30,000	Gadget abc Entertainment Group	Switzerland	Yes
<b>Home Festival</b>	2010	ca. 60,000	Home Festival Srl	Italy	Yes

<sup>4</sup> Hereafter simply *Hurricane*.

<sup>5</sup> Hereafter simply *Provinssi*.

<sup>6</sup> Hereafter simply *Barcelona Beach*.

<sup>7</sup> Hereafter simply *Home*.

The research design of semi-structured interviews based on an interview guideline allowed for openness of questions and topic sequence while ensuring a certain degree of comparability. Drafting of the interview guideline followed the process of “S<sup>2</sup>PS<sup>2</sup>”<sup>8</sup> (Kruse & Schmieder, 2014, p. 236): Collect questions, sort questions in thematic blocks, revise and discard questions that do not fulfil quality criteria of relevance, openness, unambiguity and comprehensibility, among others (Flick, 2017; Helfferich, 2011), and finally subsume questions. During open collection, I arrived at a total of 88 possible questions. After the S<sup>2</sup>PS<sup>2</sup> process, my interview guideline consisted of ca. 13 main questions, including a non-threatening opening stimulus question addressing the individuals’ job and position at the festival (cf. N. King & Horrocks, 2010) and an open closing question aiming at any addition or comment the interviewee would like to make (Helfferich, 2011). Additionally, the interview guideline contained possible follow-up questions and elaborative probing formulations for interviewees to continue their narration following a proposed example guideline design of Helfferich (2011). The extent of the interview guideline follows recommendations of Döring and Bortz (2016). The questions were designed to allow for openness (Helfferich, 2011), positioning broad “grand tour” questions (R. Edwards & Holland, 2013, p. 71; also cf. Helfferich, 2011) at the beginning.

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<sup>8</sup> “Sammeln, sortieren, prüfen und streichen, subsumieren”.

Table 4 in the Annex includes the final interview guideline.

Two of the six festival representatives speak German as their first language; as German is also my first language, the interview guideline and subsequently the interviews for the *Hurricane* and *Open Air St. Gallen* were designed and conducted in German. Although having two different languages in the resulting data is methodically not ideal, I chose to select the most accessible and comfortable data generation situation for each individual interviewee in order to elicit the best possible interview results. Chapter 4 will consequently include German examples to stay as closely to the interview data as possible while also providing a translation.

Prior to the interview, I expounded my data protection measures and provided the interviewees with a declaration of consent to sign to allow me to use the data. The consent form is adapted from Kruse and Schmieder (2014) and can be found in the Annex (Figure 6). It includes a brief overview of the nature of a qualitative interview and, in consultation with my first supervisor, an offer for full anonymisation. Previous studies with a similar research design are mixed whether to anonymise the interview partners. Mair & Jago (2010), Mair & Laing (2012) as well as Baker (2011) anonymise not only the representatives but also the festival; Richardson (2018), Binder (2018), Stettler (2011), Bermudez (2015) and Glassett (2014) identify the festival but do not disclose interviewees' identities. Meanwhile, Brennan et al. (2019) and Preso (2014) do not anonymise either element, and in Hazel (2018), only some individuals wished to remain anonymous. My information and consent agreement included the option to be rendered fully anonymous, which was not deemed necessary by any interview partner. Unlike other studies (e.g. Binder, 2018; Hazel, 2018), I did not plan to send out the interview guideline to the interviewees prior to the interview to avoid too performative answers. However, the representative from *Barcelona Beach* requested the questions beforehand and received them. As *Barcelona Beach* prepared answers in a separate document, my interview partner kindly provided me with written answers on top of the interview.

The global pandemic forced me to conduct all interviews as video interviews rather than in person. Remote video interviews are discussed in method literature as a viable option (e.g. R. Edwards & Holland, 2013; N. King & Horrocks, 2010). Earlier



method reviews of interviews conducted with telephone showed productive results (R. Edwards & Holland, 2013). Due to the lack of visual, non-verbal communication, both interviewees and interviewers explicated more explicitly (Holt quoted in R. Edwards & Holland, 2013). Döring and Bortz point out that telephone-based interviews are comparatively shorter, and interviewees more often try to reassure their understanding of the questions while at the same time the interviewer is perceived as friendlier (Döring & Bortz, 2016). During the global pandemic, online video communication such as *Skype*, *Zoom*, *BigBlueButton*, *Microsoft Teams* has become an essential part of the daily lives of a considerable part of society (Kominers et al., 2021; Lobe et al., 2020). Self (2021) concludes that the method of remote interviews is thus more accessible with fewer technological problems now than before the pandemic. This also means that the online interview situation partially lost a connotation of awkwardness as an extraordinary interview method prior to the pandemic, implying a more relaxed atmosphere (Self, 2021). In methodical reviews, researchers are in disagreement whether the remote interview format increases difficulties for establishing rapport between researcher and interviewee (Cater, 2011), does not make a difference (Cabaroglu et al., 2010) or whether participants are even more responsive online than in face-to-face interviews (Deakin & Wakefield, 2014; Tuttas, 2015). In one study, some respondents even indicated that they preferred online interviews over face-to-face interviews (Archibald et al., 2019). Despite possible disadvantages of online interviews like problems of connection reliability, sound quality, potentially reduced rapport-building, and privacy issues (among others), overall, research suggests that the “benefits of using Zoom for data collection significantly outweighed the challenges encountered” (Archibald et al., 2019, p. 5). Conducting the interviews online moreover allowed me for a larger geographical dispersion of festivals in my sample, as financial restraints and a lack of time would have made it difficult to travel to each individual festival location.

In this field of study, remote interviews are not entirely uncommon. Even before the pandemic, Brennan et al. (2019), as well as partially Glassett (2014), interviewed their participants via telephone. My video interview set-up reflected the attempt to establish a more organic conversation environment and a deliberate design to ensure high professionalism: The utilisation of a *Sony* full-frame DSLR camera as a webcam,

additional artificial lighting, and a professional large-diaphragm podcaster microphone from *Røde* intended to prevent the appearance of a large power and knowledge imbalance as a student compared to industry professionals. Moreover, the DSLR camera allowed for an evenly levelled viewpoint for my interview partner as well as picturing paralinguistic cues in the interview (Archibald et al., 2019; Holt, 2010; N. King & Horrocks, 2010; Lechuga, 2012; Vogl, 2013). A common weakness of remote video interviews, insufficient call quality (Archibald et al., 2019), was targeted and largely avoided with this set-up. The sketch Figure 7 in the Annex illustrates the structural set-up of technical details.

Hazel (2018) describes how the “background as an industry professional” was a “main asset in establishing empathy and gaining the trust of festival managers” (Hazel, 2018, p. 19). Mair & Laing (2012) possess a different authority in their role as professors of tourism regarding their expertise in contrast to me as a master student. Helfferich (2011) emphasises that paying attention to power structures and considering the researcher’s role and appearance is a crucial part of self-ethnography. R. Edwards and Holland (2013) also point to specific conditions when interviewing members of an elite group, such as managers. I have some experience with festival organisation as Head of Production at a local campus festival, and due to journalistic jobs, including stage photography, I gained some insight into large commercial events such as the *Hurricane*. However, I could only appear to the festival organisers as a co-expert to a limited degree. My study background of environmental sciences could, at the same time, possibly infer a critical stance towards festival sustainability measures for the festival representatives. With the professional sound and video set-up and my academic background, I attempted to find a balance of closeness and familiarity, which according to Helfferich (2011), can enable willingness to address specific topics, while enough perceived distance to me as an interviewer can help to explicate contexts otherwise assumed self-evident.

At the start of each interview, I reintroduced my approach, the interview form and the content of the information & consent form to allow the interviewee to mentally arrive at the interview (cf. Kruse & Schmieder, 2014). In the interview itself, I followed the quality features and recommendations of Kruse and Schmieder (2014) and

Helfferrich (2011). The five interviews lasted between 30-60 minutes with an average length of 47 minutes. This is similar to (Mair & Jago, 2010) or slightly shorter (Binder, 2018; Glassett, 2014; Mair & Laing, 2012; Richardson, 2018) than comparable interview studies with festival organisers. After the interview, I drafted an interview postscript following Helfferrich (2011) and Kruse and Schmieder (2014) commenting on interview atmosphere, accessibility of the interviewee, main themes and a preliminary assessment of rapport to the interviewee.

All interviews were conducted using *Zoom* and recorded with the built-in recording function or an audio card recorder software. The recorded audio was processed by the speech recognition software *f4xaudiotranskription* to generate each transcript. Thereafter, I revised the transcripts manually using the qualitative data analysis software *MaxQDA*. As the interviews were focused on procedural expert knowledge rather than biographical narration, I adapted transcription rules focusing on semantic aspects of the interview rather than linguistic specifics, constituted in a content-semantic smoothed and simplified transcription following Kuckartz (2014). This includes literal instead of phonetic transcription, approaching standard language, omitting hesitant or filling utterances, as well as corroborative backchanneling by me, i.e. the interviewer. Noises such as laughing or sighing were transcribed in brackets, disturbances with the closer description equally in brackets. I included defective, discontinued sentences with a backslash (/). Pauses were only included if at least three seconds long (=“(…)”) or longer (e.g. =“(5sec)”). In the case of unintelligibility, the passage was either marked “(unintelligible)” or the presumed content was included in brackets with a question mark. Accentuated parts were underlined.

The literature review already identified several categories of drivers & barriers, alongside catalysts. Therefore, the coding process started with deductive, constructed code categories derived from literature as described in Chapter 3. For coding, I used *MaxQDA*. With a preliminary set of codes, the first iteration of coding led to minor changes and additions in the code system. Another iteration then coded the transcripts a second time with a revised code system. The final code book can be found in the Annex (Table 2). Throughout the process, I used memos to document my understanding of the text. The subsequent analysis of the interviews followed broadly

Mayring's (2016) concept of structuring content analysis (also cf. Schreier, 2014), outside German academia also coined directed qualitative content analysis (for deductive coding, Hsieh & Shannon, 2005). The nature of the research question is aimed at thematic between-case analysis (Döring & Bortz, 2016; Schreier, 2014), addressing the categories of drivers, barriers, and catalysts. The results of this analysis will be presented in the next chapter.

Prior to the results, however, this chapter needs to address the methodical limitations of the study design. As already mentioned, the sample of six festivals is on the lower end of the sample size spectrum. This was due to non-response and time constraints of the master thesis. As other studies have mentioned (Binder, 2018; Whitfield & Dioko, 2012), the research design focusing on sustainability management can cause a non-response bias: Festivals that lag behind current industry sustainability baselines may be deterred from participating in a study assessing drivers & barriers, even though their response, particularly regarding barriers, could be quite fruitful for the research. Instead, festivals with a dedicated sustainability expert might be more willing to take part in an interview. As I have visited the *Hurricane* as the only festival of the festivals included in this thesis, my understanding of their operations could also be influenced by my own experience. Two responses have methodical weaknesses: *Barcelona Beach* received questions beforehand in contrast to the other interviews, while *Open Air St. Gallen* provided a written response only, without much opportunity to probe deeper elaboration. Moreover, handling the coding process as a singular coder impedes verification by inter-coder consensus and communicative, collegial validation (Kruse & Schmieder, 2014). Flick suggests that "peer debriefing" (Flick, 2017, p. 500), i.e. anonymised discussions with researchers outside of the project, can help resolve one's blind spots and validate working hypotheses, which I used to achieve a clearer picture of my analyses. Kuckartz animadverts singular coding as a "stopgap solution" („Notlösung“, Kuckartz, 2014, p. 83) but also acknowledges the limited resources with which qualification works such as master theses have to deal. Kruse and Schmieder (2014), on the other hand, point out that processing all procedural steps by a single person can potentially lead to a denser comprehension of the material as opposed to outsourcing/dividing the transcription and/or coding as it is realised in larger research project groups. Overall, most limiting factors were largely unavoidable

within the scope of a master thesis. However, these limitations still need to be addressed; in the light of reflexive subjectivity, assessing limitations and prepossessions can help validate qualitative research (Helfferich, 2011; Steinke, 2019).

## 4. Results & Discussion Of The Interviews

The interviews reflect and confirm many of the drivers, barriers, and catalysts that were already identified by Mair & Jago (2010) and Mair & Laing (2012) as well as by ensuing research. However, the results from the interviews suggest higher importance of catalysts for the interviewed festivals than in earlier studies. Moreover, indications from outside academia regarding the ambivalent influence of the Covid-19 related hiatus are substantiated in the interview results.

One of the most significant drivers in the Mair & Laing study, organisational/personal values, often originating from the festivals' founders, constituted an important driver in this thesis' interviews as well. Selina Becker/*Hurricane* mentions that *FKP Scorpio* founder Folkert Koopmans intrinsically cares about the environmental footprint: "Und im Kern war es damals einfach so, dass unser Geschäftsführer Folkert Koopmans das einfach persönlich wichtig findet" [At the core, our CEO personally considers it as an important issue], Emanuela Virago/*Home* similarly attributes the festival founder's initiative: "The topic came from the founder itself at the very beginning". Ville Koivisto/*Provinssi* singles out the team's value as "one of our basic values", adding, "I think that's the first (...) factor that actually pushed us forward", underscoring personal values as the foremost driver to green the festival. Ole-Morten Algerøy/*Bergenfest* additionally specifies that mitigating the impacts of the festival and consequently "doing our part to help with this big crisis that we're in the midst of" is "motivating in itself", something the festival team "wants to do" and is "proud to do", even if other advantages were to be blinded out.

In line with a general feeling of responsibility, the interviewees recognise their power to leave an imprint on their attendees' lives, expressing a desire to educate. Ville/*Provinssi* considers their "biggest impact" that the festival "can actually make a difference on people's minds", for example, if visitors "see an idea to recycle better". Selina/*Hurricane* says that a plus of their sustainability practices would be if the festival through the visitors could lead to positive change in society:

Ein Festival [...] das zugleich aber auch sich darüber bewusst ist, was es für positive Auswirkungen halt auf die Gesellschaft haben kann, wie man die Reichweite, sag ich jetzt mal,

eines Festivals nutzen kann, um Menschen langfristig zu sensibilisieren, um so halt nicht nur zu einem nachhaltigen Festival beizutragen, sondern eher zu einer, ja zu einem gesellschaftlichen Wandel. [A festival that is aware that it can have positive influence on society, and how to use its reach to increase awareness in the long term and cause societal change.] (Selina/*Hurricane*)

Nuria Barniol/*Barcelona Beach* likewise claims that the design of sustainability practices intends to “spread sustainability awareness” among the visitors. Désirée Messmer/*Open Air St. Gallen* and Emanuela/*Home* both express their wish to teach attendees how to recycle, with Désirée saying, “so können wir auch relativ leicht unserem Publikum zeigen, dass Recycling gar nicht schwer sein muss” [This way we can easily show our visitors that recycling is not necessarily tricky]. One aspect of this driver that has not been explored in previous literature is an indirect driver. Festivals like Nuria/*Barcelona Beach* and Selina/*Hurricane* emphasised the desire to educate not only with regards to societal change but also to boost compliance within the festival itself: educating visitors on how to recycle to achieve a cleaner waste stream and less cross-contamination, for example. This partially refers to other drivers: For example, financial aspects as well-separated waste is significantly cheaper in disposal costs.

Besides this philanthropic reasoning, however, most interviewees also acknowledge that image enhancement and differentiation possibilities in light of competitiveness are an important part of the strategy. Selina/*Hurricane* comments: “Es ist ein Imagefaktor, so, das muss man einfach sagen” [It is an image factor, I have to say that] and Nuria/*Barcelona Beach* recognises that as a festival, “you need to redesign your image you're running”. Désirée/*Open Air St. Gallen* mentions that the visibility of sustainability projects does indeed play a role in designing their strategy, and Ole/*Bergenfest* stresses that “it increases our standing amongst our fans”. Some respondents also state that consumer demand for greener festivals has become more discernible:

Of course, like, the audience. We noticed that they were/ this was important to them. So, we felt like (...) an energy surrounding us where people were expecting us to do something more and communicate better. (Ole/*Bergenfest*)

But of course, we can see that people care about this. So, they look forward to whether (...) no plastic may be inside the venue. Or to have something organic. (Emanuela/*Home*)

Selina/*Hurricane* observes that “junge Leute das fordern, das halt wollen” [young people demand it, want it], more in recent years than before. She mentions that the

demand and inquiries about green management practices have become more specific: “Die Fragen sind viel gezielter.” [The questions (about green practices) are much more specific]. At *Open Air St. Gallen*, visitors even ask for and propose specific projects, such as biogas production from food waste. *Selina/Hurricane* and *Ole/Bergenfest* clearly see the competitive advantage of a greener image:

Ich glaube schon, dass das irgendwann so eine Kaufentscheidung sein wird. Wenn man zwei Festivals zur Auswahl hat, glaube ich schon, dass in, keine Ahnung, fünf bis zehn Jahren Menschen eher zu dem gehen, welches halt Nachhaltigkeitsbestrebungen in welcher Hinsicht auch immer, aber halt dahingehenden ein Bewusstsein schafft als zu einem, was halt gar nichts tut. [I do believe that this will be a purchase decision someday: Choosing between two festivals, I believe that in maybe five to ten years people will rather attend the festival with sustainable management practices than the one doing nothing to increase awareness.] (*Selina/Hurricane*)

That made it clear to us that on the corporate event side, which is also a part of our business, it could be a competitive advantage as well. (*Ole/Bergenfest*)

For *Ole/Bergenfest*, the demand from the corporate customer side for company celebrations, provided by Bergen Live, seems to be more evident than from the festival visitors; however, Ole also postulates that their visitors “will be a big priority for us moving forward.”

Some of the responses indicate that festivals feel that visitors more and more simply expect certain environmental practices, suggesting a shift from a competitive edge to a hygiene factor, up to a point at which non-sustainable festivals will struggle to survive:

And we can see if anyone is not sustainable, there's no way to exist, you know. (*Nuria/Barcelona Beach Festival*)

Ich bin tatsächlich der Meinung, wenn jetzt ein Festival halt absolut gar nichts dahingehend tut, wird es irgendwann halt nicht mehr gut bestehen können. [I am actually of the opinion that if a festival does absolutely nothing in this regard, it will at some point no longer be able to exist] (*Selina/Hurricane*)

*Emanuela/Home* moreover says that their visitors have partially grown accustomed to green practices at her festival: “Our public is also used to find that kind of activity or props on site.” *Ole/Bergenfest* even expresses concerns that his festival was lagging behind industry standards: “It might be the case that we had been a bit late to this.” The interviews confirm review findings from Chapter 3 that the green frontier is continuously progressing. Although the consumer demand is described to be growing by the respondents, the lack of demand can also be a barrier: *Ville/Provinssi* assumes



that unlike green pioneers like *Way Out West* or *DGTL* for his festival, “it would be really problematic if we were to have like fully vegetarian festival, for example, like, it would be a big issue”; the lack of consumer demand for more sustainable food on-site prevents the festival from improving the environmental footprint in this subfield.

