CONFIDENTIAL

An Assessment of the Economic & Environmental Impacts of the 2008 Isle of Wight Music Festival

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1. INTRODUCTION

This report has been prepared by the Sport Industry Research Centre (SIRC) at Sheffield Hallam University and the ESRC Centre for Business Relationships, Accountability, Sustainability and Society (BRASS) at Cardiff University on behalf of the Isle of Wight Council. The purpose of this report is to present the findings from a programme of primary research designed to evaluate the economic and environmental impacts of the 10th Isle of Wight Music Festival (the Festival) held at Seaclose Park, Newport between 13th and 15th June 2008. Although the Festival is known to attract a sizeable audience, in practice little is known about the associated costs and benefits of hosting the event.

The findings of this independent research serve as a useful guide to the Council in two key regards. First, to assess the direct monetary benefits for the island's economy that can be legitimately attributed to the Festival against the cost of the property rights attached to the event. Second, to better understand the wider environmental considerations of staging the Festival based on an analysis of carbon emissions connected to the event.

2. RESEARCH AIMS

The primary aim of the research was to quantify the economic impact of the Isle of Wight Music Festival on the island's economy. Economic impact in this context is defined as the "net change in the Isle of Wight economy that is directly attributable to the staging of the Festival." The significance of this definition is that it measures the 'additionality' of the event, which is recognised best practice as per the *Treasury Green Book*[1] and *DCMS White Book*[2].

An event such as the Isle of Wight Music Festival is capable of delivering direct economic benefits for the host community, including, but not limited to, the spending by Festival-related visitors on the island. However, in order to qualify as genuine economic impact such expenditure must: originate from outside the island (i.e. be 'new' money); be incurred with local suppliers; and, not be expatriated from the island ('leakage'). Economic impact studies routinely discard the expenditure of people living locally since this is assumed to be a substitution of their spending which would have occurred elsewhere in the local economy regardless of an event. Consequently, expenditure by Isle of Wight residents is exempt from the economic impact calculations for the Festival and is classed as 'deadweight' under the terms of the research.

Figure 1 provides an illustration of economic impact in the context of the Isle of Wight Music Festival. However, the research was not fully endorsed by event promoters in terms of allowing the research team to interview relevant groups at the Festival site and access to management accounts required to build a picture of the event's overall economic impact. This meant that the research was confined to Festival spectators, who were interviewed in proximity to, but outside, the Festival grounds. In this regard, the report provides a partial view of the overall economic impact attributable to the Festival.

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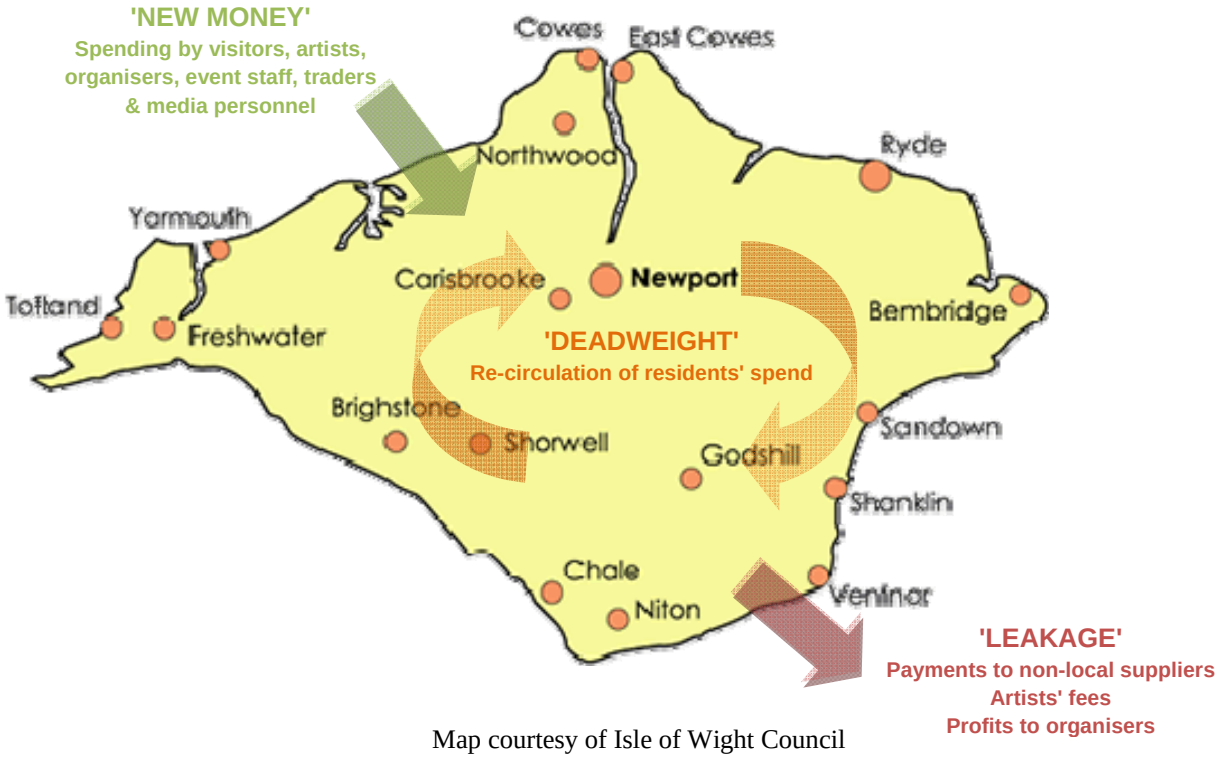
[1] http://www.hm-treasury.gov.uk/green_book.htm
[2] http://www.culture.gov.uk/reference_library/publications/3690.aspx

Figure 1: Flow of funds in the Isle of Wight economy



Map courtesy of Isle of Wight Council

The analysis of the environmental impacts of the Festival was supplementary to the economic impact component and focused on producing a 'carbon footprint' estimate of the direct and indirect carbon equivalent emissions arising from spectator travel to and from the event, and associated spending on the island.

3. METHODS

3.1 Overview

A team of four researchers was stationed in Portsmouth from 12th June until the conclusion of the Festival on 15th June. The research team conducted questionnaire surveys at a variety of locations outside the Festival site, including:

- Portsmouth harbour and on the ferries to and from Ryde;
- On Festival buses from Ryde to Newport;
- Immediately outside the Festival grounds and camping site entrances; and,
- Newport town centre.

A copy of the survey instrument is included in Appendix 1. In order to ensure a robust sample upon which to base our estimates, the research team targeted a minimum of 1,000 respondents drawn from spectators with camping and non-camping Festival wristbands. The surveys were designed to be self-completion following a brief introduction by a researcher. The purpose of the survey was to capture relevant data from spectators in order to achieve the following core objectives:

- Calculating the proportion of respondents normally resident on the Isle of Wight and those who were visitors to the island;
- Calculating, from the subset of visiting spectators, the proportion of people for whom the Festival was their primary motivation for being on the island;
- Calculating the number of commercial and non-commercial bed-nights generated on the island in order to assess any impact made by the Festival on the accommodation sector beyond the Festival campsite;
- Calculating the secondary expenditure on the island by visitors to the Festival on items other than accommodation, including: food and drink; Festival-related merchandise and souvenirs; shopping; entertainment; local travel; and other spend;
- Estimating the carbon footprint of the Festival to include: travel from home and return; and visitors' consumption of goods and services on the island.

Survey data was subsequently entered, cleaned and analysed using the industry standard Statistical Package for the Social Sciences (SPSS).

3.2 The sample

Interviews were conducted with 1,079 spectators over a four-day period between 12th and 15th June 2008. Table 1 provides an overview of sample sizes achieved by date of interview. The number of spectator interviews ranged from 72 on the day prior to the start of the Festival to 366 on 14th June. The majority (93%) of the interviews took place on the three Festival days and there was a reasonable spread of interviews across each day of the event.