In the interview, other external pressures, from sponsors or artists, for example, were less significant: *Ole/Bergenfest* talked about pressure from a main sponsor of the festival, a bank, but also from artists or other partners:

More and more people would start to talk about this. Both, like, other colleagues of us from other festivals, artists, agents, but also our sponsors and partners. (*Ole/Bergenfest*)

*Ville/Provinssi* also occasionally observes artists demanding green riders, including green practices like reusable bottles or locally produced catering, but as of now, the pressure is still “not much, actually”. He would welcome more artists pushing for greener festivals.

Even though the role of the media in the study by Mair & Jago (2010) was considered a catalyst, and this thesis mainly follows this classification, it could partially also act as a pressuring driver. For example, *Selina/Hurricane* mentions how the issue of waste is a polarising and sometimes exaggerated matter in media reports and thereby increases pressure on the festival’s waste management system: “Und das ist halt etwas, wo ich der Meinung bin, dass der Druck auf die Festivals ganz schön hoch ist” [And that is an issue where the (media) pressure is quite high].

For the two *Live Nation* festivals, the agenda of the mother company seems to act as an internal pressure as well. For *Nuria/Barcelona Beach*, the requirements of *Live Nation* or the global division for sustainability, *Green Nation*, respectively, are a significant driver:

And little by little, we will have to implement this Green Nation task at the concert and inside the office, you know. [...] And we have a plan, an action plan. And we have to achieve some goals. (*Nuria/Barcelona Beach*)

*Ole/Bergenfest* describes how the top-down aims of the mother company motivate the festival to work on their environmental performance:

And also, to have somebody, in this case, our biggest shareholder, to expect something from us in terms of environmental sustainability. They have the Green Nation charter with specified goals, and we are also required to make action plans and to report on what we do from year to

year. Which is also a very good, like, (...) yeah, a good thing for us. Because I mean, when you report on something, of course, you want to improve from year to year. (Ole/Bergenfest)

Ville/*Provinssi* reports less centralised pressure to implement green projects, saying about their green commitment:

I know that Fullsteam really cherishes these views, of course. And I suppose that also Scorpio does [...] I think we are working quite on our own. In all senses, not only related to this sustainability. (Ville/*Provinssi*)

Mair & Laing include the driver 'CSR policy/mission statement', which could broadly apply here; however, this driver again carries the problem of relocating the agency. Whereas it is clear that the mother company's CSR policy acts as a driver for the festivals that have to adhere to *Live Nation's* sustainability charter, it is difficult to assess why the industry giant itself decided for this self-commitment. Despite thankfully receiving contact details for *Live Nation* festivals for interviews from the *Live Nation* Head of Sustainability Europe, Patricia Yagüe, I could not reach her for an interview herself which could have added depth to this particular driver.

Some aspects of festival greening appear as two sides of one coin: Financial aspects were identified as a barrier but also as a driver, legislation functions prohibitively or pushes to do more, and the audience can either help to realise green management with high compliance as a catalyst or constitute a human problem to sustainability with carelessness.

Mair & Laing's study describes festival organisers considering financial costs for sustainable solutions rather as an "irritant" (Mair & Laing, 2012, p. 694) than a significant barrier. However, the cost of festival greening was brought up in my interviews – even when the interviewee believed that sound environmental management is less costly in the long term and can even be a financial benefit. Selina/*Hurricane*, for example, believes that their green practices save money for the festival, for example, in the areas of waste and energy:

Also ich glaube schon, dass Veranstalter auch rein aus finanzieller Sicht da halt Vorteile mit sich ziehen, genauso wie Energiesparmaßnahmen oder so was. Kostet auch im ersten Moment Geld. Aber wenn man weniger Energie verbraucht, muss man auch weniger zahlen. Also ich glaube halt einfach es ist wichtig, da nicht nur auf das eine Jahr zu gucken, sondern auf die nächsten fünf bis zehn Jahre und zu gucken, was sich da auch ändert. [I do believe that organisers also have advantages from a purely financial point of view, just like energy-saving measures or something like that. It is more expensive in the first step, but if you use less energy you will have

to pay less. So I think it is important to not only consider the current year's balance, but factor in the next ten to fifteen years and monitor the change.] (Selina/*Hurricane*)

Es ist meistens nicht günstiger, irgendwie eine Recyclingstation aufzustellen. Im ersten Schritt ist es teurer, im zweiten und dritten Schritt ist es aber günstiger. [It is often not cheaper to set up a recycling system. It is more expensive in the first step, but cheaper in the second and third one.] (Selina/*Hurricane*)

Likewise, *Désirée/Open Air St. Gallen* recognises waste reduction as a financial opportunity for the festival: “Weniger Abfall für uns bedeutet weniger Kosten” [Less waste means fewer expenses for us]. *Ville/Provinssi* assumes that the cost/benefit contrast somewhat changed in recent years:

A few years ago, I think many people thought that, okay, if we decide to do this in a sustainable way, it costs a lot of money. And I think nowadays we, as festival organisers, and also the other companies and the whole society are starting to be aware that it's actually a lot cheaper in the long run. (*Ville/Provinssi*)

Nonetheless, *Selina/Hurricane* points out that the higher upfront costs are still a significant barrier:

Es ist halt auch nicht zu unterschätzen, dass man halt immer argumentieren muss, warum es jetzt gerade tatsächlich mehr kostet, langfristig aber weniger. [...] Das heißt, es ist auch eine Hürde, klar: Geld. [It should not be underestimated that you still have to debate why it is more expensive now, even though it is cheaper in the long run. [...] That means that money is definitely also an obstacle.] (Selina/*Hurricane*)

Other festivals likewise identified financial costs as deterring, with *Nuria/Barcelona Beach* stating that “the financial aspect is one of the main pressures” or *Emanuela/Home* claiming “becoming a sort of green festival involves extra costs for the production of the festival”, and *Désirée/Open Air St. Gallen* saying “nachhaltige Umsetzungen sind sehr zeitaufwendig und vor allem kostspielig” [sustainable implementations are very time-consuming and, most of all, costly]. Other lack of resources included lack of time, as, for example, *Ole/Bergenfest* reflects: “inevitably it's something that we have to spend a lot of time on.” Likewise, *Ville/Provinssi* remembers how a lack of time during preparations led to insufficient planning and lots of waste once:

And then somebody ordered it, and it was totally wrong, wrong stuff. And it was basically this fleece, kind of, material [for fence covering]. And all of that was, like, not usable after the festival (laughs). And that was only because the production was done in a very short time period, and it was, like, yeah. There were just too many things open. (*Ville/Provinssi*)

Nuria/*Barcelona Beach* Festival also points out how her time is ultimately limited, saying, “I have no time, even sometimes, to reply to emails.” In the interview, she expresses how she sometimes feels a bit alone with the task of festival greening and that due to budgetary reasons, it is “quite difficult to set up a team” helping her. Emanuela/*Home* connects these two elements regarding lack of resources, explaining that festival greening is costly “because of course, you have more staff involved in this” A lack of time therefore implicitly refers to a cost barrier, as additional personnel resolving the time bottleneck might be deemed too expensive.

Legislation or regulatory climate seems to be another double-edged category: On the one hand, several festivals strive to over-comply and stay ahead of regulatory standards, while some regulations cause problems for some pioneering projects. Désirée/*Open Air St. Gallen*, for example, states: “Wir möchten auch hier eine Vorbildrolle sein und versuchen, Projekte in Angriff zu nehmen, bevor die Politik oder die Stadt uns dies als Bedingung für das Festival stellt” [We want to be a role model and advance projects before politics or the local administration sets the condition to do so for the permit], or in other words discouraging authorities to introduce strict regulations in the future by overfulfilling sustainability goals now. Ole/*Bergenfest* too refers to expected future legislation as a motivation to work on environmental performance:

But I think we will all see more of legislation coming our way from the EU. Even though Norway is not a part of the EU, we are committed to many of the same laws. So I think we have to act quickly because the legislation will eventually catch up to us. And I think we should be, yeah, miles ahead, before that happens. (Ole/*Bergenfest*)

He also explains how his colleagues of *Live Nation's Green Nation* network are partially already further ahead due to regulations: “Some of the teams have legislation that requires them to act quicker and to do more specific stuff in accordance with legislation.” Stressing an expected increase of diesel prices due to state regulations in the future, Ville/*Provinssi* says that “there will be more legislation about it in Finland”, adding that with regards to his contractors changing their operations into a more sustainable way, “the legislation is pushing everyone to that direction.” Regulations either from the national government or local administration seem to be a driver to

green festival operations, even if the regulations are only expected in the future or feared to be implemented.

In contrast, legislation can, on the other hand, thwart green ambitions with, for instance, too restrictive regulations: Nuria/*Barcelona Beach* recalls how she unsuccessfully tried to recycle an advertising billboard for the festival because she is “not allowed as a final client to recycle in the place that you recycle”, while Selina/*Hurricane* addresses the topic of bottle refund and food waste recovery:

Das Thema Pfand oder Gesetze für die Verwendung von Lebensmitteln, das ist in Deutschland manchmal nicht ganz so leicht, dass man da irgendwie/ da ist vieles einfach aus Hygienegründen dann verboten [...]. Aber so was müssen wir beachten. Und das ist in anderen Ländern zum Teil vielleicht weicher, vielleicht auch manchmal strikter. [The refund issue or laws for usage of food is not always easy in Germany, so much is simply illegal due to hygienic reasons. But we have to comply. In other countries these issues might be less strict sometimes, other times possibly stricter.] (Selina/*Hurricane*)

At the same time, Selina/*Hurricane* calls for comprehensive and well-drafted regulations which are still missing in her opinion:

Ich finde tatsächlich, dass da mehr Gesetze halt oder Vorschriften kommen müssen, die man einhalten muss, um überhaupt eine Genehmigung bekommen zu können. [I think we need more legislation to which festivals should have to adhere in order to receive a permit.] (Selina/*Hurricane*)

Confirming findings from the literature review in Chapter 3, the regulatory climate can interfere with innovative projects because, for example, the processes of food waste recovery, recycling, or compostable toilets are not (yet) permitted. Moreover, a lack of regulations can prevent festivals from taking bold steps if competitors can simply continue non-sustainable operations. However, regulations, as well as the expectation of stricter regulations, can also act as a driver for festivals to move forward and increase festival greening.

Similar to the *Powerful Thinking's Industry Green Survey's* findings, a lack of expert knowledge was not a major barrier in the interviews. Only Nuria/*Barcelona Beach* tells me that the festival only fairly recently started working on environmental performance and thus does not have elaborate experience yet: “My festival is really new. And we don't have so much experience in some aspects”, adding that overall, the festival scene in the Nordics and UK have gathered more experience compared to the festival industry in Spain: “Nordics have more experience than us.” A barrier related to

a lack of knowledge is a lack of data which was mentioned by the festivals. *Ole/Bergenfest* describes how the festival assessed its emissions and impacts in order to get an environmental certification, which was “a challenge early on” and “a big job.” With additional data and lifecycle analysis of their drinking cups, for example, *Bergenfest* noticed that the compostable plastic cup option made of PLA was not the most sustainable way with regards to emissions. *Bergenfest* has switched to reusable and recyclable PET cups since then – the lack of necessary data previously prevented the festival from making informed decisions on their environmental management strategy.

A further barrier identified in my interviews, which is also included in the Mair & Laing study, is the availability of sustainable suppliers or supplies. This barrier includes the difficulty of changing the current suppliers’ mindsets to green their operations, finding suppliers offering sustainable solutions, and the availability of viable systems. Often, festivals work with the same suppliers for years, as, for example, *Nuria/Barcelona Beach*: “We have so many suppliers that they had been working with *Live Nation* for a long time. You know, they're kind of the big family.” If a festival decided to strive to become greener, the festival would then have to convince the suppliers to provide more sustainable services or switch to other partners. *Ville/Provinssi* claims that “it's impossible, it's ridiculously hard for us to change the way that contractors work”, with *Nuria/Barcelona Beach* correspondingly stating: “changing the mentality of some of our suppliers and some colleagues into a greener one is difficult to manage.” *Ville/Provinssi* also mentions that even though he hopes “all the people and the contractors to be in this ship with us as much as possible” and that the suppliers change with the festival’s green requirements, he would choose a tent provider with an electrical truck over a provider with traditional fossil fuel-based trucks – if there were such a company. *Selina/Hurricane*, on the other hand, postulates that sufficiently large sustainable energy solutions are not yet available:

Beim Strom gibt es schon viele innovative Konzepte, die aber halt noch nicht eine Bühne für die Foo Fighters oder so betreiben können. Aber wer weiß, vielleicht geht das ja in zwei, drei, vier Jahren. [There are many innovative concepts regarding electricity, but they cannot power a stage for the Foo Fighters or bands like that yet. But who knows, maybe it will be possible within the next two, three, four years.] (*Selina/Hurricane*)

Selina's concerns mirror festival organisers' doubts in Baker's (2011) study about renewable energy solutions for festivals. In contrast, *Ville/Provinssi* considers hydrogen generators an interesting and viable option, only this energy option is not available in proximity of his festival and bringing them to Finland from central Europe for one festival only would be neither efficient nor financially feasible.

The item of organisational barriers and structural inertia subsumes structural barriers such as insufficient infrastructure identified in Chapter 3, internal organisational barriers like non-support or unwillingness to change, as well as the element of temporality, which is embedded in the very nature of a festival organisation venture. The first element, organisational barriers, can include problems that come with remote and/or greenfield locations in which the festivals take place: *Selina/Hurricane*, for example, describes how a camping infrastructure on an agriculture field or pasture makes sustainability management for a festival considerably more difficult than non-camping festivals:

Das klingt jetzt doof, aber das Camping ist tatsächlich das, was es halt einfach schwierig macht. [...] So ein Festival auf dem Acker irgendwie ohne Infrastruktur, ohne Stromanschluss, also ohne Feststrom da. [...] Du hast Toiletten auf dem Acker. Das ist schwierig. [It sounds weird but camping makes it difficult. A field without infrastructure, without electricity or power connection. You will have [to have] toilets on the field. That's difficult.] (*Selina/Hurricane*).

In her eyes, deciding to plan a greenfield open-air festival thus inherently leads to more challenges than an urban festival. In addition, a festival's remote location can pose other problems: *Ville/Provinssi* describes how renting event equipment locally can be difficult if virtually no other large events take place in the region, saying, "we are trying to cut down these costs, but it's not up to us because there are not many big events around the area that need the kind of stuff so it would be provided locally." Furthermore, transporting the audience to the festival can be somewhat out of the festival's hands, as *Ville/Provinssi* argues. Attempts to increase train usage in cooperation with the train company are limited, as the rail's capacity is already fully stretched:

I don't know if that's our issue that much or if it's an issue that we can actually solve. But it's a problem, of course. [...] The transportation inside Finland, like, material and production and also people. That's a big thing, but that has more to do with the whole infrastructure of the country. What we can actually do festival-wise, but there are some/ like, we are trying to work with the

train company in Finland to provide festival packages, and they are already fully booked every year. (Ville/*Provinssi*)

Another organisational barrier can also consist of hesitant or absent internal support and a lack of change readiness among the rest of the staff. Even at the awarded and ambitious *Open Air St. Gallen*, Désirée mentions that the topic of sustainability causes discussions every now and then: “Das Thema sorgt immer wieder für sehr viel Gesprächsstoff und vor allem Emotionen im Team :D [sic]” [This topic causes a lot of discussions and emotions in the team from time to time (laughing smiley)]. Selina/*Hurricane* also notes discussions among the staff, for example, regarding food and diet:

Aus dem Team ansonsten, klar, da sind manchmal so Kleinigkeiten, wo man dann über Sachen diskutiert, die für andere irgendwie selbstverständlich sind. [Of course, there are small things in the team when you have to discuss something that seems self-evident for others.] (Selina/*Hurricane*)

Das sind halt einfach Themen, wo dann halt wirklich auch sehr viel Diskussionsbedarf ist, wenn man halt irgendwie die Crew vor Ort hat, die die Bühne aufbauen muss. Die irgendwie der Auffassung ist, sie braucht dafür vorher irgendwie ein halbes Schwein. [Some issues are simply subject of broad discussions, for example, when the stage crew is currently working on site, and they insist they would need half a pigling or something for that.] (Selina/*Hurricane*)

Even if everyone in the staff is in favour of the environmental practices, a barrier innate to the organisational form of a festival can be to inform all employees and temporary workers, as Ole/*Bergenfest* notes: “An additional challenge is to (exhales) (...) get new procedures under the skin of your entire team, to implement this in your organisation and get everyone on board.” The ephemerality of only a single festival weekend per year also makes it not only difficult with regards to temporary teams and hired workers but also conceptionally when it comes to environmental projects and practices at the festival itself. Selina/*Hurricane* explains how it is exceptionally challenging to trial-and-error the projects and management strategies if real-life testing can only happen once a year:

Du hast einmal im Jahr (lacht) die Chance das zu testen. Die Durchführung ist praktisch auch dein Testlauf, auch zugleich, weil du halt nur dieses eine Jahr hast. Und wenn es dann halt nicht klappt, musst du ein Jahr warten, bis du halt eine Anpassung machst. [You have only once a year to try it out. The project realisation is at the same time your trial run. And if it does not work, you will have to wait a year to adjust it.] (Selina/*Hurricane*)

The problem, understandably, only worsened during the pandemic, as Ole/*Bergenfest* points out:



We haven't had the chance to try new things, like, in the real world. We almost haven't done any events for the past year, so it's been a theoretical (...) thing. Like (laughs) thinking about stuff to do, making plans and documents and such. We haven't tried them in real life. So that's (...) been challenging. (Ole/Bergenfest)

The rather diverse driver of organisational and structural barriers can thus refer to 'built-in' problems of a company producing one remote greenfield festival per year, to infrastructure intricacies inaccessible to the festival but also to an immobility and rigidity of the festival organisation as a whole due to lacking internal support or reluctance to change.

Concluding the identified barriers and before analysing the catalysts, the already mentioned audience's behaviour needs to be addressed. The festival visitors can greatly impact how successful the sustainability strategies to green the festival are. An example from Selina/*Hurricane* about waste separation illustrates both possibilities at once:

Wir haben (...) 2015, [...] den gelben Sack als Beispiel mal versucht einzuführen, einfach um halt den Müll noch besser zu trennen. Weil auch, wenn der gelbe Sack jetzt alleine halt nicht das Beste überhaupt ist, erzielt er halt eine bessere Sortierung auch in den anderen Abfallfraktionen so gesehen, sodass man hinterher besser sortieren kann. [...] Und das hat 2015 nicht gut geklappt, weil die Gäste das einfach nicht verstanden haben, obwohl es so simpel ist. Und wir haben das Gleiche jetzt in 2019 noch mal gemacht, weil ich ja gesagt habe, so „Hey, lass es uns versuchen“. Ich glaube schon, dass die Leute mittlerweile verstehen, was es halt bedeutet, den gelben Sack zu befüllen. Und es hat wunderbar funktioniert. [We introduced the yellow bag (=recyclable waste bag) in 2015 to achieve a better waste separation. Even though the yellow bag is not the best there is, we can overall achieve a better waste separation. It did not work so well in 2015, because the visitors did not understand it, even though it is quite simple. We tried the same in 2019 again, because I said "Hey, let's try it." I believe the people are more informed on how to use the yellow bag now. And it worked splendidly.] (Selina/*Hurricane*)

This waste separation example is insightful because it is essentially the very same environmental practice aimed to be implemented by the festival, but the audience's response and consequently the success of the strategy differed. The audience compliance to this separation was not driving the festival's environmental strategy; the audience behaviour, however, was a barrier to greening in the one year while being a supportive catalyst in the second attempt. Selina/*Hurricane* additionally emphasises that sustainable projects at festivals are futile if visitors disregard them: „Wenn aber dann halt niemand mitmacht, wenn die Gäste vor Ort es halt nicht machen, dann bringt es halt auch nichts“ [If no one is taking part, if the visitors on-site do not do it, it will

avail to nothing]. Emanuela/*Home* reinforces this argument, stating that “it's not always under our control. It's our responsibility for sure. But it is not always easy to deal with people. That's one of the problems that can occur.” Similarly, Désirée/*Open Air St. Gallen* delineates how visitor compliance is a crucial element to consider when designing new sustainability measures: “Lohnt sich der ganze Aufwand, wenn sich niemand daran hält?” [Is it worth the trouble if nobody sticks to it?]. What difference festival visitor behaviour is able to make can also be seen with the example of littering from Ville/*Provinssi*. He claims that *Provinssi's* visitors are cleaner than most of the other festivals he has seen elsewhere:

As I visited a few festivals in Germany, and I think the main big, big idea at those festivals at least was the huge camping ground with a lot of kids trashing the whole place. [...] It's only a few thousand people [at *Provinssi* festival camping], but still, like, international guests we've had from, like, Scorpio, for example, they are always saying that, like, “how come this can be this tidy all the time?” Like, you can see grass. (Ville/*Provinssi*)

Comparing three different German *FKP Scorpio* festivals, Selina/*Hurricane* elucidates different festival audience behaviours: The *FKP Scorpio* boutique festival *A Summer's Tale* attracts conscious visitors and families, the *M'era Luna* caters to the dark alternative scene. Findings from Chapter 2b)ii) already showed that sustainability-minded visitors preferably go to greener festivals, which is an advantage for *A Summer's Tale*, as Selina explains:

Also auf dem Summer's Tale kannst du barfuß langlaufen. Und da spielen Kinder auf dem Boden. Und es ist superschön. Aber das brauchst du nicht regulieren, das funktioniert, weil halt diese eine Zielgruppe angesprochen wird. Es werden halt Familien und bewusste Menschen in irgendeiner Form angesprochen. Wenn es eine andere Zielgruppe wär, wär es vielleicht auch gar nicht so viel nachhaltiger. [At the *Summer's Tale* festival, you can walk barefoot, children play on the ground. It is beautiful. But you do not need to regulate it, it works because this specific target audience is addressed, families and conscious people. If it was a different group of visitors, the festival would possibly not be any greener.] (Selina/*Hurricane*)

At the *M'era Luna*, on the other hand, the target audience intensively identifies with the festival as their ‘holy ground’, resulting in a higher degree of cleanliness:

[Das sind Besucher\*innen,] denen auch deren eines Festival heilig ist. [...] Das würden sie auch niemals kaputt machen wollen. Das ist eine sehr starke Verbundenheit. [Those are visitors who consider their festival sacred. They would never mess it up. It is a strong bond.] (Selina/*Hurricane*)

Within the *FKP Scorpio* cosmos, similar sustainability management strategies thus encounter wildly different audiences which, in a limited scope, determine how green

the festival can be: A hedonic audience in party mode disregarding environmental practices at the festival can severely undermine the festival's endeavours of becoming greener, but a dedicated audience celebrating responsibly can significantly help to achieve the festival's ambitions to be green.

The Mair & Jago model (2010), as well as the study by Mair & Laing (2012), identify a dedicated eco-champion as a catalyst. In my interviews, however, this did not appear as a relevant factor. It might be the case that the interviewees were already the eco-champions among the festival staff, and therefore their catalysing function was not touched upon. Contrasting the findings by Mair & Laing, the catalysts 'culture' and 'media' from the Mair & Jago model played a role in my interviews. *Ville/Provinssi* and *Selina/Hurricane* talked about how media reports influenced the festivals' decisions. *Ville/Provinssi* perceived "a lot of media about these issues" during the last two years, *Selina/Hurricane* mainly refers to negative media reports up to a point where media coverage could possibly be classified more as a problem (i.e. barrier) than a catalyst:

Und da find ich es manchmal ein bisschen schade, dass halt irgendjemand bei der BILD Zeitung halt ein Foto geknipst hat, von einem gesammelten Müllberg (lacht). Und dann sagt 'So sieht es auf einem Festival aus.' Und ich denke mir nur so: 'Nein, tatsächlich sieht es so wirklich nicht aus.' [It saddens me to see how someone from the BILD tabloid shoots a photo of a pile of collected garbage and claims 'This is what a festival looks like.' I just think then 'No, it does not actually look like that.'](Selina/Hurricane)

Most festival representatives talk somewhat diffusely about a changing culture helping to promote change:

The sustainability is something that they now came up in society, and now it is kind of a trend. (Nuria/Barcelona Beach)

And now I think the discussion these few years has been developing to the way that everybody, I think, knows now that we need to think about these things. (Ville/Provinssi)

Mittlerweile ist es so, dass die Gesellschaft immer mehr Wert auf Nachhaltigkeit legt, ganz allgemein. [Nowadays, society is placing more and more emphasis on sustainability, in general.] (Selina/Hurricane)

Die Awareness in diesem Thema ist sehr gestiegen, das hat jeder mitbekommen. [The awareness of this topic has increased, everyone has noticed that.] (Désirée/Open Air St. Gallen)

The interviews could indicate that the thematisation in the leading media might decrease in significance compared to earlier studies which identified issue salience in the media as an important factor (Bansal & Roth, 2000). Instead, media

decentralisation and a rising importance of social media trends could increase the importance of the catalyst 'culture' instead of 'media'; culturally influential movements such as *Fridays for Future* might be more significant than traditional media outlets. Therefore, assessing the importance of social media and cultural movements for festival greening could be a fruitful field for future research. Moreover, Selina/*Hurricane* also mentions research: According to her perception, the last few years additionally saw an increase in academic interest in the festival, with more inquiries such as mine for interviews and information.

Research following Mair & Laing/Mair & Jago, as shown in Chapter 3, identifies cooperation and networks as a considerable success factor. Findings from my interviews confirm this and suggest that this can, in fact, be one of the most significant catalysts – both company internal networks such as *Green Nation* as well as outreach to other festivals or interest groups such as *Yourope* and their *Green Operations* working group play a significant role. For example, Nuria/*Barcelona Beach* says that in the *Green Nation* working group, "everybody is working on their own festival, but we share, we help, you know." Ole/*Bergenfest* equally lauds the network:

We have gained access to tonnes of resources and a major network with lots of, like, know-how. So just like being part of this group, the *Green Nation* group, and working with festivals across Europe that have got many of the same challenges as us. I mean, our challenges are not unique. And learning about different solutions and working together with them on finding the best solutions for the future. I think that's the biggest thing. (Ole/*Bergenfest*)

Désirée/*Open Air St. Gallen* and Emanuela/*Home* both told me about the advantages of discussing sustainability ideas in the *Yourope Green Operations* working group. Interestingly, most of my interviewees also said that cooperation would include reaching out to competitors to share technical solutions, headliners, concepts, among other things:

I think Finish festival industry is quite close. And because it's a small country, it's a small business. And I think if we want to do something new, like, for example, if I can get those hydrogen generators from Europe. It makes no sense to come to *Provinssi*, but it would maybe make sense to come to three, four festivals. And we are in really close talks with production managers here. In basically all big festivals that I know, [it is the case] that if somebody of us would get a connection that, okay, we have an option to try these, like, they could call us right away. And then we could cooperate with that. So that's really a good thing, I think. (Ville/*Provinssi*)

We are, for next summer, for example, we are sharing headliners like Korn, Deftones. And they are travelling to Finland having two shows, and that's a big impact. But then again, competition-wise, it might be a bit harder. (*Ville/Provinssi*)

Ich bin der Meinung, dass sich Veranstalter zusammenschließen sollten. Und gemeinsam Nachhaltigkeitskonzepte vielleicht übergeordnet, so wie ein Sicherheitskonzept vielleicht, planen sollten. [I think festival organisers should work together and design sustainability concepts together, similar to how security concepts are drafted.] (*Selina/Hurricane*)

Aus diesem Grund [Kooperationen zwischen Festivals] bin ich auch sehr gerne für dieses Thema zuständig, es gibt hier nämlich kein „Wer ist besser bei der Maßnahmenumsetzung“ sondern „Wie kann ich das ebenfalls machen“? [For this reason (cooperation between festivals) I enjoy being responsible for this topic, because there is no 'who is better in project implementation' but 'how can I do that as well?'] (*Désirée/Open Air St. Gallen*)

Ich bin auch immer wieder mit Roskilde in Dänemark in Kontakt. Die machen wunderbare und innovative Sachen! [I'm also often in contact with Roskilde in Denmark. They realise such wonderful and innovative things!] (*Désirée/Open Air St. Gallen*)

Even though my interviews showed that a major driver besides personal conviction is also image enhancement and thus increased competitiveness, successful cooperation somewhat trumps a principle of all-out competition. Related results from the interviews also show that the respondents are influenced by pioneering festivals and inspired by successful projects elsewhere. *Ole/Bergenfest*, for example, says that he feels “very inspired by many of my international colleagues and the other festivals”, and *Emanuela/Home* states:

Part of our job is to go to other festivals. And scout what they do and take all we can from their experiences. And if they do a better job than us, we can just improve. [...] It is interesting to have some inspiration from others and to try to do it at your festival. (*Emanuela/Home*)

This attitude also seems to work vice versa: Respondents claimed not to feel attacked or annoyed in case a green project is adapted somewhere else, with *Désirée/Open Air St. Gallen*, on the contrary, explaining *Open Air St. Gallen* would be willing to help and consult others to follow in their footsteps:

Wir möchten als Vorbild vorangehen, und andere Festivals dazu ermutigen, ebenfalls so viel wie möglich umsetzen zu können und stehen auch immer wieder gerne für Beratungen in Sachen Nachhaltigkeit zur Verfügung. [We would like to go forward as a role model, encourage other festivals to realise as much as possible. We also gladly help others in the matter of sustainability.] (*Désirée/Open Air St. Gallen*)

My results thus suggest that successful green leaders can inspire others in an upward spiral of ambition, especially if green concepts have proven to work successfully.

Two catalysts have appeared which previously were not described in the literature about drivers, barriers, and catalysts. On the one hand, the two *Live Nation* festivals, particularly *Barcelona Beach*, emphasised how critically important performance data and good monitoring systems are. Nuria/*Barcelona Beach* seems to be very data-driven throughout the interview, saying: “I’m certain new software to collect data, to control this data, that’s something that’s going to be so expensive. But they [applications/data] can really help me.” Developing a viable long-term strategy from the data can be an additional, derived catalyst that can be found in previous literature. Nuria/*Barcelona Beach* accentuates the *Green Nation* sanctioned action plan, explaining, “we have the main action plan to achieve the zero-waste-to-landfill in ten years. But these actions are divided into actions and into years. And that is why we designed the main action plan.” This confirms earlier research findings as shown in Chapter 3 regarding the supporting role of strategic planning.

On the other hand, all festivals talked about the importance of communication. Environmental communication of festivals has been studied before (e.g., Bermudez, 2015; Hunger, 2013); my respondents, however, described good communication strategies as an important success factor, supporting their environmental policies:

And for sure, treating it [the festival area, a park] in the right way is a communication tool for us. [...] I think it’s a matter of how you communicate your project because you can do many projects, but if it’s communicated just between me and you, it doesn’t get big exposure. (Emanuela/*Home*)

I think years before, we haven’t really thought that we should talk about it that much that now it’s actually a good thing and business-wise also a good thing to say it out loud. (Ville/*Provinssi*)

And we are spending a lot of resources now on, parallel to that [three-year strategy for environmental sustainability], making a good communication strategy, directly to our fans. So, we’re working with an illustrator and working with text, and we’re working with our webpage developers to present our challenges and measures in an interesting way and in a fun way so that our fans can more easily come on board. This is something that we haven’t done before. But we feel it’s increasingly important to communicate what we do. (Ole/*Bergenfest*)

The *Hurricane* is a bit more reserved when it comes to communicating sustainability projects and the festival’s progress: Selina/*Hurricane* explains how the company’s policy is ‘act now, talk about it later’ to prevent accusations of greenwashing:

Wir haben aber immer gesagt, dass das Handeln vor’m Kommunizieren kommt. Das ist einfach so. Weil alles andere geht in Richtung Greenwashing. [...] Deswegen kam in der Vergangenheit die Kommunikation meistens an zweiter Stelle. [We have always maintained that action has to

precede communication, simple as that. Because everything else tends to be greenwashing. Thus, our communication often came second in the past.] (Selina/*Hurricane*)

Nevertheless, *Selina/Hurricane* also admits that communication has gained significance in recent years, and the festival increasingly tries to communicate simultaneously: “Mittlerweile versuchen wir bei manchen Projekten das zeitgleich hinzukriegen [By now, we try to work it out (communication & the project) at the same time] (Selina/*Hurricane*). The interview responses thus suggest that communication is not solely a passive way to report on environmental performance and sustainability practices but acts as a supporting tool for the overall greening of the festival, especially in most recent years.

Lastly, Covid-19 particular factors should be addressed. The most important outcome from the pandemic pause overwhelmingly seems to be a surplus of time. For *Nuria/Barcelona Beach*, the time which became available was a fundamental game-changer:

The pandemic has given us time to create and apply a sustainability action plan as well as adopt a new mindset. (Nuria/*Barcelona Beach*)

I have no time, even sometimes, to reply to emails. And, but now, it's like 'Oh, Bonito', you know? It gives some time to design the new mindset and to take awareness. (Nuria/*Barcelona Beach*)

Similarly, *Ole/Bergenfest* appreciates the extra time to take a step back and strategically reflect on their own operations:

First of all, I think that the pandemic has given the industry a chance to work on projects such as becoming greener. I mean, I have had more time during this past year, and so have my colleagues in the Green Nation network. To work on new measures and be strategic about the way forward. So it's been like/ We've had a chance to take a breather and touch base and work on finding a new way forward. (Ole/*Bergenfest*)

*Ole/Bergenfest* also assumes that the hiatus gives visitors more time to become environmentally conscious, consequently demanding greener festivals: “I think people are using this time to, like, really get aware.” At the same time, he says that his festival’s green ambitions grew in the meantime, up to a point at which *Ole/Bergenfest* is striving to show how the festival used the pause to level up their environmental performance:

But when we all get back in twothousandtwentytwo, I think everybody will feel pressure to show that we are in better shape than ever before. We all want to be in good shape, and yeah. Show that both our fans but also our other stakeholders, that not only are we back, but we're back, like, greener and safer than ever before. (Ole/*Bergenfest*)

In other words, the pandemic pause made this festival more ambitious.

On the other hand, when considering other ramifications of the cancellations, *Ole/Bergenfest* spitballs that there might be such a surge of visitor demand to finally visit festivals again. He expects fans to be so “super hungry and eager to visit festivals and events” (*Ole/Bergenfest*) that environmental commitments of festivals become less significant for ‘famished’ festival visitors, discouraging festivals to take decisive action. Two other significant impacts from the pandemic acting as barriers include a change in priority and grown partnerships falling apart due to suppliers not being able to survive the halt of operations. A change of priorities mostly means that the topics of safety and hygiene superimpose sustainability issues. *Ole/Bergenfest* points out the challenges with hygiene requirements:

There are, like, however, some more specific challenges. In terms of, like, (...) hygiene. That's been discussed for the last couple of months, for instance, with drinking cups. Some festivals are using washable, reusable drinking cups, and they have systems for that. That might or might not comply with the stricter hygiene rules followed by the pandemic. Another thing is, like, that the pandemic has caused us to/ Like, single-use materials have become a big thing again. Because it's more hygienic than the alternative. (*Ole/Bergenfest*)

*Emanuela/Home* states that the “greener part has been put to the side for now” to focus on safety regulations:

It is, of course, not our main focus because, of course, we have been without a job for fifteen months. So, our aim now is really to study what all the new safety rules are and to get people again to stay together. We need to reschedule everything, and as I said, working on the Covid-nineteen problematic before getting our head into this matter. (*Emanuela/Home*)

She also claims, however, that this does not mean further sustainability efforts are suspended indefinitely – only that “this matter” is less prioritised than safety and hygiene strategies.

For *Nuria/Barcelona Beach*, her suppliers’ business failures are a problem arising from the pandemic. “Unfortunately, most of our suppliers have been severely impacted by the pandemic, and some have disappeared for good”, even though *Live Nation* tried to help selected long-term partners:

We donate some part of our benefits to these small suppliers, even freelance people. You know? Some, like, they used to work, and they were freelance, not working for another company, and they are suffering a lot. (*Nuria/Barcelona Beach*)



Besides suppliers and business partners, *Selina/Hurricane* views NGO partners at risk, for example, *Viva con Agua* or *Hanseatic Help* who partially or primarily based their charity model on festival events:

Momentan hoffen wir natürlich, dass alles einfach so ist wie vorher. Aber das weiß man halt nicht. Das kann halt natürlich immer sein, dass halt irgendein Projekt es halt nicht schafft, irgendwie ein oder zwei Jahre lang stillzustehen oder sowas. [In the moment we hope that everything is as before when we come back. But you never know. Of course, there is also the possibility that a project does not make it through one or two years of standstill.] (*Selina/Hurricane*)

Overall, the interviews do not show this problem of financial hardship for the festivals themselves; *Selina/Hurricane* negates that the sustainability management's budget was cut due to the pandemic, although highly volatile new projects would probably have a lesser chance to be realised in the next edition:

Also es ist nicht so, dass jetzt irgendwelche Projekte gekürzt wurden. [...] Ich kann es aber auch verstehen, wenn man jetzt gerade sagt, dass wir jetzt irgendwie nicht die krassesten Sachen machen. [It is not the case that any projects were cut. But I can also understand if we now say that we will not do anything phat and extreme going forward] (*Selina/Hurricane*)

All in all, according to the interview responses, the effects of the pandemic seem to act as modifiers for many of the already existing drivers & barriers: The barrier 'lack of time' is counteracted and personal conviction and ambition to be greener might grow during the pandemic. A lack of sustainable suppliers/supplies could intensify with partners going out of business, and consumer demand for sustainable festivals is assumed to change: Either visitors will expect more now due to growing awareness and an abundance of time to get informed – or the desire to finally rompishly celebrate will suppress considerations of sustainability as a purchase criterion. Despite undoubtedly being a tragic global state of exception, crushing numerous economic existences within the live music industry, the pandemic could also constitute a trigger for drafting considerate long-term strategies of change for festivals that manage to survive the halt of operations.