Table 1: Responses by date of interview

Date of Interview	Respondents	% of Total
12 June	72	6.7
13 June	294	27.2
14 June	366	33.9
15 June	347	32.2
TOTAL	**1,079**	**100.0**

The aggregate ticket sales for the Festival were confirmed by the Isle of Wight Council at 60,000 and it is this figure that has been used as the 'population' to inform both the economic and environmental impact assessment models. It is a key assumption that the purchase of a ticket subsequently translated into actual attendance at the Festival and therefore the number of tickets sold was equivalent to the number of different people in attendance. The distribution of camping and non-camping respondents in our sample is compared against official attendance data in Table 2.

Table 2 indicates that the majority of Festival attenders were camping ticket holders and this finding is broadly replicated within the sample of people interviewed over the course of the Festival, albeit the sample somewhat under represents the proportion of non-camping

spectators relative to the actual audience. Despite the apparent imbalance in the sample, the data revealed that those with a camping ticket did not necessarily stay on Festival grounds. It is our view that some spectators (e.g. Isle of Wight residents) may have purchased camping tickets following restrictions on the number of general admission (i.e. non-camping) tickets on offer, but then proceeded to stay at home or elsewhere.

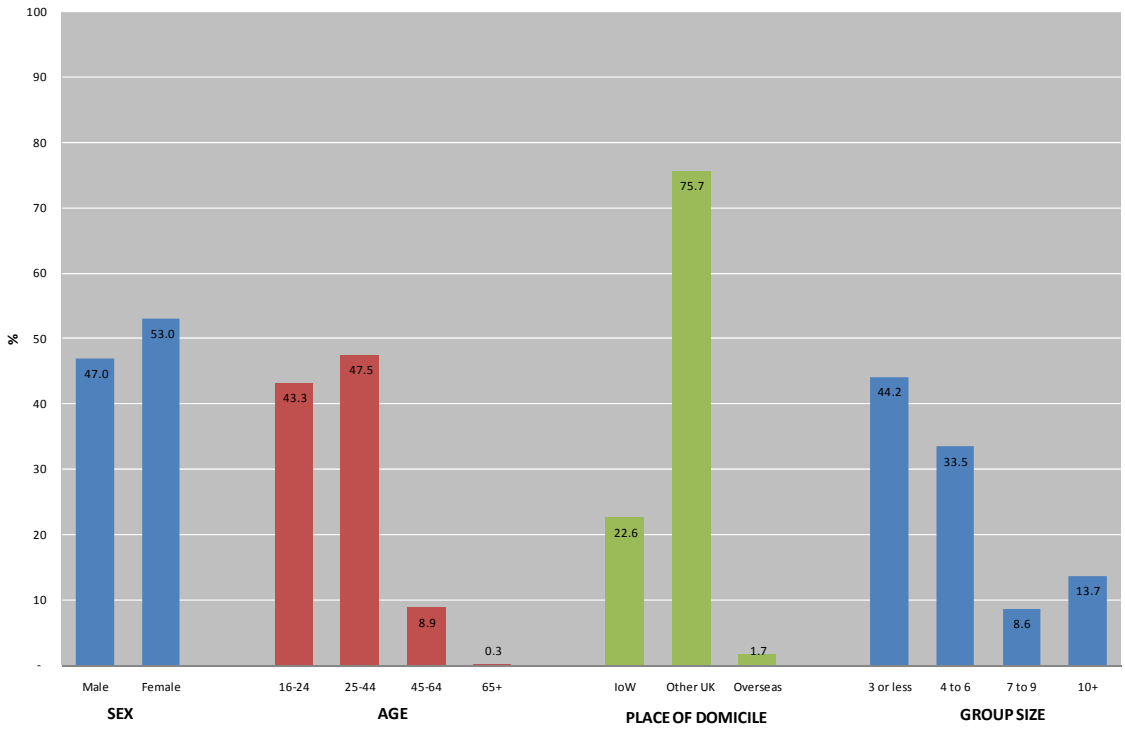
Table 2: Sample vs. Actual

Type of ticket	Actual		Sample		Sample / Actual
	N	%	n	%	%
Camping	38,000	63.3	807	74.8	2.1
Non-camping	22,000	36.7	272	25.2	1.2
Total	**60,000**	**100.0**	**1,079**	**100.0**	**1.8**

3.2.1 Sample demographics

Having provided an overview of the research process and sample obtained, the report now considers the broad demographic profile of respondents attending the Festival. The survey examined four profile indicators of spectators relating to gender, age, place of domicile and group size – see Graph 1.

Graph 1: Sample demographics



The spectator sample was split 47% male and 53% female, with the majority of those interviewed (91%) under the age of 45. On average, each spectator was accompanied by four other people. Analysis of primary data indicates that the ratio of adults (16+) to young people (under 16s) was 21:1. In other words, for every 100 adult spectators there were about five young people in attendance.

The vast majority of the sample was resident in the UK (98%) with some 23% residing on the Isle of Wight. The Office for National Statistics estimates the population of the Isle of Wight at c. 138,000. Assuming that the sample interviewed can be regarded as a fair representation of the geographical spread of Festival spectators, this means that c. 13,560 Isle of Wight residents attended at least part of the Festival. In relative terms, this corresponds to nearly 10% of the island's population. The number of spectators resident on the Isle of Wight has an important bearing on the potential impact of the Festival, as the spending by local residents is not considered to be 'additional' to the island's economy and is excluded as 'deadweight'.

4. RESULTS

4.1 Economic Impact

The economic impact of the Festival is a function of the monetary transactions that occur between the key groups connected with the event and the suppliers of goods and services. In our view, Figure 2 (overleaf) broadly reflects the level of economic activity associated with the Festival from an organisational perspective, estimated at c. £9m - £10m from the latest accounts of the promoters available in the public domain, the bulk of which is generated via ticket sales. This income is then used by the promoters to fund event operating costs, predominantly on artists' fees, event infrastructure (including staffing), marketing activity and administration. Any surplus of income over expenditure is retained by the event promoters.

Figure 3 (overleaf) illustrates the nature of interaction between Festival attenders and suppliers, linked to the event being held on the Isle of Wight. In order to distinguish between the economic activity generated by, and the economic impact of, the Festival we need to consider where the money originates, the location of spending and, where appropriate, the origin of suppliers with whom such expenditure is made.

Any expenditure incurred with non-local suppliers on the Isle of Wight would essentially constitute 'leakage' from the island in economic impact terms. For example, if the owners of the funfair rides at the Festival site are not from the Isle of Wight then any money spent with them, although technically changing hands on the island, does not ultimately end up in the Isle of Wight economy.

It is our view that many of the traders at the Festival site were non-local in the sense that their core business would not ordinarily occur on the Isle of Wight. Owing to lack of access to Festival grounds, we were unable to query Festival traders about their normal location of business. However, based on our previous experience of conducting similar assessments and publicly available research into the economic impact of other major UK Festivals[3], we estimated that at least two-thirds of on-site traders were from the UK mainland.