## 5. Conclusion

This thesis utilised the Mair & Jago model and the adapted approach in the context of festivals by Mair & Laing to identify why a festival does or does not engage in the process of greening, or, in other words, strives towards becoming more environmentally sustainable. Using a comprehensive literature review, this thesis exhibited how previous research assessed festival organisers' motivational drivers, impeding barriers, and supporting catalysts for festival greening. Hereafter, this thesis enriched and validated the identified list via qualitative interviews with festival organisers and additionally exploratively assessed the influence of the new pandemic situation on drivers/barriers/catalysts.

For thorough contextualisation, an initial literature review examined the phenomenon of open-air music festivals to trace the discursive roots of counterculture festivals as well as a rather hedonic nature of festival celebrations. Furthermore, it showed that the stark growth of the festival industry is connected to increasing commercialisation and vigorous competition in the festival market. Reviewing best practice guides and impact assessments, this thesis showed that festivals cause significant environmental impacts. However, the public image of ravaged wastelands after festivals is only partially true: Festivals are embedded in a culture of producing waste and impacts, while the festivals themselves can be a space of cultural and societal change – and possibly even use fewer resources than the average audience member would use in everyday life. Of course, this does not negate the impacts a festival undoubtedly exerts. A brief review of festivals' impact mitigation strategies, therefore, showed options to combat this issue. Many environmental management strategies address the festivals' audiences, as the individual visitors naturally play an important part. Reviewing visitor survey studies showed an (increasing) tendency of visitors wishing for green festivals, even though more detailed results are difficult to pinpoint due to varying data. Future research deploying a full meta-analysis with available survey data could yield valuable results, a diachronic study design could also trace developments over the years.

Prior to the qualitative interviews as the core of this thesis, the conceptual model of drivers, barriers, and catalysts of festival greening was elaborated on, and results of preceding research were distilled to get a complete picture of the status quo. After propounding this thesis' methodical approach for the interviews, the results from the conversations with festival representatives confirmed many of the previously identified elements of the model review. Overall, barriers and stumbling stones on the way to festival greening were multi-dimensional, while the drivers were less diverse: In line with Mair & Laing (2012), altruistic considerations and festival representatives' ethos and the related driver of desiring to educate the audience were important aspects for the included festivals. A further significant motivational factor for festivals to engage in sustainability is different aspects of competitive advantage, including differentiation through marketing and positioning opportunities, as well as financial benefits. Less significant factors included external and company-internal pressure, but also state regulations or even the expectance of coming regulations.

Identified barriers to greening included a lack of resources, including a lack of time and personnel as well as financial cost; the difficulty to control how sustainably the visitors behave at the festival and on the way to the festival; restrictive regulations or not enough regulation; structural problems ranging from insufficient infrastructure to internal, inherent organisational barriers and inertia, such as internal non-support and the temporary nature of a festival; a lack of data and a lack of expertise; and a lack of sustainable suppliers or supplies.

The findings further illustrate the growing perceived need for festival greening to survive in the highly competitive festival market. Festival sustainability is increasingly becoming a hygiene factor and a condition to stay competitive. Additionally, the 'sustainability frontier' is progressively moving forward, with pioneering festivals acting as highly influential lighthouses in the festival industry, which push others to be greener. The interview results suggest that successful sustainability projects are widely observed in the festival industry and encourage adaption to green one's own operations, following established project blueprints.

My interview results deviate slightly from previous literature in how significant the catalysts are for festivals to achieve sustainability targets: The role of festival

networks and cooperation, a good communication strategy, long-term strategic planning instead of 'short-terminism' (term adapted from Musgrave & Raj, 2009) and proper monitoring systems are profoundly essential for the festival organisers. Transboundary cooperation and insight-sharing within a festival network seem to be deeply significant and trump rivalry to a certain extent, even in the face of a highly competitive festival market. Additionally, vague perception of societal change rather than a specific issue salience in traditional media seems to accelerate the festivals' plans for greening. Finally, the synergy of sustainability-compliant visitors was rather described as a supporting factor in the form of a catalyst in my interviews instead of a separate driver as identified in previous literature. These findings could indicate that more festivals than ever before are already on the road to greening, which means that the question of 'why' becomes less significant – the decision to strive for a more sustainable festival has largely already been made. Now, the 'how do we get there' and the obstacles preventing the change are more in focus. Therefore, future research could examine the nature and importance of catalysts more closely to add depth to the body of research. Moreover, research into music industry interest groups and activists such as *Music Declares Emergency* in the wake of social movements like *Extinction Rebellion* and *Fridays for Future* could assess the significance of cooperation, information sharing and common solutions.

The consequences of the global pandemic and resulting forced hiatus are an interesting new area for the research on drivers & barriers: The interview results suggest that the effects of the pandemic mainly modify existing items. Overall, the impacts of the pandemic were surprisingly ambivalent instead of predominantly devastating: The halt of operations resulted in an abundance of time that could be used to thoroughly review the festival strategy from scratch and significantly improve the planning process. At the same time, the pandemic shifted priorities and limited available resources. Moreover, the lack of sustainable suppliers and strategic partnerships increased, as many partners and suppliers did not manage to survive the extended cessation of business operations. With festivals slowly coming back, future research could assess how the pandemic changed the festival organisers' perspective on sustainability in retrospect, as the interviews for this thesis took place from March

to May 2021, when festivals on a near-global scale were still in pandemic-related hibernation.

As a pressing global issue, sustainability is a remarkably dynamic field, not only within the festival industry. Consequently, my results are limited in their currency and explanatory power and might be slightly outdated soon. In 2019, *Coldplay* announced that they would not tour unless their concert tour were environmentally friendly, but only a few days before this thesis' deadline, a *Coldplay* world tour with a comprehensive and impressive sustainability concept was published (Coldplay, 2021; IQ, 2021a). While this thesis traced how *Way Out West's* concept to go meat-free was conceptionally innovative in 2012, the Danish *Northside Festival* just announced to only cater 100% organic and vegan food during their 2022 edition (IQ, 2021b). Research on sustainability efforts of festivals constituted a niche field of research for a considerable time in the past. Now, a rapidly growing body of research can increasingly help to understand the reorganisation towards more sustainability in the festival world.

## Annex

Table 2: Code Book

List of Codes	Code previously used in:	Coding example	Code-Frequency
Code System			588
Drivers			0
Organisational/personal values	Bansal & Roth 2000, Mair & Jago 2010, Mair & Laing 2012, Weihser 2010, Okolo-Kulak 2015, Hazel 2018, Binder 2018, Preso 2014, van Berkel 2014, Berridge et al. 2018, Brennan et al. 2019	It really comes from the values of all of the organisers. It's really about the people who are doing this and I think that's the first (...) factor that actually pushed us forward. ( <i>Provinssi</i> )	15
Top-level support	Stettler 2011	Und alleine das ist finde ich eine Tatsache, die zeigt, dass es dem Management auch wichtig ist, bei der Geschäftsführung bei uns. ( <i>Hurricane</i> )	3
Internal commitment from staff	Riach 2019, Badiali & Johnson 2020, Stettler 2011	Because on the other side, we have always been working with a team willing to work in this direction. ( <i>Home</i> )	5
Mother company standards	Mair & Laing 2012 (mission statement/CSR Policy) Jones 2018 (Corporate Commitment)	They have the Green Nation charter with specified goals and we are also required to make action plans and to report on what we do from year to year. ( <i>Bergenfest</i> )	10
Financial benefits	Mair & Laing 2012, Jones 2018, Benton & Radziwill 2018, Wong et al. 2015, Brennan et al. 2019	Also ich glaube schon, dass Veranstalter auch rein aus finanzieller Sicht da halt Vorteile mit sich ziehen, genauso wie Energiesparmaßnahmen oder so was. ( <i>Hurricane</i> )	8

Desire to educate/advocate	Mair & Laing 2012, Binder 2018, van Berkel 2014, Bermudez 2015	We can actually make a difference on people's minds. We have a lot of followers, we have a lot of attendees and that's our biggest impact. To actually share these thoughts. And then if people who come to visit our festival and they see an idea to recycle better, then that's the biggest thing we can do. ( <i>Provinsi</i> )	13
Visitor education for compliance at festival		if we can achieve this goal to share this reusable cup, we are working on the same time to re-educate the audience, like, 'please, leave the cup at the venue'. Don't take yours home, because I want to be sustainable, you know? ( <i>Barcelona Beach</i> )	9
Increased competitiveness/competitive advantage	Mair & Laing 2012, Bottril, Lye et al. 2008, McKinley 2018, Bansal & Roth 2000, Jones 2018, O'Neill 2006, O'Neill 2009, Harvey 2009, Whitfield & Dioko 2012, Alzghoul 2017, Bansal & Roth [about companies], Wong et al. 2015, Dodds & Graci 2012, Holmes & Mair 2018 [market leadership], Laing & Frost 2010 [crucial for competitive bidding], Preso 2014, Viviers 2017	We think it's strategically good for us to be in this kind of activity. ( <i>Home</i> )	5
Image/reputation	Mair & Laing 2012, Jones 2018 (Positioning, public relation opportunity), Jones 2019, Harvey 2009 (reputational gains), Alzghoul 2017, Andersson et al. 2013, Binder 2018, Brennan et al. 2019, Tinnish & Mangal 2012	Es ist ein Imagefaktor, so, das muss man einfach sagen. ( <i>Hurricane</i> )	10

Consumer demand	Mair & Laing 2012, Bottril, Lye et al. 2008, O'Neill 2009, Raj & Musgrave 2009, Hazel 2018, Binder 2018, van Berkel 2014	I'm not sure if it's a pressure but it's a good thing that is developing in a way that people are asking for us to actually make this kind of work. ( <i>Provinssi</i> )	15
Hygiene factor	Mair & Jago 2010, Jones 2018 (Consumer expect more), Hazel 2018 (Staying competitive), Badiali & Johnson 2020 (increasingly expected), Binder 2018 (becoming normal), van Berkel 2014	And we can see if anyone is not sustainable, there's no way to exist, you know. ( <i>Barcelona Beach</i> )	9
Damage avoidance	McKinley 2018, Brennan et al. 2019 (Reputational Risk)	It's enlisted as a site of historic value and we have to be very careful not to make any damage to that venue in any way. ( <i>Bergenfest</i> )	2
Certifications		it could be a competitive advantage as well. To be certified within some kind of (...) environmental certification. ( <i>Bergenfest</i> )	2
Attracting highly-trained workforce	Bottril, Lye et al. 2008, McKinley 2018, Jones 2018, Bansal & Roth 2000 (about companies), Bermudez 2015		0
State regulations	Bansal & Roth 2000, Jones 2018, O'Neill 2006, Dodds 2018, Brennan et al. 2019	So I think we have to act quickly because the legislation will eventually catch up to us. And I think we should be, yeah, miles ahead, before that happens. ( <i>Bergenfest</i> )	7
Other external pressure	Jones 2018 (stakeholder pressure)	More and more people would start to talk about this. Both, like, other colleagues of us from other festivals, artists, agents, but also our sponsors and partners and (...) of course, like, the audience ( <i>Bergenfest</i> )	4
Sponsors		And they're a big bank and they were like 'we want all of our suppliers to have a certification and document what they do on sustainability'. ( <i>Bergenfest</i> )	4



Artists	Van Berkel 2014, Bermudez 2015	and artists as well. I mean, it's a competitive booking market. And this is an important thing to many, many tours as well, to know that they're visiting a festival that is conscious about the environment. ( <i>Bergenfest</i> )	3
Covid-19 particularities		Viel was ich [während der Pandemie] gemacht hab beruht tatsächlich eher darauf, ob andere uns unterstützen. So, also. Zugucken. Wie kriegt man es hin, dass Aufmerksamkeit darauf gelenkt wird, dass Hanseatic Help/ Also so ein Verein in Hamburg, der sich um Menschen ohne Zuhause kümmert, so ungefähr. Trotzdem, weil die haben vor Ort immer sonst einen Stand. Nehmen Zelte, Schlafsäcke, etcetera entgegen. Wie kriegt man es hin, dass das trotzdem halt passiert? Dass man da halt irgendwie eine Aktion macht. ( <i>Hurricane</i> )	4
Higher ambition after the pandemic	Badiali & Johnson 2020	But when we all get back in twothousandtwentytwo, I think everybody will feel pressure to show that we are in better shape than ever before. ( <i>Bergenfest</i> )	3
More time to plan		First of all, I think that the pandemic has given the industry a chance to work on projects such as becoming greener. I mean I have had more time during this past year and so had my colleagues in the Green Nation network. ( <i>Bergenfest</i> )	7
Barriers			0
Lack of resources	Dodds 2018, Brennan et al. 2019	I would like to have more resources. ( <i>Barcelona Beach</i> )	1
Financial costs	Mair & Jago 2010, Mair & Laing 2012, Jones 2018, Riach 2019, O'Neill 2006, Badiali & Johnson 2020, Harvey 2009, Fleming et al. 2014, Baker 2011, Dodds & Graci 2012, Hazel 2018, Binder	Nachhaltige Umsetzungen sind sehr zeitaufwendig und vor allem kostspielig. ( <i>Open Air St. Gallen</i> )	16

	2018, van Berkel 2014, Stettler 2011, Richardson 2018		
Price pressure/competition		We are, for next summer, for example, we are sharing headliners like Korn, Deftones. And they are travelling to Finland having two shows and that's a big impact. But then again, it makes the competition-wise, it might be a bit harder. That the same bands are at the same Festivals. ( <i>Provinssi</i> )	2
Lack of time	Mair & Laing 2012, Jones 2018, Riach 2019, Badiali & Johnson 2020, Binder 2018, Preso 2014	Disadvantages (...) is trickier to answer, of course. One of the most obvious is that (...) inevitably it's something that we have to spend a lot of time on. ( <i>Bergenfest</i> )	6
Lack of control over patron behaviour	Mair & Laing 2012, Challis in Fisher (Guardian); Jones 2018, Harvey 2009, Glassett 2014, Hazle 2018, Binder 2018, van Berkel 2014, Stettler 2011, Biselli et al. 2019, Bermudez 2015	Wenn aber dann halt niemand mitmacht, wenn die Gäste vor Ort es halt nicht machen, dann bringt es halt auch nichts. ( <i>Hurricane</i> )	13
Fear of 'Green Fatigue'/deterrent factor for audience	Raj & Musgrave 2009, Binder 2018		0
Lack of customer demand	Mair & Jago 2010, Tzschentke et al. 2008 (in Tourism), Hazel 2018	I think a few years [ago], nobody talked about these issues like twenty eighteen, even. ( <i>Provinssi</i> )	7
Lack of availability of sustainable suppliers/supplies	Mair & Laing 2012, Baker 2011, Badiali & Johnson 2020, Riach 2019, van Berkel 2014, Richardson 2019	Many providers see sustainability as an additional cost and new processes that they cannot afford, and some of them don't understand the importance of sustainability. ( <i>Barcelona Beach</i> )	6
State regulations			0

Lack of regulation	Baker 2011, Dodds & Graci 2012, Mair & Jago 2010, Dodds 2018	Aber ich finde wir sind in Deutschland manchmal gut dabei entweder zu weiche Gesetze zu haben oder manchmal auch sehr strikte. ( <i>Hurricane</i> )	3
Restrictive regulation	Binder 2018	Weil das Thema Pfand oder Gesetze für die Verwendung von Lebensmitteln, das ist in Deutschland manchmal nicht ganz so leicht, dass man da irgendwie/ da ist vieles einfach aus Hygienegründen dann verboten, obwohl man irgendwie aber denkt 'Hey, das geht aber noch'. Aber so was müssen wir beachten. Und das ist in anderen Ländern zum Teil vielleicht weicher, vielleicht auch manchmal strikter. ( <i>Hurricane</i> )	3
Lack of expertise/information/sustainability literacy	Baker 2011, Dodds & Graci 2012, Johnson 2013, Binder 2018, Preso 2014, Stettler 2011, Brennan et al. 2019	For example, my festival is really new. And we don't have so much experience in some aspects. ( <i>Barcelona Beach</i> )	3
Lack of data	Badiali & Johnson 2020, Baker 2011	We have like quite a big, diverse footprint which made it difficult to (...) define our scope to be honest. Or our scope became quite big and comprehensive. ( <i>Bergenfest</i> )	4
Covid-19 particularities		And it's an industry that we were the first to stop and we're gonna be the last to start again. ( <i>Barcelona Beach</i> )	8
Less competition pressure because of higher demand		I think, our activity level will skyrocket in twothousandtwentytwo and twentythree. Everybody's going on tour. Twentytwentytwo or Twentythree. Our fans are super hungry and eager to visit festivals and events. ( <i>Bergenfest</i> )	1
Priorities changed / hygiene	Badiali & Johnson 2020	So of course the greener part has been put to the side for now. And it is of course not our main focus, because of course we have been without a job for fifteen months. So our aim now is reallly to study what all the new safety rules are and to get people again to stay together. And that is going to be a tough, tough process. ( <i>Home</i> )	5

Partners & suppliers out of business		Unfortunately, most of our suppliers have been severely impacted by the pandemic and some have disappeared for good. ( <i>Barcelona Beach</i> )	3
Less resources after the pandemic	Badiali & Johnson 2020	Ich kann es aber auch verstehen, wenn man jetzt gerade sagt, dass wir jetzt irgendwie nicht die krassesten Sachen machen. Weil am Ende weiß niemand, wie es genau weiter geht. ( <i>Hurricane</i> )	1
Organisational barriers/structural inertia	Musgrave & Raj 2009 (organisational inertia), Harvey 2009 (difficult to implement), Baker 2011, Hazel 2018 (no incentive to change), Binder 2018, Stettler 2011, Brennan et al. 2019, Richardson 2019	We are trying to cut down these costs, but it's not up to us because there are not many big events around the area that need the kind of stuff so it would be provided locally. ( <i>Provinssi</i> )	19
Non-support internally	Dodds & Graci 2012, Binder 2018, Stettler 2011, Bermudez 2015	Das Thema sorgt immer wieder für sehr viel Gesprächsstoff und vor allem Emotionen im Team. ( <i>Open Air St. Gallen</i> )	7
Temporality/difficulty of real-life testing	Van Berkel 2014, Stettler 2011	Und bei einem Festival ist es halt total schwierig. Du hast einmal im Jahr (lacht) die Chance das zu testen. Die Durchführung ist praktisch auch dein Testlauf, auch zugleich, weil du halt nur dieses eine Jahr hast. Und wenn es dann halt nicht klappt, musst du ein Jahr warten bis du halt eine Anpassung machst. ( <i>Hurricane</i> )	6
Catalysts			0
External support	Binder 2018, Stettler 2011, Brennan et al. 2019	We've had time and we've had resources from the city to actually develop the area and the infrastructure. ( <i>Provinssi</i> )	6
Existing infrastructure		Findings takes place on one of the greenest arenas in Norway. It's called the Bislett Stadion and they are, like, way ahead of many ( <i>Bergenfest</i> )	5
Communication	White & Séraphin 2018	(...) Well, (...) I think it's a matter of how you communicate your project because you can do many projects, but if it's	15

		communicated just between me and you, it doesn't get big exposure. ( <i>Home</i> )	
Good measurements/monitoring systems	Stettler 2011	But I'm certain new software to collect data, to control this data, that's something that's going to be so expensive. But they can really help me, because if not, I design Excels and Excels and Excels. ( <i>Barcelona Beach</i> )	15
Long term strategic planning	Holmes & Mair 2018, Stettler 2011	Also ich glaube halt einfach es ist wichtig, da nicht nur auf das eine Jahr zu gucken, sondern auf die nächsten fünf bis zehn Jahre und zu gucken, was sich da auch ändert. ( <i>Hurricane</i> )	7
Cooperation and networks	Binder 2018, Stettler 2011, Bermudez 2015, Brennan et al. 2019	But I think the most important thing in terms of environmental sustainability is that we have gained access to tonnes of resources and a major network with lots of, like, know-how. So just like being part of this group, the Green Nation group, and working with festivals across Europe that have got many of the same challenges as us. ( <i>Bergenfest</i> )	24
Green-Leaders-established blueprint/proven to work	Mair & Laing 2012, Binder 2018, Preso 2014 (in her work mentioned as a driver)	But in Europe, they have these hydrogen generators, which could be really interesting to see if they work. I know that in Netherlands they have used them in a few events and they work really well. And that is a totally changing moment for the event if we can produce electricity from scratch basically anywhere. ( <i>Provinssi</i> )	12
Audience behaviour		Also auf dem Summer's Tale kannst du barfuß langlaufen. Und da spielen Kinder auf dem Boden. Und es ist super schön. Aber das brauchst du nicht regulieren, das funktioniert, weil halt diese eine Zielgruppe angesprochen wird. Es werden halt Familien und bewusste Menschen in irgendeiner Form angesprochen. Wenn es eine andere Zielgruppe wär, wär es vielleicht auch gar nicht so viel nachhaltiger. ( <i>Hurricane</i> )	15
		<i>Used first as a driver, switched to catalyst during coding</i>	

Culture	Mair & Jago 2010	Mittlerweile ist es so, dass die Gesellschaft immer mehr Wert auf Nachhaltigkeit legt, ganz allgemein. Das hat sich jetzt, in den letzten paar Jahren auch auf dem Festival noch mal deutlich verändert. ( <i>Hurricane</i> )	24
Media salience & media reports	Bansal & Roth 2000, Mair & Jago 2010, Bermudez 2015	That if we need to skip this year, then there is already two years when there has been a lot of media about these issues ( <i>Provinssi</i> )	8
Views on own progress/industry progress		But the markets, the attendances are different. ( <i>Barcelona</i> )	3
Views on festival industry		I would like that this industry becomes more cautious with the planet. To be more human, re-humanise, you know? ( <i>Barcelona Beach</i> )	9
Perceived own ranking in comparision		I mean some festivals have been far ahead of us for years. ( <i>Bergenfest</i> )	16
Understanding of green festival		Ich bin der Meinung, dass ein (4sec) vertretbar nachhaltiges Festival eins ist, welches ganzheitlich handelt und halt neben ökologischen Aspekten auch soziale Aspekte oder auch ökonomische berücksichtigt, also das Thema Nachhaltigkeit in drei Dimensionen betrachtet und nicht nur in einer. ( <i>Hurricane</i> )	21
Green measures/implementations		We are also working on a very innovative project in which we try to limit the water consumption of portable toilets. ( <i>Barcelona Beach</i> )	18
Prioritisation		Grundsätzlich werden Projekte, die am ehesten gute Ziele abwerfen, bevorzugt. ( <i>Open Air St. Gallen</i> )	11

Table 3: Contact Attempts

<b>Festivals</b>	<b>Interview Inquiries</b> All inquiries via email unless otherwise stated. The first column indicates the initial contact attempt.						
<i>Hurricane Festival</i>	23.02.21	<b>25.02.21 offer for an interview</b>					
<i>Melt! Festival</i>	23.02.21	25.02.21 rejection	25.03.21 re-inquiry due to festival cancellation				
<i>Rock am Ring/Live Nation</i>	23.02.21	09.03.21 Second contact to Live Nation Germany via phone, rejection due to “limited capacity” and general disinterest	10.03.21 inquiry of Live Nation Head of Sustainability Europe via LinkedIn	12.03.21 response via LinkedIn: notice to look into it and send emails from Head of Sustainability Europe	07.04.21 follow-up contact via LinkedIn to hear if any responses came in	08.04.21 preliminary rejection via LinkedIn due to limited capacities at the relevant festivals	
<i>Barcelona Beach Festival</i>							<b>08.04.21 offer for an interview procured by Live Nation Head of Sustainability Europe</b>

<i>Bergenfest</i>							<b>08.04.21 offer for an interview procured by Live Nation Head of Sustainability Europe</b>
<i>Open Air St. Gallen</i>	23.02.21	08.03.21 rejection	09.03.21 14:00 re-inquiry	11.03.2021 <b>offer for written answers</b>	12.03.2021 List of questions sent	01.04.2021 document received	
<i>Greenfield festival</i>	23.02.21	09.03.2021 second inquiry due to no response	25.03.2021 inquiry via Facebook page/messenger				
<i>Down The Rabbit Hole</i>	02.03.21	10.03.2021 inquiry of Live Nation Head of Sustainability Europe via LinkedIn	12.03.2021 response via LinkedIn: notice to look into it and send emails from Head of Sustainability Europe	08.04.21 preliminary rejection via LinkedIn due to limited capacities at the relevant festivals			
<i>Best Kept Secret</i>	10.03.21	25.03.21 a second inquiry due to no response	19.04.21 additional inquiry via facebook page/messenger	20.04.21 rejection via facebook page/messenger			



<i>Indian Summer Festival</i>	07.04.21	19.04.21 additional inquiry via facebook page due to no response	20.04.21 rejection via facebook page/messenger				
<i>Malakoff Festival</i>	25.03.21						
<i>Provinssi Festival</i>	25.03.21	<b>30.03.21 offer for an interview</b>					
<i>Home Festival</i>	23.04.21	<b>25.04.21 offer for an interview</b>					

Table 4: Interview Guideline / Leitfaden

Leitfrage	Check (wurde das erwähnt?)	Mögliche konkrete Nachfragen	Aufrechterhaltungsfragen
<b>What is your position within this festival, and how did you end up at this festival?</b>			<ul style="list-style-type: none"> <li>• How did it continue?</li> </ul>
<b>What does a “green festival” mean to you?</b>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Social</li> <li>• Economic</li> </ul>		<ul style="list-style-type: none"> <li>• Would you like to add anything else?</li> </ul>
<b>Why does your festival engage in sustainability?</b>	<ul style="list-style-type: none"> <li>• Trigger</li> <li>• Influences</li> <li>• Moral duty?</li> <li>• Certain persons in the staff</li> </ul>	What can be advantages or disadvantages for your festival to move towards sustainability?	<ul style="list-style-type: none"> <li>• What did you think about that?</li> <li>• How did it come about that...?</li> </ul>
<b>Could you maybe tell me a bit about problems and stumbling stones in the efforts of greening your festival?</b>	<ul style="list-style-type: none"> <li>• Financial</li> <li>• Staff</li> <li>• Expertise</li> <li>• Times-Constraint</li> <li>• No interest</li> </ul>	How much support did you get from the whole team, how much from the management?	<ul style="list-style-type: none"> <li>• What happened after that?</li> </ul>
<b>Have you had green projects which were cancelled again or failed? What happened?</b>			<ul style="list-style-type: none"> <li>• Can you tell me more about that?</li> </ul>
<b>How do you work out the priorities for different attempts &amp; projects at greening your festival?</b>	<ul style="list-style-type: none"> <li>• Visibility for attendees and/or press</li> <li>• Financial savings</li> <li>• Efficiency considerations</li> <li>• ‘Low Hanging Fruits’</li> </ul>	<ol style="list-style-type: none"> <li>1. Which ideas are realised first?</li> <li>2. How does visibility influence prioritisation?</li> </ol>	<ul style="list-style-type: none"> <li>• Can you elaborate on that?</li> <li>• What do you mean with...?</li> </ul>
<i>(optional question:) How do the opinions and motivations of attendees affect management decisions regarding the greening of your festival?</i>	<ul style="list-style-type: none"> <li>• Higher ticket costs for attendees</li> <li>• Praise</li> <li>• Greenwashing?</li> </ul>		

<p><b>In your eyes, how are you doing with regards to greening your festival in comparison to other festivals nationally and internationally?</b></p>		<ol style="list-style-type: none"> <li>1. How do you view the projects and efforts of other festivals?</li> <li>2. What is your reaction when other festivals proclaim ambitious efforts for greening?</li> </ol>
<p><b>In what way do you feel pressured to green your festival?</b></p>	<ul style="list-style-type: none"> <li>• Attendees</li> <li>• Media</li> <li>• Sponsors</li> <li>• Local authority or governance</li> <li>• Bands and Acts</li> <li>• Other Festivals/First movers</li> <li>• Company/Shareholder</li> </ul>	<ol style="list-style-type: none"> <li>1. From whom?</li> <li>2. How do you react?</li> </ol>
<p><i>[For FKP Scorpio, Live Nation or Festivals with more than one festival in their portfolio:]</i>  <b>Which festival in the Portfolio is the most sustainable one?</b></p>		<ol style="list-style-type: none"> <li>1. Which reasons are there for the differences?</li> <li>2. Are there any standards of company policy you are obliged to implement?</li> </ol>
<p><b>After the pandemic: What has changed for you when you come back after Covid-19?</b></p>		<ol style="list-style-type: none"> <li>1. How has the prioritisation of sustainability changed?</li> <li>2. Have the challenges you have to overcome to achieve greening changed?</li> </ol>
<p><b>What do you think you could still do better with your festival?</b></p>		
<p><b>Is there anything else you would like to tell me?</b></p>		

Figure 6: Information & Consent Form

Working title Master Thesis:  
*Greening of Open-Air Festivals:  
Drivers and Barriers of  
Selected Festivals in Europe*

Author: Aaron Wilmink-Thomas  
Supervisor: Anja Bierwirth,  
Wuppertal Institut



**Research Project Master Thesis – International Master of Environmental  
Sciences, University of Cologne**

**Information on data protection and consent form**

In the context of my Master Thesis, I would like to conduct an interview with you about your festival. The conversation will be a guideline-based, open interview: Open interviews are conversations in which the interviewees can talk about what is important for them when answering several questions by the interviewer. Qualitative interviews focus on the answer of the interviewee rather than the questions of the researchers.

You can decide that the Interview shall be anonymized. Following that, the interviewer is obligated to adhere to data secrecy, i.e. the interviewer is not entitled to disclose the content or contextual data of the interview to anyone except supervisors and project colleagues in non-anonymized form.

Good scientific practice and data protection guidelines require this consent form with your explicit approval for me to be able to conduct and analyze the interview. Data protection guidelines also require me to inform you that a non-participation will not result in any disadvantage. You may also withdraw your consent during or after the interview; you can also decide to refuse to comment on single questions without giving reasons.

I will guarantee the following steps if you choose to be anonymized:

- I will process your interview data with due diligence: I will record the interview because it is too much data for me to keep track of the content by heart. The recording will be (partially or entirely) transcribed to facilitate a thorough analysis. If you like, you can request the transcript after the interview. Neither the transcript nor

the recording will be published. Parts of the interview will be used as citations in the thesis; if anonymisation is requested, I will render data such as location, names or company (and other identifiers) anonymous.

- In case I received your name & number, I will anonymize the data in my documents and will only be stored with your explicit approval and only for the duration of the project.
- Your signed consent form will be stored separately. It will be used to certify your consent in case of an inspection by data protection officers. It cannot be traced to your interview.
- At the latest six months after the completion of the research project or the evaluation of which, respectively, the transcripts and the recordings will be deleted.

I deeply appreciate your willingness to participate in this interview! For any questions you still have, do not hesitate to contact me: Aaron Wilmink-Thomas, +491781533938; aaron.wilmink@gmx.de

Date: \_\_\_\_\_

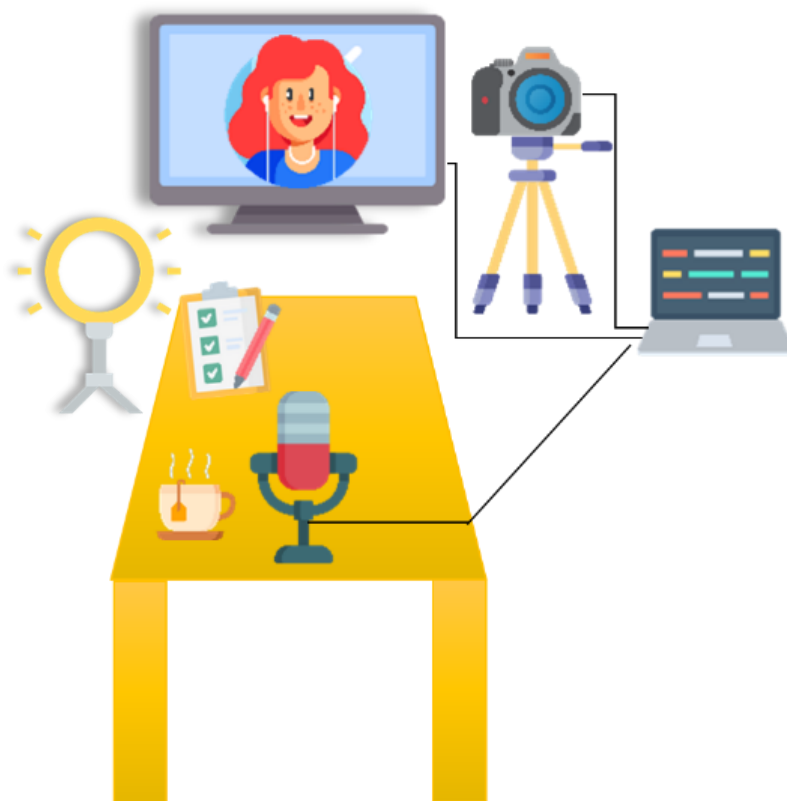
Anonymization required?  Yes  Not necessary

Signature of the interviewer/researcher: A. Wilmink-Thomas

Signature of the interviewee: I agree to the interview described as above:

\_\_\_\_\_

Figure 7: Technical Setup



Icons by: Freepik, AmethystDesign, Vectors Market, Konkapp

## References

- Aberg, D., Chaplin, D., Freeman, C., Paizs, B., & Dunn, C. (2021). The environmental release and ecosystem risks of illicit drugs during Glastonbury Festival. *Environmental Research*, 204(Pt B), 112061. <https://doi.org/10.1016/j.envres.2021.112061>
- Abreu-Novais, M., & Arcodia, C. (2013). Music festival motivators for attendance: Developing an agenda for research. *International Journal of Event Management Research*, 8(1), 34-48UR - <https://research-repository.griffith.edu.au/handle/10072/56894>.
- Alzghoul, Y. A. (2017). *The Influence of Corporate Social Responsibility on the Decision-Making Process of Music Festival-Goers: Findings from a Survey-Embedded Experiment* [Dissertation]. Clemson University, Clemson, South Carolina. [https://tigerprints.clemson.edu/all\\_dissertations/2083](https://tigerprints.clemson.edu/all_dissertations/2083)
- Anable, J., & Gatersleben, B. (2005). All work and no play? The role of instrumental and affective factors in work and leisure journeys by different travel modes. *Transportation Research Part a: Policy and Practice*, 39(2-3), 163–181. <https://doi.org/10.1016/j.tra.2004.09.008>
- Andersson, T. D., & Getz, D [Donald] (2008). Stakeholder Management Strategies of Festivals. *Journal of Convention & Event Tourism*, 9(3), 199–220. <https://doi.org/10.1080/15470140802323801>
- Andersson, T. D., Getz, D [Don], & Mykletun, R. J. (2013). Sustainable Festival Populations: An Application of Organizational Ecology. *Tourism Analysis*, 18(6), 621–634. <https://doi.org/10.3727/108354213X13824558188505>
- Andersson, T. D., Jutbring, H., & Lundberg, E. (2013). When a music festival goes veggie. *International Journal of Event and Festival Management*, 4(3), 224–235. <https://doi.org/10.1108/IJEFM-06-2013-0015>
- Anderton, C. (2018). *Music Festivals in the UK: Beyond the Carnavalesque*. Ashgate Popular and Folk Music Ser. Routledge. <https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=5455433>
- Archibald, M. M., Ambagtsheer, R. C., Casey, M. G., & Lawless, M. (2019). Using Zoom Videoconferencing for Qualitative Data Collection: Perceptions and Experiences of Researchers and Participants. *International Journal of Qualitative Methods*, 18, 160940691987459. <https://doi.org/10.1177/1609406919874596>
- Arcodia, C., & Dickson, C. (2009). Promoting Sustainable Event Practice: The Role Of Professional Associations. *Conference Proceedings European Cities Marketing Annual Conference & General Assembly, 17-20 June 2009*, 92–105.
- Armbrecht, A. (2019, June 26). Spaß macht Müll: Musikfestivals und die Umwelt. *Tagesspiegel*, 2019. <https://www.tagesspiegel.de/gesellschaft/panorama/musikfestivals-und-die-umwelt-spass-macht-muell/24493526.html>