[3] Economic Impact of Glastonbury Festivals 2007: http://www.mendip.gov.uk/Documents/Final%20ReportLOWRES.pdf

Figure 2: The economic activity generated by the Festival (organisers)

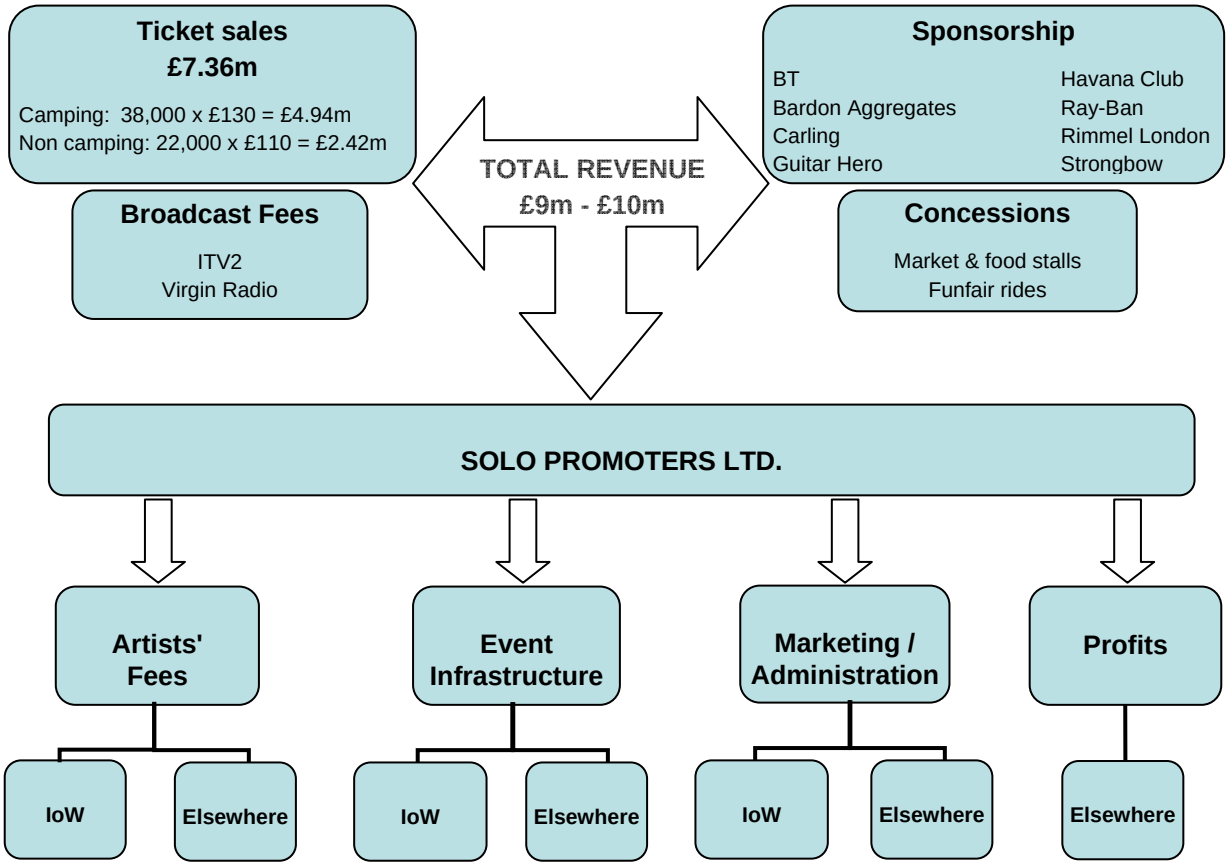
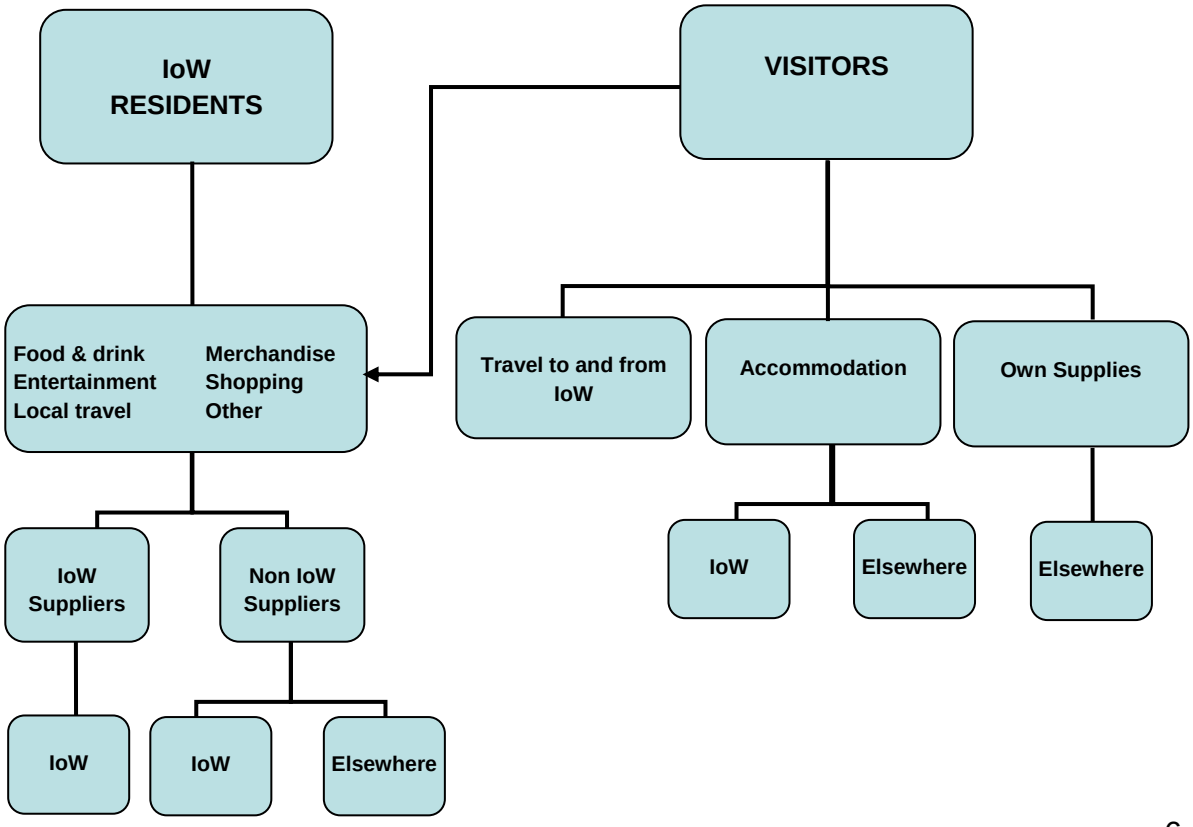


Figure 3: The economic activity generated by the Festival (spectators)



4.1.1 Economic impact of Festival spectators

Consistent with the definition of economic impact employed, the spectator attendance figure of 60,000 was subject to two down-weighting factors in order to derive the number of spectators eligible for inclusion in the economic impact calculations for the Festival.

- *Deadweight factor*, that is, the proportion of spectators in the sample normally resident on the island.
- *Main reason factor*, that is, the proportion of visiting spectators in the sample whose primary motivation for being on the island was to attend the Festival.

Table 3: Derivation of eligible spectators

	Camping	Non-camping	Overall
Number of spectators	38,000	22,000	**60,000**
Deadweight factor	0.16	0.33	**0.23**
Visitors	31,802	14,640	**46,442**
Main reason factor	0.99	0.97	**0.98**
Eligible spectators	**31,373**	**14,165**	**45,538**

The net result of the above adjustments was that 76% of the audience (45,538 people) were included in the economic impact assessment of the Festival on account of being visitors from outside the Isle of Wight and being present on the island specifically to attend the Festival. Based on our primary research with this group, we estimate that 31,373 (69%) of eligible spectators had camping tickets whereas the remainder (14,165) were non-campers. It is possible to further classify spectators by the type of accommodation they used during their visit to the Isle of Wight. Our analysis identifies that:

- Some 16% of spectators stayed in commercial accommodation (hotels, guest houses, B&Bs and non-Festival campsites) on the island;
- 82% made use of non-commercial accommodation. This includes people camping at the Festival site (whose expenditure on accommodation is factored into their wristband)[4], those staying off-site with friends and relatives or in some other non-paid accommodation on the island;
- The remainder (2%) were day visitors to the Isle of Wight. Such visitors chose to either stay at home or made alternative accommodation arrangements on the UK mainland.

[4] A 3-day camping ticket was priced at £130 and a non-camping ticket for the same duration cost £110. Effectively, the cost of accommodation for those staying at the Festival site was £20. It is our understanding that revenue from ticket sales, including the additional charge for campers, was retained by organisers and would have been used, in part, to fund the running costs associated with the Festival. In our view, a significant amount of the income generated by the Festival would have leaked from the island's shores, for example, via payment of artists' fees or profits taken away by event promoters. We have therefore excluded spend on tickets from the impact attributable to spectators and classified camping ticket holders as non-commercial stayers for the purpose of this analysis.