- Badiali, C., & Johnson, C. (2020a). *2020 Update: The Show Must Go On: Environmental impact report for the UK festival and outdoor events industry.*
- Badiali, C., & Johnson, C. (2020b, December 7). *Vision: 2025 Outdoor Events Industry Green Survey Reveals How Covid Has Affected Sustainability And Plans For 2021.* <https://www.vision2025.org.uk/news-1/vision-2025-outdoor-event-industry-green-survey-2020-reveals-priorities-and-sustainability-plans-for-2021>
- Baker, J. (2011). *What Are The Barriers To Operationalising And Expanding Temporary Renewable Energy Capacity at UK Music Festivals?* [Master Thesis]. Sussex University, Falmer, East Sussex.
- Bansal, P., & Roth, K. (2000). WHY COMPANIES GO GREEN: A MODEL OF ECOLOGICAL RESPONSIVENESS. *Academy of Management Journal*, 43(4), 717–736. <https://doi.org/10.2307/1556363>
- Barber, N. A., Kim, Y. H., & Barth, S. (2014). The Importance of Recycling to U.S. Festival Visitors: A Preliminary Study. *Journal of Hospitality Marketing & Management*, 23(6), 601–625. <https://doi.org/10.1080/19368623.2014.844661>
- Barnett, W. P., & Hansen, M. T. (1996). The red queen in organizational evolution. *Strategic Management Journal*, 17(S1), 139–157. <https://doi.org/10.1002/smj.4250171010>
- Barr, S., & Prillwitz, J. (2012). Green travellers? Exploring the spatial context of sustainable mobility styles. *Applied Geography*, 32(2), 798–809. <https://doi.org/10.1016/j.apgeog.2011.08.002>
- Barton, L. (2009, August 5). Festivals - Let's get together. The explosion in festivals may seem like a modern phenomenon, but our passion for them is deeply ingrained in the British psyche. *The Guardian*. <https://www.theguardian.com/culture/2009/may/08/glastonbury-music-festivals-rock-and-pop>
- Bassett, J. (2019, October 25). "I'd rather be called a hypocrite than do fuck all": how music is tackling climate change. Music has finally woken up environmental catastrophe. But can an industry built on carbon emissions really make a difference? *NME*. <https://www.nme.com/features/how-musicians-and-fans-have-taken-on-climate-change-2559989>
- BBC. (2008). *BBC NEWS | UK | England | Somerset | Eavis 'nearly quit' Glastonbury.* [http://news.bbc.co.uk/2/hi/uk\\_news/england/somerset/7473344.stm](http://news.bbc.co.uk/2/hi/uk_news/england/somerset/7473344.stm)
- Becker, S. (2020, November 9). Sind die nachhaltigsten Events die, die nicht stattfinden? *FKP Scorpio Blog*. <https://blog.fkpscorpio.com/co2-ausgleich2020/?fbclid=IwAR0Hd6PXrNthKfWIQZxI0hKJBqkJvvyDWPM1t6BtJE-T8eC2bctu6rUAMI>
- Behr, F., Emde, F., Funk, S., Roth, S., & Schmidt, H. J. (2013). *Leitfaden für die umweltverträgliche Gestaltung von Open-Air-Veranstaltungen*. 2. vollständig überarbeitete Auflage. Bundesamt für Naturschutz.
- Bendrup, D., & Weston, D. (2015). Open Air Music Festivals and the Environment: A Framework for Understanding Ecological Engagement. *The World of Music*, 4(1), 61–71.



- Benkeser, C. (2019). *Klimawandel und Musikindustrie: Schluss mit Indie*.  
<https://spex.de/klimawandel-musikindustrie-schluss-mit-indie/>
- Benton, M. C., & Radziwill, N. M. (2018). Designing Personal Sustainability into Organizational Culture: The Case of Burning Man. In R. Brinkmann & S. J. Garren (Eds.), *The Palgrave Handbook of Sustainability* (pp. 331–346). Springer International Publishing. [https://doi.org/10.1007/978-3-319-71389-2\\_17](https://doi.org/10.1007/978-3-319-71389-2_17)
- Bermudez, M. D. R. (2015). *Communicating environmental awareness at music festivals: A study of the Hove and Øya festivals in Norway* [Master Thesis]. University of Oslo, Oslo.
- Berridge, G., Moore, T., & Ali-Knight, J. (2018). Promoting and assessing sustainability at festivals: A case study of the 'A Greener Festival' initiative. In H. Séraphin & E. Nolan (Eds.), *Green Events and Green Tourism: An International Guide to Good Practice* (pp. 18–30). Routledge.
- Binder, V. (2018). *Nachhaltig abrocken. Eine empirische Analyse des Stellenwertes von Nachhaltigkeit bei der Organisation deutscher Musikfestivals* [Master Thesis]. Universität Kassel, Kassel.
- Biselli, A., Mateus, A., Biagi, A., Leiria, C., & Mayer, E. (2019). *Consumer Engagement With Green Events And Their Promotion: Organizers-Attendees Comparison* [Research Paper]. Universidade de Lisboa, Lisbon.
- Blake, A. (1998). *The land without music: Music, culture and society in twentieth-century Britain. Music and society*. Manchester Univ. Press.  
<http://www.loc.gov/catdir/enhancements/fy0601/97002600-d.html>
- Bonifant, B. C., Arnold, M. B., & Long, F. J. (1995). Gaining competitive advantage through environmental investments. *Business Horizons*, 38(4), 37–47.  
[https://doi.org/10.1016/0007-6813\(95\)90007-1](https://doi.org/10.1016/0007-6813(95)90007-1)
- Botha, K., Viviers, P., & Marumo, E. (2017). Attendees' attitudes towards supporting green practices at two Afrikaans arts festivals. *African Journal of Hospitality, Tourism and Leisure*, 6(2), 1–25.
- Bottrill, C., Lye, G., Boykoff, M., & Liverman, D. (2008). *First Step: UK Music Industry Greenhouse Gas Emissions for 2007*. Julie's Bicycle.
- Bottrill, C., Papageorgiou, S., & Jones, M. (2009). *Jam Packed: Part 1: Audience Travel Emissions from Festivals*. Julie's Bicycle.
- Bottrill, C., & Tsiarta, C. (2010). *Moving Arts Report: Managing the carbon impacts of our touring*. Volume 1: BANDS. Julie's Bicycle.
- Brennan, M., Scott, J. C., Connelly, A., & Lawrence, G. (2019). Do music festival communities address environmental sustainability and how? A Scottish case study. *Popular Music*, 38(2), 252–275.  
<https://doi.org/10.1017/S0261143019000035>
- Bucher, A. A. (1998). The influence of models in forming moral identity. *International Journal of Educational Research*, 27(7), 619–627.  
[https://doi.org/10.1016/S0883-0355\(97\)00058-X](https://doi.org/10.1016/S0883-0355(97)00058-X)
- Bünting, T. (2004, January 4). *Open Air - Boom mit open end?*  
<https://www.intro.de/popmusik/open-air-1>

- Cabaroglu, N., Basaran, S., & Roberts, J. (2010). A comparison between the occurrence of pauses, repetitions and recasts under conditions of face-to-face and computer-mediated communication: A preliminary study. *Turkish Online Journal of Educational Technology*, 9(2), 14–23.
- Calland, J. (2009). *Radiohead's Carbon Neutral World Tour*. Courtyard Management; Julie's Bicycle. [http://www.greenmusicinitiative.de/wp-content/uploads/2009/07/julie-calland\\_radiohead\\_020709.pdf](http://www.greenmusicinitiative.de/wp-content/uploads/2009/07/julie-calland_radiohead_020709.pdf)
- Cambridge, E. (2019, July 1). Glastonbury fans leave thousands of plastic bottles and rubbish despite eco-warrior plastic ban. *The Sun*. <https://www.thesun.co.uk/news/9408712/glastonbury-fans-festival-site-leaving-plastic-bottles/>
- Cater, J. (2011). SKYPE - A Cost-effective Method for Qualitative Research. *Rehabilitation Counselors & Educators Journal*, 4(2), 10–17.
- CGA. (2019). *Audience attitudes towards sustainability*. Greater Manchester. [https://www.cga.co.uk/wp-content/uploads/2019/10/CGA\\_Festival-Audience-attitudes-towards-sustainability\\_Showmans\\_Show\\_October-2019-1.pdf](https://www.cga.co.uk/wp-content/uploads/2019/10/CGA_Festival-Audience-attitudes-towards-sustainability_Showmans_Show_October-2019-1.pdf)
- CGA. (2020). *The Impact of Covid-19 on Live Events*. Greater Manchester.
- Challis, B., & Moore, T. (2013, November). What Fans Want - Green Events - And Their Fave Band! <https://www.agreenerfestival.com/agfblog/what-fans-want-green-events-and-their-fave-band/>
- Chirieleison, C., Montrone, A., & Scrucca, L. (2020). Event sustainability and sustainable transportation: a positive reciprocal influence. *Journal of Sustainable Tourism*, 28(2), 240–262. <https://doi.org/10.1080/09669582.2019.1607361>
- Clarke, M. (1982). *The politics of pop festivals* (1. publ). *[Wolfgang Laade Music of Man Archive]*. Junction Books.
- Coldplay. (2021, October 15). *Music of the Spheres World Tour: Sustainability: Sustainability Initiatives*. <https://sustainability.coldplay.com/>
- Coldwell, W. (2015, February 8). Train wrecked: take the (non) sleeper to Germany's Melt! festival. *The Guardian*. <https://www.theguardian.com/travel/2015/aug/02/party-train-melt-electronic-music-festival-germany>
- Collins, A., & Cooper, C. (2017). Measuring and managing the environmental impact of festivals: the contribution of the Ecological Footprint. *Journal of Sustainable Tourism*, 25(1), 148–162. <https://doi.org/10.1080/09669582.2016.1189922>
- Coscarelli, J. (2010, December 16). The 15 Most Eco-Friendly Rockers. *Rolling Stone*. <https://www.rollingstone.com/culture/culture-lists/the-15-most-eco-friendly-rockers-10751/>
- Crompton, J. L., & McKay, S. L. (1997). Motives of visitors attending festival events. *Annals of Tourism Research*, 24(2), 425–439. [https://doi.org/10.1016/S0160-7383\(97\)80010-2](https://doi.org/10.1016/S0160-7383(97)80010-2)
- Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. Harper and Row.
- Danton, E. R. (2016, March 21). Have We Reached Peak Festival? *Paste Magazine*. <https://www.pastemagazine.com/music/have-we-reached-peak-festival/>

- Dávid, L. (2009). Events and Tourism: an environmental approach and impact assessment. *Journal of Tourism Challenges and Trends*, II(No. 2), 101–114.
- Deakin, H., & Wakefield, K. (2014). Skype interviewing: reflections of two PhD researchers. *Qualitative Research*, 14(5), 603–616.  
<https://doi.org/10.1177/1468794113488126>
- Del Naja, R. (2019, November 28). We've toured the world for years. To help save the planet we'll have to change. *The Guardian*.  
<https://www.theguardian.com/commentisfree/2019/nov/28/tour-world-massive-attack-band-climate>
- Deutschlandfunk. (2021, June 27). *Wirtschaftsstaatssekretär macht der Kulturbranche Hoffnung auf Normalität*. [https://www.deutschlandfunk.de/corona-pandemie-wirtschaftsstaatssekretaer-macht-der.2849.de.html?drn:news\\_id=1274256](https://www.deutschlandfunk.de/corona-pandemie-wirtschaftsstaatssekretaer-macht-der.2849.de.html?drn:news_id=1274256)
- Devine, K. (2019). *Decomposed: The political ecology of music*. The MIT Press.
- Dhillon, A., & Harnden, T. (2006, April 30). How Coldplay's green hopes died in the arid soil of India. *The Telegraph*.  
<https://www.telegraph.co.uk/news/worldnews/asia/india/1517031/How-Coldplays-green-hopes-died-in-the-arid-soil-of-India.html>
- Dodds, R. (2018). Strategies and best practices for greening festivals. In H. Séraphin & E. Nolan (Eds.), *Green Events and Green Tourism: An International Guide to Good Practice* (pp. 11–17). Routledge.
- Dodds, R., & Graci, G. (2012). Greening Of The Pride Toronto Festival: Lessons Learned. *Tourism, Culture and Communication*, 12(1), 29–38.
- Dodds, R., Walsh, P. R., & Koç, B. (2019). Environmentally Sustainable Lifestyle Indicators of Travelers and Expectations for Green Festivals: The Case of Canada. *Event Management*, 23(4), 685–697.  
<https://doi.org/10.3727/152599519X15506259855661>
- Döring, N., & Bortz, J. (2016). *Forschungsmethoden und Evaluation in den Sozial- und Humanwissenschaften* (5. vollständig überarbeitete, aktualisierte und erweiterte Auflage). *Springer-Lehrbuch*. Springer.  
<https://doi.org/10.1007/978-3-642-41089-5>
- Dutta, T., Kim, K.-H., Uchimiya, M., Kumar, P., Das, S., Bhattacharya, S. S., & Szulejko, J. (2016). The micro-environmental impact of volatile organic compound emissions from large-scale assemblies of people in a confined space. *Environmental Research*, 151, 304–312.  
<https://doi.org/10.1016/j.envres.2016.08.009>
- Edwards, A. (2020). *Mu5sic by Num8ers 2020*. PRS for Music.  
<https://www.prsformusic.com/-/media/files/prs-for-music/press/music-by-numbers-2020-report.ashx?la=en&hash=C2E9402A1B0AE8DF2317E03AF10B087EE68701C2>
- Edwards, R., & Holland, J. (2013). *What is Qualitative Interviewing? 'What is?' Research Methods Series*. Bloomsbury Academic.  
<http://www.doabooks.org/doab?func=fulltext&rid=17158>  
<https://doi.org/10.5040/9781472545244>
- EE MUSIC. (July 2014). *Energy Efficient Music Culture in Europe: an EE MUSIC study*.

- Elkington, J. (2018). *25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It.* <https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it>
- Eurostat. (2021, July 22). *Glossary: Carbon dioxide equivalent.* [https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Carbon\\_dioxide\\_equivalent](https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Glossary:Carbon_dioxide_equivalent)
- Fisher, A. (2008, August 6). Hello Glastonbury! Are you ready to rock and recycle? Summer festivals offer potato starch tent pegs and car-share schemes to ease green worries. *The Guardian.* <https://www.theguardian.com/music/2008/jun/08/glastonbury.festivals>
- Fleming, P., Fletcher, R., Fleming, M., MacGarry, A., & McCahon, D. (2019). Young people and greenhouse gas emissions at music festivals. *Applied Environmental Education & Communication, 18*(2), 166–178. <https://doi.org/10.1080/1533015X.2018.1448310>
- Fleming, P., Marchini, B., & Maughan, C. (2014). Electricity-related GHG emissions at off-grid, outdoor events. *Carbon Management, 5*(1), 55–65. <https://doi.org/10.4155/cmt.13.69>
- Flick, U. (2017). *Qualitative Sozialforschung: Eine Einführung* (Originalausgabe, 8. Auflage). *Rororo Rowohlt's Enzyklopädie: Vol. 55694.* rowohlt's enzyklopädie im Rowohlt Taschenbuch Verlag.
- Flinn, J., & Frew, M. (2014). Glastonbury: managing the mystification of festivity. *Leisure Studies, 33*(4), 418–433. <https://doi.org/10.1080/02614367.2012.751121>
- Fricke, D. (2000, August 17). Nine Dead At Pearl Jam Concert. *Rolling Stone.* <https://www.rollingstone.com/music/music-news/nine-dead-at-pearl-jam-concert-235167/>
- Gause, J. A. (2017). *"A little less conversation, a little more action please". Triggering greener travel behaviour in a music festival context: The case of Fuchsbau Festival, Germany* [Master Thesis]. University of Lund, Lund.
- Gelder, G., & Robinson, P. (2009). A Critical Comparative Study of Visitor Motivations for Attending Music Festivals: A Case Study of Glastonbury and V Festival. *Event Management, 13*(3), 181–196. <https://doi.org/10.3727/152599509790029792>
- Getz, D [Donald]. (1997). *Event management & event tourism.* Cognizant Communication Corp.
- Getz, D [Donald] (2009). Policy for sustainable and responsible festivals and events: institutionalization of a new paradigm. *Journal of Policy Research in Tourism, Leisure and Events, 1*(1), 61–78.
- Getz, D [Donald] (2010). The Nature and Scope of Festival Studies. *International Journal of Event Management, 5*(1), 1–47. <https://www.ijemr.org/wp-content/uploads/2014/10/Getz.pdf>
- Getz, D [Donald], & Andersson, T. D. (2008). Sustainable Festivals: On Becoming An Institution. *Event Management, 12*(1), 1–18.

- Getz, D [Donald], & Page, S. J. (2016). Progress and prospects for event tourism research. *Tourism Management*, 52, 593–631. <https://doi.org/10.1016/j.tourman.2015.03.007>
- Gibson, C., Connell, J., Waitt, G. R., & Walmsley, J. (2011). The extent and significance of rural festivals. In C. Gibson & J. Connell (Eds.), *Tourism and cultural change. Festival places: Revitalising rural Australia* (pp. 3–24). Channel View Publications.
- Gibson, C. R., & Wong, C. (2011). Greening Rural Festivals: Ecology, Sustainability and Human-Nature Relations. *Ecology, Sustainability and Human-Nature*, 92–105.
- Gilbert, D., & Lizotte, M. (1998). Tourism and the performing arts. *Travel & Tourism Analyst*(No. 1), 82–96.
- Glassett, M. (2014). *Greening The Festival Industry: Using the Triple Bottom Line Approach to Promote Sustainability in Music Events* [Honour Designation Thesis]. University of Colorado, Boulder, Colorado.
- Golden, A., Stevenson, M., Bettencourt, N., Grimaux, S., & Schroeder, T. (2021, March 2). *A Greener Tour - Round III*. A Greener Festival. The Green Events & Innovations Conference 13, Online. <https://www.agreenerfestival.com/green-events-innovations-conference-gei13/>
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A Room with a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35(3), 472–482. <https://doi.org/10.1086/586910>
- Goodin, R. E. (2018). Emulation and the Transformation of Social Norms. *Social Research: An International Quarterly*, 85(1), 53–72.
- Gration, D., Arcodia, C., Raciti, M., & Stokes, R. (2011). The Blended Festivalscape and its Sustainability at Nonurban Festivals. *Event Management*, 15(4), 343–359. <https://doi.org/10.3727/152599511X13175676722564>
- Gration, D., Raciti, M., & Walters, G. (2015). Back to nature. *International Journal of Event and Festival Management*, 6(3), 282–302. <https://doi.org/10.1108/IJEFM-02-2015-0008>
- Green, T., Sinclair, G., & Tinson, J. (2016). Do they Know it's CSR at all? An Exploration of Socially Responsible Music Consumption. *Journal of Business Ethics*, 138(2), 231–246. <https://doi.org/10.1007/s10551-015-2582-8>
- Green Music Initiative. (2020, October 27). *Melt! Festival gewinnt Green 'N' Clean Award 2011*. <http://www.greenmusicinitiative.de/2012/01/melt-festival-gewinnt-green-%e2%80%98n%e2%80%99-clean-award-2011/>
- Green Operations Europe. (2020). *Open Air St. Gallen wins Green Operations Award*. Green Operations Europe. <http://go-group.org/?p=2002>
- A Greener Festival. (2020a). *Juicy Stats 2019 - A Greener Festival*. A Greener Festival. <https://www.agreenerfestival.com/consultancy-research/juicy-stats-2019/>
- A Greener Festival. (2020b, July 14). *Knowledge Base: Summary of Research*. A Greener Festival. <https://www.agreenerfestival.com/knowledge-base/>
- A Greener Festival. (2021). *Making Greener Festivals* [YouTube]. <https://www.youtube.com/watch?v=wUTyDANxwZc>

- Griffin, E. (2005). *England's revelry: A history of popular sports and pastimes, 1660-1830. A British Academy postdoctoral fellowship monograph*. Oxford Univ. Press. <http://www.loc.gov/catdir/enhancements/fy0636/2005281630-d.html>
- Guntermann, J. (2017). *Nachhaltigkeit & Festivalbranche – Wie grün kann Rock'n'Roll sein? : Analyse des Megatrends Nachhaltigkeit am Beispiel der Großveranstaltung Rock am Ring* [Bachelor Thesis]. Hochschule Mittweida, Mittweida.
- Hardegger, A. (2019, July 20). Wie Schweizer Festivals versuchen, die grüne Welle zu überleben. *Neue Zürcher Zeitung*. <https://www.nzz.ch/schweiz/wie-schweizer-festivals-versuchen-die-gruene-welle-zu-ueberleben-ld.1497033>
- Harvey, E. (2009). Greening Live Earth UK. In R. Raj & J. Musgrave (Eds.), *Event management and sustainability* (pp. 195–205). CABI.
- Hazel, D. R. (2018). *Music Festivals In British Columbia: Examining Stakeholder Relations To Build Effective Partnerships And Foster Sustainability* [Master Thesis]. Thompson Rivers University, Kamloops, British Columbia, Canada.
- Heberlein, H. (2011). *Musikfestival und Nachhaltigkeit. Wahrnehmung, Einstellung und Verhalten von BesucherInnen.: Eine exemplarische Untersuchung an fünf deutschen Festivals* [Master Thesis]. Hochschule für nachhaltige Entwicklung (FH), Eberswalde.
- Heiny, K., & Schneider, D. (2021). *It Takes Two: Attitude-Behavior Gap Report*. [https://corporate.zalando.com/sites/default/files/media-download/Zalando\\_SE\\_2021\\_Attitude-Behavior\\_Gap\\_Report\\_EN.pdf](https://corporate.zalando.com/sites/default/files/media-download/Zalando_SE_2021_Attitude-Behavior_Gap_Report_EN.pdf)
- Helfferich, C. (2011). *Die Qualität qualitativer Daten: Manual für die Durchführung qualitativer Interviews* (4. Auflage). Lehrbuch. VS Verlag.
- Henderson, S. (2011). The development of competitive advantage through sustainable event management. *Worldwide Hospitality and Tourism Themes*, 3(3), 245–257. <https://doi.org/10.1108/17554211111142202>
- Henderson, S., & Musgrave, J. (2014). Changing audience behaviour: festival goers and throwaway tents. *International Journal of Event and Festival Management*, 5(3), 247–262. <https://doi.org/10.1108/IJEFM-11-2013-0031>
- Herzberg, F. (1966). *Work and the nature of man*. Crowell.
- Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic Consumption: Emerging Concepts, Methods and Propositions. *Journal of Marketing*, 46(3), 92. <https://doi.org/10.2307/1251707>
- Holmes, K., Hughes, M., Mair, J., & Carlsen, J. (2015). *Events and Sustainability*. Routledge. <https://doi.org/10.9774/gleaf.9781315813011>
- Holmes, K., & Mair, J. (2018). Events, Festivals, and Sustainability: The Woodford Folk Festival, Australia. In R. Brinkmann & S. J. Garren (Eds.), *The Palgrave Handbook of Sustainability* (pp. 583–597). Springer International Publishing. [https://doi.org/10.1007/978-3-319-71389-2\\_31](https://doi.org/10.1007/978-3-319-71389-2_31)
- Holt, A. (2010). Using the telephone for narrative interviewing: a research note. *Qualitative Research*, 10(1), 113–121. <https://doi.org/10.1177/1468794109348686>
- Holzbaur, U. (2016). *Events nachhaltig gestalten*. Springer Fachmedien Wiesbaden. <https://doi.org/10.1007/978-3-658-07717-4>

- Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. <https://doi.org/10.1177/1049732305276687>
- Hunger, M. (2013). *Sex, Drugs, Rock'n'Roll... und Nachhaltigkeit? Eine quantitative Untersuchung über die Wirksamkeit der Nachhaltigkeitskommunikation von Musikfestivals* [Master Thesis]. Hochschule für nachhaltige Entwicklung (FH), Eberswalde.
- Hurricane Festival. (2019). *Gemeinsam für ein grüneres Festival: Ergebnisse 2019*. <https://www.hurricane.de/de/infos/gruen-rockt/ergebnisse-2019/>
- IQ (2021a, October 14). Coldplay detail 'eco-friendly' world tour: Chris Martin says the band's upcoming tour will partly be powered by a dancefloor that generates electricity when fans jump up and down. *IQ Magazine*. <https://www.iq-mag.net/2021/10/coldplay-eco-friendly-world-tour/>
- IQ (2021b, October 15). NorthSide festival to offer plant-based food only. *IQ Magazine*. <https://www.iq-mag.net/2021/10/denmark-northside-plant-based-food/>
- Jeurissen, R. (2000). John Elkington, Cannibals With Forks: The Triple Bottom Line of 21st Century Business. *Journal of Business Ethics*, 23(2), 229–231. <https://doi.org/10.1023/A:1006129603978>
- Jogschies, C. (2012). *Green Music: Potenziale und Grenzen ökologischer Nachhaltigkeit bei Musikveranstaltungen* [Magister]. Leuphana Universität Lüneburg, Lüneburg.
- Johnson, C. (2013). *The Power Behind Festivals: A guide to sustainable power at outdoor events*.
- Johnson, C. (November 2015). *The Show Must Go On: Environmental Impact Report And Vision For The Uk Festival Industry*.
- Johnson, C. (2021, March 2). *Panel: Fest Feet Forward*. A Greener Festival. The Green Events & Innovations Conference 13, Online.
- Johnson, J. (2020a, February 3). *Important UK festival initiatives 2019*. <https://www.statista.com/statistics/1097092/important-uk-festival-initiatives/>
- Johnson, J. (2020b, September 17). Music industry in Europe - statistics & facts. *Statista*. <https://www.statista.com/topics/3903/music-industry-in-europe/>
- Johnstone, M.-L., & Tan, L. P. (2015). An exploration of environmentally-conscious consumers and the reasons why they do not buy green products. *Marketing Intelligence & Planning*, 33(5), 804–825. <https://doi.org/10.1108/MIP-09-2013-0159>
- Jones, C., McLachlan, C., & Sarah Mander, S. (2021). *Super-Low Carbon Live Music: A roadmap for the UK live music sector to play its part in tackling the climate crisis*. Tyndall Centre For Climate Change Research. <https://documents.manchester.ac.uk/display.aspx?DocID=56701>
- Jones, M. (2018). *Sustainable event management: A practical guide* (Third edition). Routledge.
- Jones, M. (2019). Influencers of environmental sustainability success at festivals. In J. Mair (Ed.), *Routledge handbooks. The Routledge handbook of festivals* (pp. 71–80). Routledge.

- Kennell, J., & Sitz, R. (Eds.) (2010). *Greening Bonnaroo: Exploring the rhetoric and reality of a sustainable festival through micro-ethnographic methods*.
- Kim, W.-H., & Kim, K.-S. (2018). Pro-Environmental Intentions among Food Festival Attendees: An Application of the Value-Belief-Norm Model. *Sustainability*, 10(11), 3894. <https://doi.org/10.3390/su10113894>
- King, M. F., & Bruner, G. C. (2000). Social desirability bias: A neglected aspect of validity testing. *Psychology and Marketing*, 17(2), 79–103. [https://doi.org/10.1002/\(SICI\)1520-6793\(200002\)17:2<79::AID-MAR2>3.0.CO;2-0](https://doi.org/10.1002/(SICI)1520-6793(200002)17:2<79::AID-MAR2>3.0.CO;2-0)
- King, N., & Horrocks, C. (2010). *Interviews in qualitative research*. SAGE.
- Kinnunen, M., Homi, H., & Honkanen, A. (2020). Social Sustainability in Adolescents' Music Event Attendance. *Sustainability*, 12(22), 9419. <https://doi.org/10.3390/su12229419>
- Kirk, D. (1998). Attitudes to environmental management held by a group of hotel managers in Edinburgh. *International Journal of Hospitality Management*, 17(1), 33–47. [https://doi.org/10.1016/S0278-4319\(98\)00005-X](https://doi.org/10.1016/S0278-4319(98)00005-X)
- Kominers, S. D., Stanton, C., Wu, A., & Gonzalez, G. (2021). Zoom video communications: Eric Yuans leadership during COVID-19. *Harvard Business Publishing*(5-821-018).
- Koopmans, F. (Ed.). (2007). *Von Musikern, Machern & Mobiltoiletten: 40 Jahre Open Air Geschichte* (Orig.-Ausg., Aufl. 1). FKP SCORPIO Konzertproduktionen.
- Kreiszeitung (2020, June 1). Wie nachhaltig ist das Hurricane Festival? *Kreiszeitung.De*. <https://www.kreiszeitung.de/lokales/rotenburg/scheesselort52321/hurricane-nachhaltig-festival-13417800.html>
- Kruse, J., & Schmieder, C. (2014). *Qualitative Interviewforschung: Ein integrativer Ansatz. Grundlagentexte Methoden*. Beltz Juventa.
- Kuckartz, U. (2014). *Qualitative Inhaltsanalyse: Methoden, Praxis, Computerunterstützung* (2., durchgesehene Auflage). *Grundlagentexte Methoden*. Beltz Juventa.
- Küçükakça, Ö. (2017). Implementation of Environmental Sustainability into Event Management. *International Journal of Social and Business Sciences*, 11(6), 1682–1686.
- Laing, J. (2018). Festival and event tourism research: Current and future perspectives. *Tourism Management Perspectives*, 25, 165–168. <https://doi.org/10.1016/j.tmp.2017.11.024>
- Laing, J., & Frost, W. (2010). How green was my festival: Exploring challenges and opportunities associated with staging green events. *International Journal of Hospitality Management*, 29(2), 261–267. <https://doi.org/10.1016/j.ijhm.2009.10.009>
- Laing, J., & Mair, J. (2015). Music Festivals and Social Inclusion – The Festival Organizers' Perspective. *Leisure Sciences*, 37(3), 252–268. <https://doi.org/10.1080/01490400.2014.991009>
- Lamberti, L., Fava, I., & Noci, G. (2009). Assessing and Monitoring the Performances of a Sustainable Event. In R. Raj & J. Musgrave (Eds.), *Event management and sustainability* (pp. 119–131). CABI.



- Lechuga, V. M. (2012). Exploring culture from a distance: the utility of telephone interviews in qualitative research. *International Journal of Qualitative Studies in Education*, 25(3), 251–268.  
<https://doi.org/10.1080/09518398.2010.529853>
- Leenders, M. A. (2010). The relative importance of the brand of music festivals: a customer equity perspective. *Journal of Strategic Marketing*, 18(4), 291–301.  
<https://doi.org/10.1080/09652541003768061>
- Live Nation Entertainment, & Ticketmaster. (2020, May 7). *Covid-19 Impacts From Live-Music Fans: Part One*.  
[https://d1io3yog0oux5.cloudfront.net/\\_3e95662cc423a1d6ca7dab0cf51da425/livenationentertainment/db/670/6144/supplemental\\_fan\\_survey\\_data/Supplemental+Fan+Survey+Data%281%29.pdf?fbclid=IwAR3QVdBWwi4fEXBHbehweNBTEm9d8\\_pi07zqHHdRk1vFvB7hO-kd\\_7FSa0](https://d1io3yog0oux5.cloudfront.net/_3e95662cc423a1d6ca7dab0cf51da425/livenationentertainment/db/670/6144/supplemental_fan_survey_data/Supplemental+Fan+Survey+Data%281%29.pdf?fbclid=IwAR3QVdBWwi4fEXBHbehweNBTEm9d8_pi07zqHHdRk1vFvB7hO-kd_7FSa0)
- Lobe, B., Morgan, D., & Hoffman, K. A. (2020). Qualitative Data Collection in an Era of Social Distancing. *International Journal of Qualitative Methods*, 19, 160940692093787. <https://doi.org/10.1177/1609406920937875>
- Lücker, M. (2019, October 17). Pop ohne Plastik: Mangelhafter Klimaschutz in der Musikindustrie. *Tagesspiegel*, 2019.  
<https://www.tagesspiegel.de/kultur/mangelhafter-klimaschutz-in-der-musikindustrie-pop-ohne-plastik/25128134.html>
- Lynes, J. K., & Andrachuk, M. (2008). Motivations for corporate social and environmental responsibility: A case study of Scandinavian Airlines. *Journal of International Management*, 14(4), 377–390.  
<https://doi.org/10.1016/j.intman.2007.09.004>
- Mair, J. (2019a). Introduction. In J. Mair (Ed.), *Routledge handbooks. The Routledge handbook of festivals* (pp. 3–11). Routledge.
- Mair, J. (Ed.). (2019b). *Routledge handbooks. The Routledge handbook of festivals*. Routledge.
- Mair, J., & Duffy, M. (2021). Who has the right to the rural? Place framing and negotiating the Dungog festival, New South Wales, Australia. *Journal of Sustainable Tourism*, 29(2-3), 176–192.  
<https://doi.org/10.1080/09669582.2020.1747476>
- Mair, J., & Jago, L. (2010). The development of a conceptual model of greening in the business events tourism sector. *Journal of Sustainable Tourism*, 18(1), 77–94.  
<https://doi.org/10.1080/09669580903291007>
- Mair, J., & Laing, J. (2012). The greening of music festivals: motivations, barriers and outcomes: Applying the Mair and Jago model. *Journal of Sustainable Tourism*, 20(5), 683–700. <https://doi.org/10.1080/09669582.2011.636819>
- Mair, J., & Laing, J. H. (2013). Encouraging pro-environmental behaviour: the role of sustainability-focused events. *Journal of Sustainable Tourism*, 21(8), 1113–1128. <https://doi.org/10.1080/09669582.2012.756494>
- Mannell, R. C., & Iso-Ahola, S. E. (1987). Psychological nature of leisure and tourism experience. *Annals of Tourism Research*, 14(3), 314–331.  
[https://doi.org/10.1016/0160-7383\(87\)90105-8](https://doi.org/10.1016/0160-7383(87)90105-8)

- Marchini, B. (2013). *Festivals and Sustainability: Reducing energy related greenhouse gas emissions at music festivals* [Dissertation]. De Montfort University, Leicester.
- Marsh, S. (2019, February 27). Glastonbury festival bans plastic bottles. *The Guardian*. <https://www.theguardian.com/music/2019/feb/27/glastonbury-festival-bans-plastic-bottles>
- Martinho, G., Gomes, A., Ramos, M., Santos, P., Gonçalves, G., Fonseca, M., & Pires, A. (2018). Solid waste prevention and management at green festivals: A case study of the Andanças Festival, Portugal. *Waste Management (New York, N.Y.)*, 71, 10–18. <https://doi.org/10.1016/j.wasman.2017.10.020>
- Mayring, P. (2016). *Einführung in die qualitative Sozialforschung: Eine Anleitung zu qualitativem Denken* (6., überarbeitete Auflage). *Pädagogik*. Beltz. <http://www.beltz.de/de/nc/verlagsgruppe-beltz/gesamtprogramm.html?isbn=978-3-407-25734-5>
- McDonough, W., & Braungart, M. (1992). *The Hannover Principles: Design for Sustainability: Prepared for EXPO 2000, the World's Fair*. William McDonough Architects.
- Moiescu, O. I., Coroş, M. M., Gică, O. A., & Yallop, A. C. (2018). Green strategic trends in the Romanian music festival industry. In H. Séraphin & E. Nolan (Eds.), *Green Events and Green Tourism: An International Guide to Good Practice* (pp. 81–92). Routledge.
- Moore, T. (2013a). *Audience Attitudes to the Environmental Impact of Live Event* [Research Paper]. Buckinghamshire New University, High Wycombe.
- Moore, T. (2013b). *Tent Waste Survey 2013*. <https://www.agreenerfestival.com/knowledge-base/>
- Musgrave, J., & Raj, R. (2009). Introduction to a Conceptual Framework for Sustainable Events. In R. Raj & J. Musgrave (Eds.), *Event management and sustainability* (pp. 1–12). CABI.
- Ni, P., Kresl, P. K., & Liu, W. (Eds.). (2015). *The global urban competitiveness report - 2013*. Edward Elgar Publishing. <http://www.elgaronline.com/view/9781782548027.xml>  
<https://doi.org/10.4337/9781782548034>
- Okolo-Kulak, A. (2015). *Environmental and legislative drivers for sustainable music festival management – Why Finnish music festivals should 'go green'* [Bachelor Thesis]. Helsinki Metropolia University of Applied Sciences, Helsinki.
- O'Neill, C. (2006). *Should UK Music Festivals Implement Environmentally Friendly Practices* [Dissertation]. Buckinghamshire New University, High Wycombe.
- O'Neill, C. (2009). Green Shoots: European Festival Report. *IQ Magazine*(Q4), 22–23. [https://www.agreenerfestival.com/wp-content/uploads/IQ\\_Claire\\_Q42009.pdf](https://www.agreenerfestival.com/wp-content/uploads/IQ_Claire_Q42009.pdf)
- Organ, K., Koenig-Lewis, N., Palmer, A., & Probert, J. (2015). Festivals as agents for behaviour change: A study of food festival engagement and subsequent food choices. *Tourism Management*, 48, 84–99. <https://doi.org/10.1016/j.tourman.2014.10.021>