Table 4 provides a breakdown of the eligible admissions to the Festival by each type of spectator and also shows that some 24,591 commercial bed-nights were generated with local accommodation providers as a direct result of the Festival being held on the island.

Table 4: Commercial bed-nights and day visits associated with the Festival

	Commercial stayers	Non-commercial stayers	Day visitors	Overall
Eligible spectators	**7,266**	**37,128**	**1,144**	**45,538**
Avg. nights (commercial)	3.38	-	-	**0.54**
Commercial bed-nights	**24,591**	-	-	**24,591**
Avg. Festival days	2.94	2.97	2.55	**2.95**
Day visits	**21,349**	**110,211**	**2,921**	**134,481**

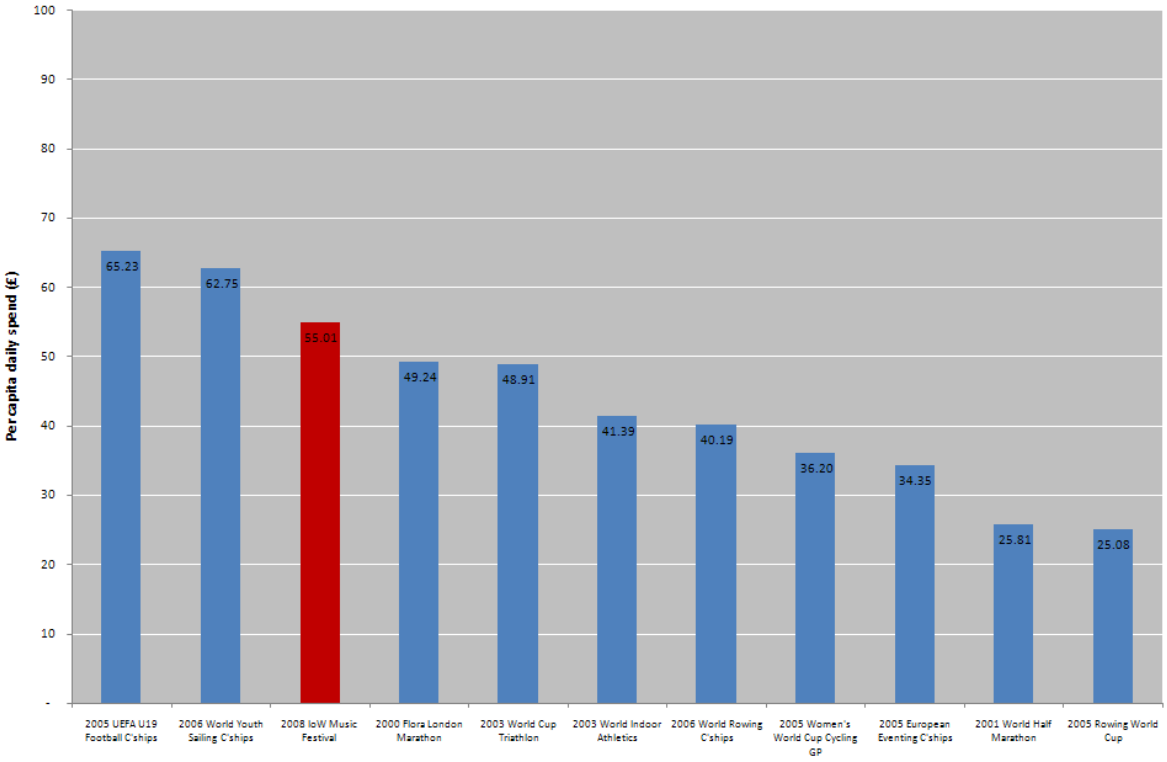
The daily spend levels of Festival spectators are itemised in Table 5. On average, each spectator spent £55.01 per day, with food and drink (£43.58) by far the most significant category of expenditure. Taking into consideration the average spend on accommodation per bed-night for those staying commercially (£19.58), we estimate that expenditure on accommodation alone was valued in excess of £0.48m (24,591 x £19.58). It is worth noting that the figure for daily spend per head on accommodation across all eligible spectators (£3.50) is heavily diluted by the high incidence of people using non-commercial accommodation (including the Festival camp site) on the island.

Table 5: Daily spend of Festival spectators

Category	Commercial stayers	Non-commercial stayers	Day visitors	Overall
Accommodation	£ 19.58	£ -	£ -	**£ 3.50**
Food & drink	£ 37.60	£ 44.68	£ 45.54	**£ 43.58**
Entertainment	£ 1.93	£ 2.18	£ 9.25	**£ 2.29**
Merchandise	£ 1.81	£ 1.85	£ 0.80	**£ 1. 82**
Shopping	£ 1.53	£ 2.50	£ 3.42	**£ 2.36**
Local travel	£ 1.46	£ 1.08	£ 3.26	**£ 1.18**
Other	£ 0.61	£ 0.21	£ 0.72	**£ 0.28**
Overall	**£ 64.52**	**£ 52.49**	**£ 62.99**	**£ 55.01**

Graph 2 (overleaf) helps to contextualise the expenditure characteristics of Festival spectators relative to findings from other major events in the UK that attract large audiences and a sample of other recent events at which we have conducted similar assessments. In effect, the daily spend figure is closely linked to the proportion of commercial stayers, that is, events that intentionally or unintentionally encourage more people to stay overnight in commercial accommodation are associated with higher daily spend per capita.

Graph 2: Spectators' daily spend in context



Bringing together the data from Table 4 & 5, the gross expenditure by Festival spectators on the Isle of Wight is estimated at c. £7.41m, as illustrated in Table 6. If we factor in the spending of spectators who are normally resident on the island, visitor expenditure on commercial accommodation used offshore and supplies purchased on the UK mainland, then the overall economic activity attributable to Festival spectators is estimated at close on £10m. Coupled with organisational spending, it is our view that Festival-related economic activity is worth up to £20m.

Table 6: Gross visitor expenditure

Category	Commercial stayers	Non-commercial stayers	Day visitors	Overall
Accommodation	£ 481,473	£ -	£ -	**£ 481,473**
Food & drink	£ 802,835	£ 4,924,493	£ 133,017	**£ 5,860,345**
Entertainment	£ 41,223	£ 239,879	£ 27,015	**£ 308,116**
Merchandise	£ 38,709	£ 203,600	£ 2,349	**£ 244,658**
Shopping	£ 32,576	£ 275,430	£ 9,984	**£ 317,989**
Local travel	£ 31,068	£ 118,544	£ 9,514	**£ 159,126**
Other	£ 12,941	£ 22,620	£ 2,095	**£ 37,656**
Overall	**£ 1,440,824**	**£ 5,784,565**	**£ 183,974**	**£ 7,409,363**

Consistent with our experience from previous economic impact studies, the bulk of the spectator spending related to subsistence (accommodation, food and drink). Given their sheer numbers, it is perhaps unsurprising that spectators staying overnight in non-commercial

accommodation were the key drivers of the expenditure attributable to all eligible spectators. Non-commercial stayers accounted for 82% of admissions and around 78% of the gross visitor spend - see Table 7.

Table 7: Index of spending by spectator sub groups

Spectator Type	Total Expenditure	% of Admissions	% of Expenditure	Index
Commercial stayers	£ 1,440,824	15.9	19.4	122
Non-commercial stayers	£ 5,784,565	82.0	78.1	95
Day visitors	£ 183,974	2.1	2.5	114
Overall	**£ 7,409,363**	**100.0**	**100.0**	

[Commercial stayers' index = (19.4 / 15.9) * 100 = 122][5]

The expenditure figures presented in Table 6 provide an indication of the amount of money spent by spectators on the island but not necessarily with local suppliers of goods and services. In order to derive the additional expenditure attributable to spectators, we have adjusted the gross visitor expenditure figure to allow for direct leakages.

The revised estimate presented in Table 8 is based on an approximation of spectators' overall spend on Festival grounds and elsewhere on the island. The assumptions underpinning this adjustment are specified below.

- In accordance with the treatment of Festival-site campers as non-commercial stayers, we have assumed that any spend on accommodation is made with off-site providers and such expenditure is not immediately expatriated from the island.
- Travel is also exclusively regarded as an off-site item of expenditure, although in the case of travel-related spend we have applied a leakage factor of 0.25 based on anecdotal evidence of the import of services such as buses and taxis from the UK mainland to support the increased demand for public transport during the Festival period (and factual evidence from the Glastonbury Festivals).
- Spending on Festival-related merchandise is taken to occur exclusively with on-site traders.
- Expenditure on items other than accommodation, travel and merchandise is assumed to equally benefit Festival traders and other suppliers on the island.
- Any on-site spend is subject to a leakage factor of 0.67 based on the estimated proportion of non-local traders working at the Festival.

According to the above assumptions, the gross expenditure by visitors of c. £7.41m equates to additional spending on the island of c. £5.03m. The latter figure represents money which

5 NOTE: Index numbers are useful for identifying variations in expenditure within groups. All things being equal it might be expected that commercial stayers who accounted for 15.9% of the admissions might also account for 15.9% of the spending attributable to spectators. In reality they accounted for 19.4% of the expenditure and thus the index of their expenditure relative to their absolute numbers is (19.4 / 15.9) * 100 = 122.

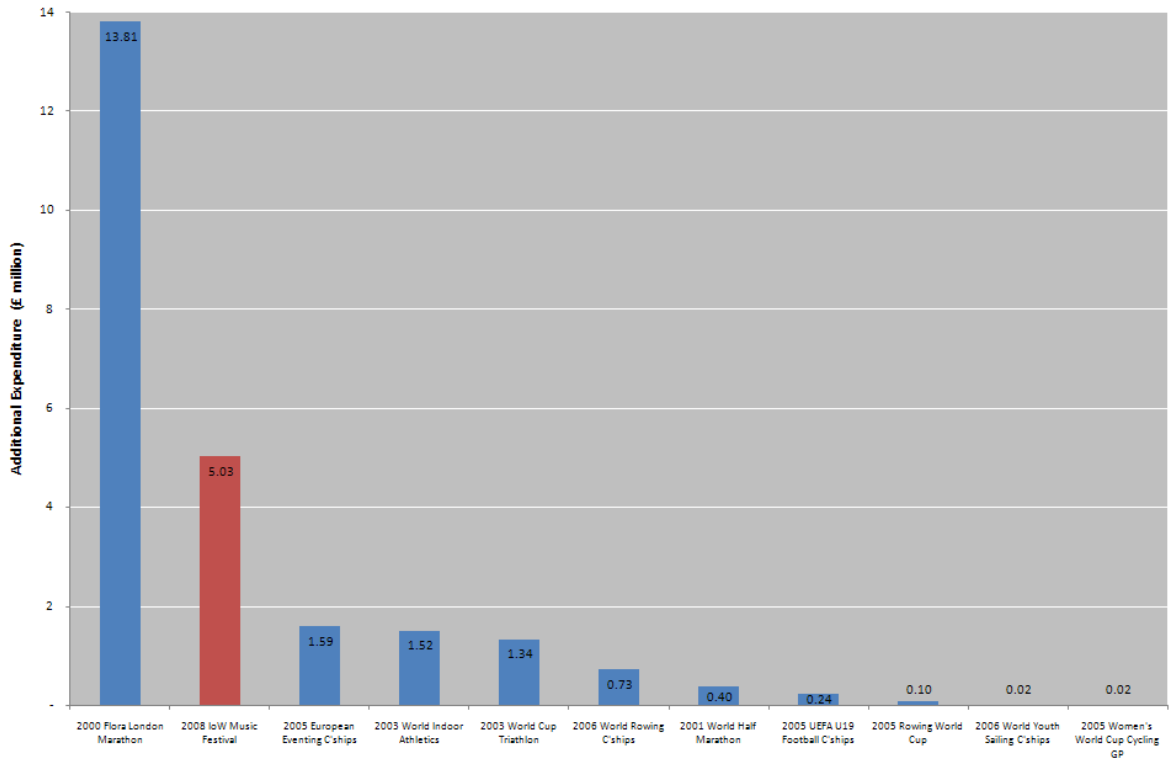
originates from beyond the Isle of Wight, but which has helped to sustain suppliers resident on the island. On average, each visit by a Festival spectator from outside the Isle of Wight was worth £110.45 in new money to the island's economy. The food and drink sector was the prime beneficiary of the economic impact of spectator spending, with these items accounting for c. £3.91m (78%) of the spectators' impact.

Table 8: Economic impact of Festival spectators

Category	On-site	Off-site	Overall
Accommodation	£ -	£ 481,473	**£ 481,473**
Food & drink	£ 976,724	£ 2,930,172	**£ 3,906,896**
Entertainment	£ 50,839	£ 154,058	**£ 204,897**
Merchandise	£ 80,737	£ -	**£ 80,737**
Shopping	£ 52,468	£ 158,995	**£ 211,463**
Local travel	£ -	£ 119,344	**£ 119,344**
Other	£ 6,213	£ 18,828	**£ 25,041**
Overall	**£ 1,166,982**	**£ 3,862,870**	**£ 5,029,852**

In order to put into perspective the magnitude of the economic impact generated by Festival spectators, we present (in Graph 3) the impacts associated with the event comparators presented above in Graph 2.

Graph 3: Economic impact in context



It may be reasonably argued that at least some of c. £9m - £10m of the estimated Festival budget was spent on the island, for example, any fee payable by promoters to the Council in

lieu of property rights to the Festival; costs relating to the use of school fields and private land for the campsite; power, water supply and communication set up costs etc. Furthermore, the other groups connected with the Festival including artists, event staff, traders, sponsors and media personnel may also have impacted upon the local economy during their stay on the island.

Given the research constraints, it is difficult to comment confidently on the spending behaviour of organisers and other visitor groups. In this regard, the spectator impact figure represents an 'at least' position of the overall economic impact attributable to the Festival. Nevertheless, at just over £5m the Festival is a very significant event in economic impact terms & represents a considerable shock to the Isle of Wight economy.

4.2 Environmental Impact

The previous section of the report has sought to provide an understanding of the Festival's economic contribution to the Isle of Wight. Clearly, an event attended by around 60,000 people places extensive demands on the local economy. However, there are a series of environmental impacts connected to the event. In summary, these include carbon emissions connected to event-led consumption; waste generated on the island; noise pollution; and the use of the natural resources of the island. Moreover, as a result of the event some carbon mitigation measures were taken. For example, the Woodland Trust planted some 10,000 trees to partially offset some of the carbon and energy used in staging the 2008 event.

It is impossible to provide a detailed assessment of each and every environmental impact associated with the Festival. Instead, in what follows, we provide an estimate of the carbon footprint associated with spectator travel to and from the event (direct emissions), and with expenditure of visitors while at the event (indirect emissions).

It is important to note that the approach here is qualitatively different from that undertaken in the economic impact analysis where the focus was on expenditure on the Isle of Wight of visitors from outwith the island. Here we adopt a wider frame of reference exploring UK-wide environmental impacts of spending, and then the environmental implications of national / international patterns of travel to the event.

4.2.1 Conceptual summary

Direct emissions associated with the Festival principally relate to those released because of fossil fuels burned pre event, at the event, and post event. For example, this would include fuel used up in developing the infrastructure of the Festival, by Festival organisers at the event and perhaps most importantly by Festival attenders travelling to and from the Isle of Wight, and travelling around the island to see other sites as part of their visit.

Indirect emissions do not occur as a result of the immediate burning of fossil fuel (pre / post the Festival), but are directly associated with the Festival activity. For example, using event floodlights places demands on the electricity grid, and some of this electricity is generated from oil, gas and coal. Other indirect emissions would include those required to create the

goods and services that are consumed during or because of the event (including electricity at accommodation, and energy used in processing food consumed at the event, manufacturing event-related merchandise etc.).