- Orsato, R. J. (2006). Competitive environmental strategies: when does it pay to be green? *Strategic Direction*, 22(8).  
<https://doi.org/10.1108/sd.2006.05622had.003>
- Øyafestivalen. (2020). *Miljøhåndboken - Øya 2020*.  
<https://oyafestivalen.no/miljo/miljohandboken/>
- Page, W., & Carey, C. (2010). *Economic Insight: Adding up the UK music industry for 2009* (Issue 20). <https://www.prsformusic.com/-/media/files/prs-for-music/research/economic-insight-20-adding-up-the-uk-music-industry-for-2009.ashx?la=en&hash=9A4775C7814B0F87110688452915B50EB05F21FF>
- Pawlik, V. (2020a, May 29). *Konzertbesucher - Berufsausbildung 2019* | Statista.  
<https://de.statista.com/statistik/daten/studie/874407/umfrage/umfrage-in-deutschland-zur-berufsausbildung-von-festival-konzertbesuchern/>
- Pawlik, V. (2020b, May 29). *Konzertbesucher - Schulabschluss 2019* | Statista.  
<https://de.statista.com/statistik/daten/studie/874402/umfrage/umfrage-in-deutschland-zum-schulabschluss-von-festival-konzertbesuchern/>
- Pawlik, V. (2020c, August 7). *Konzertbesucher - Ausgabebereitschaft für umweltfreundliche Produkte 2019* | Statista.  
<https://de.statista.com/statistik/daten/studie/875134/umfrage/festival-konzertbesucher-zur-ausgabebereitschaft-fuer-umweltfreundliche-produkte/>
- Pawlik, V. (2020d, August 7). *Konzertbesucher - Kauf von veganen Produkten 2019* | Statista.  
<https://de.statista.com/statistik/daten/studie/875124/umfrage/umfrage-unter-festival-konzertbesuchern-zum-kauf-von-veganen-produkten/>
- Pedelty, M. (2012). *Ecomusicology: Rock, Folk, and the Environment*. Temple University Press. <http://gbv.ebib.com/patron/FullRecord.aspx?p=934487>
- Perić, M. (Ed.). (2015). *Zero waste guidelines for events and festivals*. Faculty of Tourism and Hospitality Management; Faculty of Tourism Studies - Turistica.
- Perron-Brault, A., Grandpré, F. de, Legoux, R., & Dantas, D. C. (2020). Popular music festivals: An examination of the relationship between festival programs and attendee motivations. *Tourism Management Perspectives*, 34, 100670.  
<https://doi.org/10.1016/j.tmp.2020.100670>
- Petrusich, A. (2020, February 18). The Day the Music Became Carbon-Neutral. *The New Yorker*. <https://www.newyorker.com/culture/culture-desk/the-day-the-music-became-carbon-neutral>
- Pi-Ching, C. (2011). *Festivals: Predicting Attendance Intention With Decision-Making Factors* [Dissertation]. Indiana University, Bloomington, Indiana.
- Pine II, B. J., & Gilmore, J. H. (2011). *The Experience Economy, Updated Edition*. Harvard Business Review Press.  
<https://ebookcentral.proquest.com/lib/gbv/detail.action?docID=5181949>
- Porter, M. E. (1985). *Competitive advantage: Creating and sustaining superior performance*. Free Press.
- Preso, S. M. (2014). *Sustainability at open air music festivals in the Netherlands, Belgium and Germany* [Master Thesis]. Universiteit Utrecht, Utrecht.
- PricewaterhouseCoopers. (2021). *2021 Outlook segment findings: Music, radio and podcasts*.

- <https://www.pwc.com/gx/en/industries/tmt/media/outlook/segment-findings.html>
- Prillwitz, J., & Barr, S. (2011). Moving towards sustainability? Mobility styles, attitudes and individual travel behaviour. *Journal of Transport Geography*, 19(6), 1590–1600. <https://doi.org/10.1016/j.jtrangeo.2011.06.011>
- Quinn, B. (2019). Festivals and Social Sustainability. In J. Mair (Ed.), *Routledge handbooks. The Routledge handbook of festivals* (pp. 53–61). Routledge.
- Reilly, N. (2020, April 22). Queen’s Brian May on touring after lockdown: “Will it be safe to have thousands of fans in one place?”. *NME*.  
[https://www.nme.com/news/music/queens-brian-may-on-touring-after-lockdown-will-be-it-safe-to-have-thousands-of-fans-in-one-place-2651646?utm\\_source=feedly&utm\\_medium=rss&utm\\_campaign=queens-brian-may-on-touring-after-lockdown-will-be-it-safe-to-have-thousands-of-fans-in-one-place](https://www.nme.com/news/music/queens-brian-may-on-touring-after-lockdown-will-be-it-safe-to-have-thousands-of-fans-in-one-place-2651646?utm_source=feedly&utm_medium=rss&utm_campaign=queens-brian-may-on-touring-after-lockdown-will-be-it-safe-to-have-thousands-of-fans-in-one-place)
- Reinhardt, F. L. (1998). Environmental Product Differentiation: Implications for Corporate Strategy. *California Management Review*, 40(4), 43–73.  
<https://doi.org/10.2307/41165964>
- Riach, B. (2019). *Event Industry Green Survey 2019 - The Results are in!*  
<http://www.powerful-thinking.org.uk/industry-green-survey-2019-the-results-are-in/>
- Richards, W. (2019, October 21). Savages’ drummer and Music Declares Emergency co-founder Fay Milton on climate change: “Music needs to get real”. *NME*.  
<https://www.nme.com/news/music/music-declares-emergency-savages-fay-milton-interview-2559242>
- Richardson, N. (2009). Critique of Consumer Marketing within Sustainable Events. In R. Raj & J. Musgrave (Eds.), *Event management and sustainability* (pp. 109–118). CABI.
- Richardson, N. (2018). Entrepreneurial insights into sustainable marketing: A case study of U.K. music festivals. *Strategic Change*, 27(6), 559–570.  
<https://doi.org/10.1002/jsc.2239>
- Richardson, N. (2019). Corporate social responsibility or sustainability in music festivals. *International Journal of Organizational Analysis*, 27(5), 1257–1273.  
<https://doi.org/10.1108/IJOA-03-2018-1368>
- Robathan, M. (2011). Green Fields: We look at how Glastonbury Festival is minimising its environmental impact. *Leisure Management*, 31(1), 60–62.
- Robbins, T. (2006, December 10). The Great Green Rip-off? *The Guardian*.  
<https://www.theguardian.com/travel/2006/dec/10/ethicalholidays.escape>
- Rohde, J. (2019, October 18). Backstage-Serie: Grün Rockt! *FKP Scorpio Blog*.  
<https://blog.fkpscorpio.com/gruen-rockt-backstage/>
- Rolling Stone (2020, January 13). Silbermond: Tour-Verzicht von Coldplay lässt sie „erstaunt“. *Rolling Stone*. <https://www.rollingstone.de/silbermond-coldplay-klima-1888773/>
- Savage, M. (2019, November 21). Coldplay to pause touring until concerts are 'environmentally beneficial'. *BBC News*.  
<https://www.bbc.com/news/entertainment-arts-50490700>

- Schreier, M. (2014). Varianten qualitativer Inhaltsanalyse: Ein Wegweiser im Dickicht der Begrifflichkeiten. Advance online publication. <https://doi.org/10.17169/fqs-15.1.2043> (Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Vol 15, No 1 (2014)).
- Self, B. (2021). Conducting Interviews During the COVID-19 Pandemic and Beyond. Advance online publication. <https://doi.org/10.17169/fqs-22.3.3741> (Forum Qualitative Sozialforschung / Forum: Qualitative Social Research, Vol. 22 No. 3 (2021): The Refiguration of Spaces and Cross-Cultural Comparison II).
- S raphin, H., & Nolan, E. (2018). Introduction. In H. S raphin & E. Nolan (Eds.), *Green Events and Green Tourism: An International Guide to Good Practice* (pp. 1–8). Routledge.
- Shirley, M. D. F., Armitage, V. L., Barden, T. L., Gough, M., Lurz, P. W. W., Oatway, D. E., South, A. B., & Rushton, S. P. (2001). Assessing the impact of a music festival on the emergence behaviour of a breeding colony of Daubenton's bats (*Myotis daubentonii*). *Journal of Zoology*, 254(3), 367–373. <https://doi.org/10.1017/S0952836901000863>
- Siems, R. (2021, October 2). Pop als Billigware: Wie Spotify die Musik. *Musikexpress*. [https://www.musikexpress.de/pop-als-billigware-wie-spotify-die-musik-bestimmt-1825609/?fbclid=IwAR3zbTbZdTBVDOPi\\_9X2RGNE0SSQKqC0YkBYcTMOzoGkF6Or5uyuJ82vuAo](https://www.musikexpress.de/pop-als-billigware-wie-spotify-die-musik-bestimmt-1825609/?fbclid=IwAR3zbTbZdTBVDOPi_9X2RGNE0SSQKqC0YkBYcTMOzoGkF6Or5uyuJ82vuAo)
- Smith-Christensen, C. (2009). Sustainability as a Concept within Events. In R. Raj & J. Musgrave (Eds.), *Event management and sustainability* (pp. 22–31). CABI.
- Snapes, L. (2019, July 25). Hot and bothered: Why the 1975's collaboration with Greta Thunberg matters. *The Guardian*. <https://www.theguardian.com/music/2019/jul/25/why-greta-thunberg-joined-the-1975>
- Soethof, F. (2018, June 22). Hurricane-CEO Stephan Thanscheidt: „Ich w re sehr gerne einmal Rage Against The Machine pr sentieren“. *Musikexpress*. <https://www.musikexpress.de/hurricane-southside-festival-stephan-thanscheidt-interview-1075895/2/>
- Song, H. J., Lee, C.-K., Kang, S. K., & Boo, S. (2012). The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior. *Tourism Management*, 33(6), 1417–1428. <https://doi.org/10.1016/j.tourman.2012.01.004>
- Statista. (2021). *Nachhaltiger Konsum in Deutschland 2021 Report*. <https://de.statista.com/statistik/studie/id/88296/dokument/nachhaltiger-konsum-report/>
- Steinke, I. (2019). G tekriterien qualitativer Forschung. In U. Flick, E. von Kardorff, & I. Steinke (Eds.), *Qualitative Forschung – Ein Handbuch* (13th ed., pp. 319–331). Rowohlt.
- Stettler, S. L. (2011). *Sustainable Event Management of Music Festivals: An Event Organizer Perspective* (257) [Dissertation, Portland State University, Portland]. CrossRef.

- Stone, C. (2009). The British Pop Music Festival Phenomenon. In J. Ali-Knight (Ed.), *Advances in tourism research series. International perspectives of festivals and events: Paradigms of analysis* (pp. 205–224). Academic Press Elsevier.  
<https://doi.org/10.1016/B978-0-08-045100-8.00014-4>
- Sweney, M. (2020, November 18). UK music industry will halve in size due to Covid, says report. *The Guardian*.  
<https://www.theguardian.com/business/2020/nov/18/uk-music-industry-will-halve-in-size-due-to-covid-says-report>
- Tari, M. (2011, August 19). *Die grüne Revolution bei Open Airs: Pukkelpop und die Folgen: Zwischen Motivation und Mobilisierung*.  
<https://www.intro.de/popmusik/pukkelpop-und-die-folgen-zwischen-motivation-und-mobilisierung>
- Taylor, S., & Wolfe, J. (2018). *AIF Ten Year Report: 2008-2018*. <https://aiforg.com/wp-content/uploads/AIF-Ten-Year-Report.pdf>
- Ticketmaster (2019, June 18). State Of Play: Over a third admit to leaving a tent behind: But the future of the environment is high on everyone's minds. *Ticketmaster UK*. <https://discover.ticketmaster.co.uk/festivals/sustainability-44889/>
- Timms, J. R. (2011). *Good Green Fun: Building And Testing A Model For Green Live Music Events* [Master Thesis]. Utrecht University, Utrecht.
- Tinnish, S. M., & Mangal, S. M. (2012). Sustainable Event Marketing in the MICE Industry: A Theoretical Framework. *Journal of Convention & Event Tourism*, 13(4), 227–249. <https://doi.org/10.1080/15470148.2012.731850>
- Tölkes, C., & Butzmann, E. (2018). Motivating Pro-Sustainable Behavior: The Potential of Green Events—A Case-Study from the Munich Streetlife Festival. *Sustainability*, 10(10), 3731–3746. <https://doi.org/10.3390/su10103731>
- Toniolo, S., Mazzi, A., Fedele, A., Aguiari, F., & Scipioni, A. (2017). Life Cycle Assessment to support the quantification of the environmental impacts of an event. *Environmental Impact Assessment Review*, 63, 12–22.  
<https://doi.org/10.1016/j.eiar.2016.07.007>
- Turner, V. (1974). Liminal to Liminoid, in Play, Flow, and Ritual: An Essay in Comparative Symbolology. *Rice Institute Pamphlet - Rice University Studies*, 60(3), 53–92.
- Turner, V. (1989). *The ritual process: Structure and anti-structure* (6. print). *Cornell paperbacks anthropology: Vol. 163*. Cornell Univ. Press.
- Turner, V. (2008). *From ritual to theatre: The human seriousness of play* (6. print). *Performance studies series: Vol. 1*. PAJ Publ.
- Tuttas, C. A. (2015). Lessons learned using Web conference technology for online focus group interviews. *Qualitative Health Research*, 25(1), 122–133.  
<https://doi.org/10.1177/1049732314549602>
- Unsound Festival. (2019). *Solidarity With The Earth*.  
<https://www.unsound.pl/en/archive/en/solidarity/solidarity-with-the-earth.html>

- Vision 2025 (2020, October 27). Events Industry Leaders Q&A: Marie Sabot - We Love Green. *Vision 2025*. <https://www.vision2025.org.uk/news-1/events-industry-leaders-qampa-marie-sabot-we-love-green>
- Vision 2025 (2021a, May 13). Green Leader Q&A #13: Mitchell van Dooijeweerd, Sustainability Coordinator at DGTL Festival and Revolution Foundation. *Vision 2025*. <https://www.vision2025.org.uk/news-1/green-leader-qampa-13-mitchell-van-dooijeweerd-sustainability-coordinator-at-dgtl-festival-and-revolution-foundation>
- Vision 2025 (2021b, November 3). Green Leader Q&A #11: Victoria Chapman, Head of Sustainability, Live Nation (UK & Ireland). *Vision 2025*. <https://www.vision2025.org.uk/news-1/green-leader-qampa-11-victoria-chapman-head-of-sustainability-live-nation-uk-amp-ireland>
- Viviers, P., Botha, K., & Marumo, E. (2019). "Actions speak louder than words": Comparing attendees' green behaviour at home with their inclination to support green practices at arts festivals. *African Journal of Hospitality, Tourism and Leisure*, 8(4), 1–18.
- Vogel, V. (2010). *Eco-Friendly Music Festivals in Germany: A Communication Platform For Sustainable Development?* [Bachelor Thesis]. International University of Applied Sciences Bad Honnef, Bad Honnef. [https://issuu.com/thema1/docs/eco-friendly\\_music\\_festivals\\_vaness](https://issuu.com/thema1/docs/eco-friendly_music_festivals_vaness)
- Vogl, S. (2013). Telephone Versus Face-to-Face Interviews. *Sociological Methodology*, 43(1), 133–177. <https://doi.org/10.1177/0081175012465967>
- Wall, A., & Behr, F. (2010). *Ein Ansatz zur Messung der Nachhaltigkeit von Events: Kernziele eines Nachhaltigkeitsmanagements von Events und Indikatoren zur Messung der Nachhaltigkeit*. CSM. [https://www.leuphana.de/no\\_cache/institute/csm/publikationen.html](https://www.leuphana.de/no_cache/institute/csm/publikationen.html)
- Way Out West. (2020, October 12). *Sustainability - Way Out West*. <https://www.wayoutwest.se/wow/sustainability/>
- Webster, E. (2014). *Association of Independent Festivals Six-Year Report 2014*. Association of Independent Festivals, Live Music Exchange. <https://aiforg.com/wp-content/uploads/AIF-Six-Year-Report-2014.pdf>
- Webster, E., & McKay, G. (2016). *From Glynedebourne to Glastonbury - The impact of British music festivals*. <https://doi.org/10.6084/M9.FIGSHARE.3413836>
- Weihser, R. (2010, June 30). Grün hinter den Zelten. *Die Zeit*. <https://www.zeit.de/kultur/musik/2010-06/green-festivals>
- White, E., & Séraphin, H. (2018). Sustainability and festivals: An objective still to be achieved. In H. Séraphin & E. Nolan (Eds.), *Green Events and Green Tourism: An International Guide to Good Practice* (pp. 63–71). Routledge.
- Whitfield, J., & Dioko, L. A. N. (2012). Measuring and Examining the Relevance of Discretionary Corporate Social Responsibility in Tourism. *Journal of Travel Research*, 51(3), 289–302. <https://doi.org/10.1177/0047287511418369>
- Williams, N., & Murray, S. (2019). *Mu5ic by Num8ers 2019*. London. UK Music; Oxford Economics.
- Wilmersdörffer, R., & Schlicher, D. (2019). Evaluating the sociocultural effects of festivals: Developing a comprehensive impact correlation model and its

- application. In J. Mair (Ed.), *Routledge handbooks. The Routledge handbook of festivals* (pp. 62–70). Routledge.
- Wong, C. (2005). *The environmental impacts of a festival: Exploring the application of the ecological footprint as a measuring tool* [Honours Thesis]. University of New South Wales, Sydney.
- Wong, I. A., Wan, Y. K. P., Huang, G. I., & Qi, S. (2020). Green event directed pro-environmental behavior: an application of goal systems theory. *Journal of Sustainable Tourism*, 1–22. <https://doi.org/10.1080/09669582.2020.1770770>
- Wong, I. A., Wan, Y. K. P., & Qi, S. (2015). Green events, value perceptions, and the role of consumer involvement in festival design and performance. *Journal of Sustainable Tourism*, 23(2), 294–315. <https://doi.org/10.1080/09669582.2014.953542>
- Yang, L., Terry, H. P., Mubay, P., & Bellini, H. (2020, July 22). *Music in the Air: The show must go on*. <https://www.goldmansachs.com/insights/pages/infographics/music-in-the-air-2020/report.pdf>
- Yeoman, I. (Ed.). (2011). *Festival and events management: An international arts and culture perspective* (1. ed., Reprinted.). Elsevier Butterworth-Heinemann.
- Yorke, T. (2008, March 23). Why I'm a climate optimist. *The Guardian*. <https://www.theguardian.com/environment/blog/2008/mar/20/thomyorke>
- Yourope (Ed.). (2020, January 10). *Yourope Members Survey 2019*.
- Zifkos, G. (2015). Sustainability Everywhere: Problematizing the “Sustainable Festival” Phenomenon. *Tourism Planning & Development*, 12(1), 6–19. <https://doi.org/10.1080/21568316.2014.960600>