Examining direct emissions is easier than the measurement of indirect emissions. Where the quantity and type of fuel burned can be found, then the resulting carbon dioxide (equivalent) emissions can be estimated. For example, the UK Department of the Environment (DEFRA) provides estimates of carbon emissions per kilometre by different vehicle types. This obviates the need to measure fuel consumption directly (although of course at the cost of some accuracy).

The measurement of indirect emissions is more problematic. One option is to utilise environmental input-output (EIO) methods to estimate carbon emissions. This uses techniques to examine the 'multiplier' effects of additional economic activity on the supply chain (and potentially on household income), but adapting these to explore the carbon emissions associated with new economic activity. In the UK, energy use and greenhouse gas (reported in carbon equivalents) and other emissions are reported for 76 separate industries, and these represent an important analytical tool. In summary, this means that an 'economic multiplier' approach can be used to estimate the extent of new production along all stages of the supply chain as new inputs are needed to produce outputs (both goods and services) that service an event. This new output is then assessed (industry by industry) in terms of the energy use and carbon emissions that result.

Further details on the methods employed to estimate the carbon footprint of the Isle of Wight Music Festival can be found in Appendix 2.

4.2.2 Direct emissions (travel to / from event)

Table 9 shows the estimated travel footprint associated with the Festival. The first column of the table shows the distance of travel assumed to be connected to the Festival, based on data gathered from the questionnaire (see also Appendix 2). There are a few issues here with a significant number of returns specifying no travel mode, and with this requiring the estimation of an average emissions factor. However, the largest distances were covered by car, and then a combined category of train / bus.

The second column shows grams of carbon attributable to each passenger kilometre. The exception here is car travel where this is in terms of carbon attributable per kilometre, and with this requiring an adjustment based on estimated occupancy (number of passengers) to move to associated emissions (see note 3 to the table).

Overall, Festival attendance can be associated with a total of c. 15,300,000 km of travel. It is estimated that the total carbon emissions connected with travel attributable to the Festival is 1,333.2 tonnes - an average of around 22.2kg per Festival spectator. Car related travel emissions are associated with 18.6% of this total, with train, coach and bus collectively associated with 21.5%. Air travel as a whole is associated with a further 22.5% of emissions.

This demonstrates that a relatively small number of people arriving by air can increase the carbon footprint dramatically.

Table 9: Travel-associated carbon footprint

Mode of travel	000s kms[1]	grams CO_2 per passenger km[2]	kg CO_2	% kg CO_2
Domestic air	313.1	158.0	49,465.2	3.7
International air	1,923.4	130.4	250,813.0	18.8
Car	3,588.6	207.5[3]	248,214.4[3]	18.6
Train / coach / bus	3,832.2	74.7[4]	286,076.9	21.5
Minibus	150.0	89.1	13,365.0	1.0
Ferry	1,232.0	115.2	141,922.2	10.6
No mode specified	4,233.9	81.1[5]	343,366.0	25.8
Overall	**15,273.2**	**87.3**	**1,333,222.7**	**100.0**

Notes:

1. Kms attributed to festival
2. Source: DEFRA, 2007, 2008
3. Using the survey data, average car occupancy was estimated to be 3. The number of kms travelled by car is first divided by 3, and is then multiplied by the emission factor to estimate total kgs of CO_2.
4. Average of 60.2 for train and 89.1 for coach/bus. There was limited or no information on mode of transport for some journeys, such as secondary travel from London airports to IoW for overseas visitors. The assumption was that this travel would be either by coach or rail, hence these categories have been aggregated for this analysis.
5. For those who specified postcode, but not mode of travel, an average emissions factor for domestic travel to the festival per km was used (none of these visitors were from overseas).

4.2.3 Indirect emissions

In order to calculate indirect emissions, we revisit the gross visitor spending associated with attendance at the Festival, reported in Table 6. The second column of Table 10 adjusts this gross spending to allow for imported goods and services (i.e. we wish to focus on the connected UK-based emissions linked to the spending).

It is important to note that with the economic impact analysis earlier in the report the focus was strictly on the Isle of Wight. Here we again stress that for the carbon footprint analysis we examined the UK-wide environmental impacts associated with Festival-related spending. Table 11 shows that a total £5.88m of visitor direct spending in the UK[6] is estimated to be associated with 2,610 tonnes of carbon emissions, that is, around twice as much as that associated with spectator travel. Put another way, each pound of spectator spending can be associated with an average of 0.44kg of carbon emissions. Note that the estimates take account of carbon emissions occurring in the supply chain to food and drink industries which directly serve Festival spectators.

[6] The figure for visitor direct spending in the UK of £5.88m is calculated differently from the economic impact estimate on the Isle of Wight of £5.03m. See notes to Table 10.

Table 10: Spending associated with spectator consumption

Category	Gross spending	Assumed UK ratio	Relevant UK spending
Accommodation	£ 481,473	1	£ 481,473
Food & drink	£ 5,860,345	0.85[1]	£ 4,981,293
Entertainment	£ 308,116	1	£ 308,116
Merchandise	£ 244,658	0.20[2]	£ 48,932
Shopping	£ 317,989	0.20[2]	£ 63,598
Local travel	£ 159,126	Not included[3]	£ -
Other	£ 37,656	Not included[4]	£ -
Overall	**£ 7,409,363**		**£ 5,883,412**

Notes:

1. A ratio of 0.85 has been assumed for food and drink to allow for the possibility of direct imports to providers outside of the UK.
2. Ratios of 0.20 have been assumed for both merchandise and shopping, to just count the retail margin, and then to allow for the fact that most items bought would not be manufactured in the UK.
3. Local travel has not been included in this part of the analysis as all travel related emissions have been counted elsewhere.
4. Other expenditure has not been included due to lack of detail on specific categories.

Table 11: Carbon footprint of Festival-related spending

	Units
Festival-spectator UK spending (£)	5,883,412
Carbon footprint of spending (kg CO_2 equiv)	2,610,000
Carbon emissions per £ festival spectator spending (kg CO_2 equiv)	0.44[1]
Estimated carbon emissions per Festival spectator (kg CO_2 equiv)	43.5[1]

Notes:

1. For consistency with the travel footprint, the denominator for this calculation is the total number of festival attenders (60,000), although noting the issues in section 4.1.1, and then assuming that local resident expenditures are not additional to the island.

4.2.4 Summary of Festival carbon footprint

Table 12 summarises the estimates of carbon emissions related to travel and other spending. The total estimated carbon footprint associated with the 2008 Festival was 3,943 tonnes of carbon, or 65.7kg of carbon per spectator.

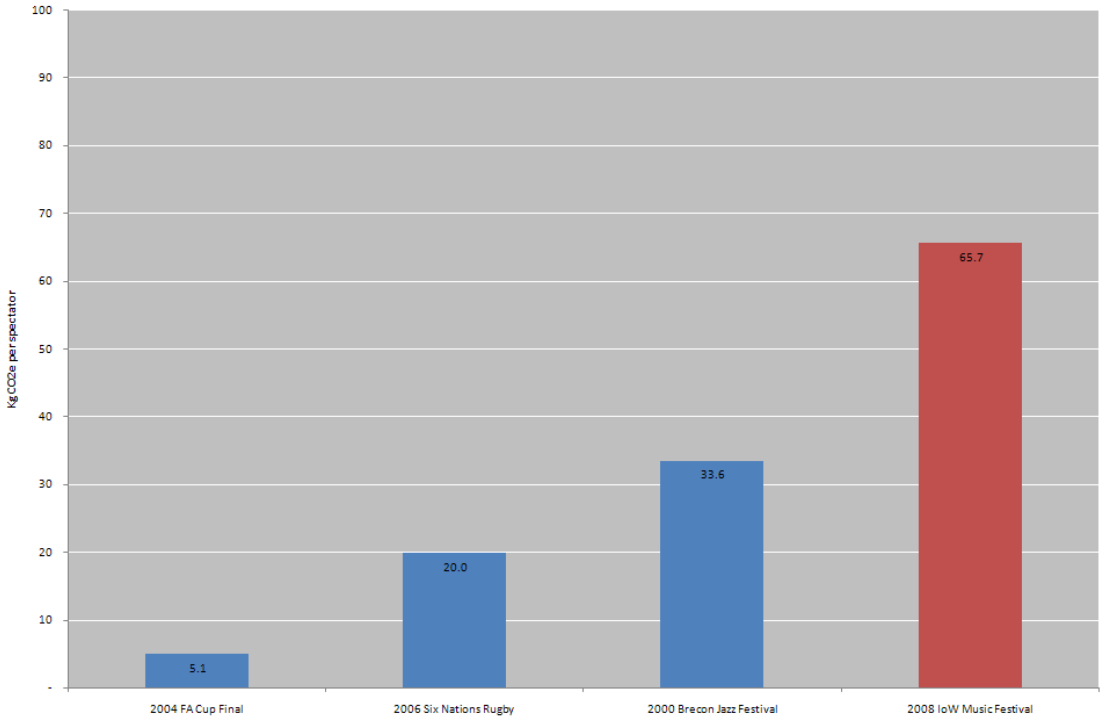
Table 12: Carbon footprint of the 2008 Isle of Wight Music Festival

Category	Tonnes carbon	Kg carbon equivalent per spectator
Travel	1,333.2	22.2
Expenditure	2,610.0	43.5
Overall	**3,943.2**	**65.7**

There is an issue of how the Festival compares to other events. Limited information is available here. Some studies have been undertaken in Wales on sport and event impacts –

see Graph 4. For example, the 2004 FA Cup Final in Cardiff attracted around 73,000 visitors, and was connected to 373 tonnes of carbon equivalent emissions. This is lower that the Isle of Wight Music Festival estimate above partly because this was essentially a one day event, and with the analysis focusing on Welsh spending alone. An analysis of the RBS Six Nations match between Wales and Scotland in 2006 showed that just over 85,000 visitors were connected to 1,700 tonnes of carbon equivalent emissions, with this event again focusing on Wales spending, but accounting for greater distances travelled, and with many visitors staying overnight in Cardiff.

Graph 4: Carbon footprint in context



It is important to note that this analysis is partial, and is expected to be a conservative estimate of overall Festival related emissions; building in the activities of the organisers and artists would increase the carbon footprint. Moreover, the focus is on selected environmental impacts and no account has been taken here of natural resource use connected to the Festival or waste connected to managing the Festival. The latter can be considerable. For example, an analysis of the environmental implications of the Brecon Jazz Festival in 2000 found that the Welsh spending alone of 51,000 Festival attenders was connected to 1,716 tonnes of carbon equivalent emissions, and 1,735 tonnes of waste. For the Isle of Wight, running the Festival is expected to involve significant wastes and with limited facilities available for landfill.

Also important is the additional carbon emissions associated with festival attendance. The earlier economic analysis examines net impacts as far as possible. However, while in the analysis of environmental implications, we have attempted to focus on additional spending

and travel, there is still an issue of what Festival attenders would have consumed had they not been attending the Festival. Some discounting is possibly appropriate here, however prior UK research has highlighted that the consumptive activities connected with event-led tourism are very different from those in every-day life.

5. CONCLUDING COMMENTS

The findings emerging from this research provide the first known independent assessment of the economic and environmental impacts associated with staging the Isle of Wight Music Festival. Despite the limitations of the research, the estimates presented herein provide a baseline for the Isle of Wight Council to manage its relationship with event organisers. The research uses industry-standard methodologies that facilitate cross-event comparison and which can be replicated for assessing the effectiveness of any strategies designed to further exploit the Festival's economic potential and / or mitigate environmental implications associated with the event.

The economic impact analysis has focused on a quantitative assessment of the spending generated by visitors to the Festival, and the additional effects of this spending on the island. In relative terms, an economic impact figure of c. £5m corresponds to 0.45% of the island's gross domestic product. It is our view that the economic spin-offs that accrue for the Isle of Wight as a result of staging the Festival, although significant, are relatively unmanaged, with only one-quarter of the economic activity associated with the event sustained on the island. The Council should seek to work closely with event organisers in order to ensure that the benefits to the local economy can be fully realised. This could include, for example, rationing ticket sales such that the Festival audience includes an even higher proportion of people from outwith the island (thereby reducing 'deadweight' expenditure). Other potential strategies might involve linking the event to the sale of commercial accommodation on the island (so as to lever higher spend per capita from visitors); and, where possible, to promote greater interaction between organisers and local suppliers of goods and services (and therefore limit the amount of 'leakage' from the island's shores).

For policymakers on the Isle of Wight, and Festival organisers, a key issue is the extent to which Festival-led emissions can be monitored more accurately and reduced. The carbon footprint estimates provided here are both a contextual and influencable indicator, that is, decisions concerning the management of the Festival could have an influence on the indicator. For example, Festival organisers might work to promote public transport through promotion linked to ticketing, or work to encourage Festival attenders to leave their cars on the mainland. Ultimately, there are also challenges to link the estimated carbon impacts of the Festival to more general sustainable development policy on the Isle of Wight. For example, the Council already features a carbon calculator on its website, and publicising the estimated Festival footprint can be a means of focusing attenders to the environmental implications of their consumption patterns.

APPENDIX 1: Spectator survey

ISLE OF WIGHT MUSIC FESTIVAL 2008

Hello, we are undertaking some research at the Isle of Wight Music Festival on behalf of Isle of Wight Council and would be grateful if you could spare 5 minutes to answer a few questions. Please ☒ where appropriate or write your answers in the spaces provided.

1. **How many of the festival days are you attending?** ☐ days

2. **What type of wristband have you purchased for the IOW Music Festival 2008?**
   ☐ 3-day camping (£130) ☐ 3-day no camping (£110)
   ☐ Other *(Please specify)* _____

3. **How many adults and how many young people under 16 are in your group today?** ☐☐ Adults (16+) ☐☐ Under 16s

4. **Which of the following best describes where you live?**
   ☐ Isle of Wight ☐ Elsewhere in UK ☐ Outside UK *(Go to q6)*

5. **Please could you provide us with your post code?** ☐☐☐☐ ☐☐☐ *(Go to q7)*

6. **Please state your normal country of residence?** _____

7. **Are you staying away from home at all during the Festival?** ☐ Yes ☐ No *(Go to q17)*

7a. **Where specifically are you staying?** ☐ Isle of Wight ☐ UK mainland ☐ Elsewhere

8. **Is the IOW Music Festival the main reason for you being on the island today?** ☐ Yes ☐ No

9. **Are you combining your trip to the IOW Music Festival with a holiday on the island?** ☐ Yes ☐ No

10. **Which of the following best describes the main type of accommodation in which you are staying?**
    ☐ Friends / Relatives *(Go to q13)* ☐ Camping Festival site ☐ Camping other site
    ☐ A Guest House / B&B / Pub ☐ Hotel / Motel ☐ Other *(Write in)* _____

11. **How much (if anything) are you spending on accommodation (including board) per night?** £☐☐☐00

12. **INCLUDING YOURSELF, how many people does this accommodation expenditure cover?** ☐☐

13. **For how many nights (on this trip) are you staying in this accommodation?** ☐☐

14. **Have you purchased any food / drink <u>on the mainland</u> to bring to the Festival, and if so what did this cost?**
    ☐ Yes ☐ No *(Go to q15)* **Cost of food & drink?** £☐☐☐00

15. **Did you spend last night away from home?** ☐ Yes ☐ No *(Go to q17)*

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Please turn over...

16. **How have you travelled from home to your accommodation for the first night of your trip?**
Please tell us the main type of transport used (i.e. for the longest part of the journey).

☐ Aeroplane ☐ Train ☐ Minibus ☐ Bus/coach ☐ Ferry ☐ Hovercraft

☐ Drove in private car (in total how many travelled in this car?) ☐

☐ Passenger in private car (in total how many travelled in this car?) ☐

☐ Other (please write in) _____

17. **How have you travelled to the Festival today?**
Please tell us the main type of transport used (i.e. for the longest part of the journey).

☐ Aeroplane ☐ Train ☐ Minibus ☐ Bus/coach ☐ Ferry ☐ Hovercraft

☐ Drove in private car (in total how many travelled in this car?) ☐

☐ Passenger in private car (in total how many travelled in this car?) ☐

☐ Other (please write in) _____

18. **Did your journey to the Festival involve any other forms of transport?** ☐ Yes ☐ No *(Go to q19)*
Please tell us about the transport used on the next-longest leg of your journey

☐ Aeroplane ☐ Train ☐ Minibus ☐ Bus/coach ☐ Ferry ☐ Hovercraft

☐ Drove in private car (in total how many travelled in this car?) ☐

☐ Passenger in private car (in total how many travelled in this car?) ☐

☐ Other (please write in) _____

19. **Excluding accommodation & wristbands, how much have you spent / do you intend to spend today on the IOW?**
£ ☐☐☐☐.00

20. **How is your spending in Q19 likely to be spread amongst the following items?**
Only include expenditure of your own money - do not include money spent on hotels unless extra to room & board charges.

Food / non-alcoholic drink	£ ☐☐☐☐.00	Alcoholic drink	£ ☐☐☐☐.00
Entertainment & recreation *Excluding Festival Wristbands*	£ ☐☐☐☐.00	Event merchandise / souvenirs	£ ☐☐☐☐.00
Shopping	£ ☐☐☐☐.00	Local travel / parking *Including Ferry or Hovercraft*	£ ☐☐☐☐.00
Other *(Please write in)*	£ ☐☐☐☐.00	_____	

21. **In TOTAL how much will you spend on the IOW whilst attending the 2008 Festival?** £ ☐☐☐☐☐.00

22. **INCLUDING YOURSELF, how many people is this expenditure for?** ☐☐

23. **Sex?** ☐ Male ☐ Female

24. **Age?** ☐ 16-19 ☐ 20-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65+

Thank you for your help

Office use only: ☐ June 12 ☐ June 13 ☐ June 14 ☐ June 15 ☐ June 16

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APPENDIX 2: Method used to estimate environmental implications of the Festival

The analysis of the environmental impacts of the Isle of Wight Music Festival was based on a carbon footprint estimate of the direct and indirect carbon equivalent emissions arising from spectator travel to / from the event, and associated on-Island spending (we discuss Festival impact boundaries further below).

Table A1: Summary of Carbon Footprint Methodology

Analysis	**Issues**
Carbon (equivalent) Footprint	Carbon equivalent emissions assessed.
Festival attenders' effects only	No assessment of organisers' or artists carbon emissions, as data not available, and with expectation that spectator-led emissions would be more significant.
National accounting methodology	UK analytical framework used to consider carbon impacts of on IoW spending. No economic modelling tools available at IoW level.

The assessment was able to build on the economic impact analysis with the survey instrument used to derive information for the economic impact assessment including questions that were crucial to estimating the carbon footprint associated with Festival spectator spending, and travel to and from the Festival. For example, the survey included a series of questions dealing with spectator travel behaviours (i.e. distance and mode) to the Festival, but also including travel to their accommodation from home for international visitors, and others who were staying away. Additionally, spending was requested for other key elements that would contribute to the carbon footprint, including on accommodation, food and drink, entertainment and Festival merchandise.

The spending information together with information on spectator travel patterns was then used to generate a per capita estimate of associated carbon emissions. However, the analysis also had to work to estimate total Festival-related emissions of carbon. Carbon emissions for the entire Festival (note this excludes carbon emissions connected to Festival organisation) were estimated by: deriving carbon emissions per attendee (based on travel and spending) and then aggregating these individual carbon footprints to reflect the event as a whole.

In summary then the travel behaviour information was converted to carbon emitted using carbon ratios that relate to the amount and type of fossil fuel burned on the trip (this being associated with the different travel modes). Then consumption spending was converted to equivalent carbon emissions using the environmental input-output methodology that traces the carbon consequences of each element of the supply chain for the goods and services concerned.

Table A2: Elements used to inform carbon footprint estimates

Area	Notes / coverage
Characteristics	Reason for attendance
Travel	Usual residence / postcode Information on modes of transport from home to island accommodation etc; travel to Festival on the day etc.
Expenditure	Expenditure on accommodation. Expenditure on other categories of goods / services inc food and drink; entertainment, shopping, merchandise etc.

Noted above was the issue of 'Festival-responsibility' for emissions. While the Festival might be the main reason for the visit to the island, it is likely that 'non-Festival' related tourism or other activity surrounding the Festival days will occur. The issue is whether this is associated with the Festival footprint. Related issues surround Festival attenders who buy goods and services which are not related to their Festival attendance. The approach taken here was to focus on:

- Travel to / from the Festival for day visitors
- Travel to / from accommodation to / from the Festival for staying visitors, although discounting to only count that travel estimated to be attributable to Festival attendance (see below)
- Travel to / from the home country to UK accommodation for overseas visitors, but again discounting to only reflect that associated with the Festival attendance (see below)
- Spending at or immediately proximate to the Festival venue on consumables & incidentals that are Festival-related
- Spending on Festival merchandise

The approach then excludes spending away from the locale of the Festival venue and any emissions resulting from activity undertaken in preparation for the Festival (excepting that related to travel).

The travel-related emissions were estimated using latest DEFRA information relating to per-km average emissions data for the UK fleet of cars and motorbikes, and per-person-km estimates for aviation, bus, rail and ferry. This was used in conjunction with the Festival survey information to gain per-person-kilometre emissions by mode to the Festival. For overseas visitors, where information was available on the airport of departure of the person, this was assumed to be the point of origin. In other cases, the assumption was that the capital city was point of origin and remaining overseas visitors were allocated distances based on

information contained in DEFRA (2007) on long haul flight distances (appropriately amended for non-direct routes, stacking time etc).

As already noted a percentage of visitors to the Festival were from overseas, including visitors from the US, Australia and New Zealand. The questionnaire does not allow a full assessment of these visitors in terms of their purpose for travel to the UK, and then to the Isle of Wight.

This study has then assumed that their Festival visit has been part of a general trip to the UK, but not the main purpose for travelling to the UK. As a consequence of this assumption, only a fraction of their travel related carbon emissions have been attributed to the festival. To estimate the appropriate fraction allocated to the festival, reference was made to Travel Trends (2006). According to this source, visitors from Europe spent an average of 7 nights in the UK, compared with an average of 9 nights for visitors from the US, and 16 nights for visitors from elsewhere. In the case of European visitors to the Festival, they have been assumed to be staying on the Isle of Wight for 2 nights for the Festival, and hence 2/7ths of their travel related carbon has been allocated to the Festival. Similarly, the fraction for US visitors was 2/9ths, and for visitors from Australia and New Zealand 2/16ths of their travel related carbon emissions have been attributed to the Festival.

The questionnaire had sought information as to whether spectators were combining their trip to the Festival with a holiday on the island. In similarity to the issues relating to overseas visitors above, only part of the travel related carbon emissions should be counted for those who answered 'yes' to this question. Using information on the average number of nights stayed in the accommodation as a guide, half of the travel-related carbon emissions for this group of people have been attributed to the Festival. For those visitors to the Festival who were not combining their trip with a holiday on the island, all of their travel related carbon emissions have been attributed to the Festival.

The carbon footprint of Festival-related non-travel spending was modelled as a demand shock to the UK Input-Output tables with environmental extensions. Further details of this method and limits can be found in Munday and Roberts (2006)[7].

[7] Munday, M. and Roberts, A. (2006) "Developing approaches to measuring and monitoring sustainable development in Wales: A review", Regional Studies, 40, pp.535-544.