Toolkit Environmental impacts of event: Key questions

1a Why consider the environmental impacts of events?

There has been a great deal of interest in the economic impacts associated with events and the ways that events can improve prospects for place marketing. The management, development and operation of event resource use. Typically we think of this in terms of money, human skills etc. However, consumption associated with events uses natural resources (for example, land, water, energy etc.).

Issues relating to the environmental impact of events have gained increased attention amongst event organisers. There is a drive for corporations, event organisers, and policy makers to both understand and be more accountable for their environmental as well as economic impacts of events, and understand the inter-relationships between the scale of economic and environmental impacts.

There are other good reasons to consider environmental impacts. Careful consideration of the environmental impact of events is good strategic management. Measurement and monitoring of environmental impacts can lever a better understanding of the environmental risks facing the event, and can alert managers to the threats affecting event viability linking to increased environmental regulation, and how, for example, this might affect the number of spectators that can travel to an event. Finally, events at all scales often major in the direct and legacy health outcomes. However, where event-led consumption creates environmental impacts these can be associated with negative health outcomes (i.e. travel related emissions in built-up areas, or noise from traffic congestion). Therefore a proper accounting of the costs and benefits of events needs to factor in an appreciation of environmental impacts.

Research work that has informed eventIMPACTS reveals a strong trend in leading events working closely within a sustainable development pathway. This is particularly the case where events draw a measure of public subsidy and support, and where funded interventions must provide evidence of how activity engages with government sustainable development and climate change mitigation priorities. For example, in Wales, the *Well-being of Future Generations (Wales) Act 2015* requires public bodies to consider the long term consequences of their activities and decisions, and work with each other and local communities to prevent

potential problems now and for people in the future. The Act applies to public bodies that are directly involved in organising events, or supporting other event organisers.

1b When should Environmental Impacts be Considered?

There is a strong historical trend of sports and cultural events evaluating different types of economic and environmental outcome *post event.* Clearly the conclusions from *ex post* analysis and measurement of environmental outcomes might inform future event strategies with respect to managing these outcomes. However, eventIMPACTS research has shown that the earlier environmental factors, measurement and management are embedded into event planning the better quality the outcomes. Fundamentally, there are tangible gains where environmental monitoring and management are bolted onto event organisation rather than bolted on later in the process as either an afterthought or PR exercise.

Importantly where events need to apply for public or private funds, sponsors are seeking stronger evidence that coherent plans are in place to assess environmental outcomes, and then with processes in place so that event managers can work to mitigate environmentally damaging consumption behaviours.

Consequently, environmental plans should be prioritized at the earliest stages of event planning (particularly in the case of one-off discrete events) and with event managers showing how economic and environmental outcomes are interconnected, and the trade-offs inherent. Only in this way can event managers show that they are addressing impact and legacy properly, and the wider range of costs and benefits linked to events.

1c What sort of environmental impacts should be considered?

Human activity is connected to a wide range of impacts on the environment. We know that some consumption behaviours are more environmentally damaging than others. 'Events' may also be responsible for a set of environmental impacts that vary in nature, timescale and geographic scale. Furthermore, in terms of event lifecycles there could be different levels of environmental impacts during, for example, construction of stadia, running the event, and then in developing legacy outcomes.

It is likely that event managers will focus on environmental impacts connected to:

- Travel and transport activity
- Food and drink consumption
- Event-related energy and water consumption
- Event-related production of different waste streams

However, even under these broad headings, event managers need to think carefully about the 'boundaries' of an event in terms of environmental impacts. Environmental impacts might be:

Direct, local and immediate. For example, the natural habitat of an area will be directly affected by construction activity. In this case: biodiversity might be lost; event hosting might increase carbon emissions in an area; the operation of an event creates waste close to the hosting site.

Direct, global and longer term. Climate change linked emissions have both direct and local impacts but also longer term and global impacts. For example, carbon emitted in the development of sport and cultural event infrastructure, and visitor travel to/from an event (local and international), could contribute to longer term global consequences in terms of temperature change and rising sea levels. Event managers can consider the fuel and energy uses connected with travel and construction activity, and connect this to the emission of greenhouse gases.

Indirect impacts. These can be both global and local. For example, event visitors may purchase goods and services. The producers of these goods and services also have to make purchases to produce their outputs. This indirect activity will have environmental impacts, not least associated carbon emissions. However, event visitation can be connected to the purchase of goods made overseas. For example, consumption of fruit and coffee at events has implications for water use in faraway places.

Additional on the event. One potentially difficult issue with environmental impacts is identifying a boundary on event responsibility for an effect. For example, a visit to an international cricket Test Match in Australia requires a long air flight and resulting carbon emissions. However, the Test Match might be combined with a visit to friends or relatives, or

just a general holiday. Clearly only a part of the carbon emitted should be associated with the event itself. Another important issue here for event managers to consider is *net event impact*. For example, spectators at the UK stages of the Tour de France cycle competition consume on the day of the event. However, that same person would perhaps have engaged in similar consumption activities on a 'normal' day at home, and so the event would only be 'responsible' for the 'additional' consumption connected to being a spectator at the event.

Practically it is unlikely that event managers would be able to cover all of these impacts. However, even if only an appreciation of the additional direct and indirect impacts of the event were possible, this can inform the events prioritization of actions and a general approach to environmental monitoring and management.

1d. What are the practical factors that should be considered in building in measures of environmental impacts?

Event organisers and stakeholders may collect a great deal of information in both planning and running an event. It is critical to plan data collection on event impact, and the way that it will be analysed, and how any resulting impacts will be reported, used etc. Data collection can be expensive and time consuming. For these reasons it is critical that event managers are mindful of possible savings in data collection. For example, collated data for economic impact assessment, attendance etc. can be used to inform an assessment of environmental impacts. Event organisers may collect a great deal of useful information regarding the home locations of competitors, and undertake economic impact assessments of the event. Such information, with limited modification, could form the building blocks of an environmental indicator set for an event.

So in terms of practical steps and considerations in building measures of environmental impacts for an event, managers might consider:
- Is there a key focus for consideration of environmental impacts?

Different types and scales of events will have different types of environmental impacts. Can we assess in advance where the focus needs to be? For example, a major European football clubs final will tend to use existing stadia, but with an expectation of large numbers of

overseas visitors, and then with much of the environmental impacts associated with different patterns of travel to the event, and resulting emissions.

- Are there variables that link to the environmental impacts?

If 'big-hitting' consumption activities are expected then what variables can we track that will have a strong association with the impact in question? In the case of a major football clubs final such as the UEFA Champions League Final this might be understood in monitoring the home location of visitors, their mode of travel/shared travel, and the distance travelled to and from the event. So here there might be a focus on reducing the carbon associated with visitor travel.

- Are impacts of interest measurable and usable?

In considering different environmental indicators for events, managers need to be sure that the measure does what it says. For example, does an environmental indicator highlight additional event-related impacts or is it telling us about normal consumption behaviour of visitors i.e. food and drink will be consumed whether a person is at home or at an event. We also need to distinguish environmental measures that are merely contextual and those that we might be able to influence. For example, indicators that might be influenced *pre event*, or in future years of an event might include transport modes of visitors attending the event, tonnes of waste collected, or amounts of waste recycled at the event. Consideration also needs to be given to whether environmental measures link to public policy concerns around sustainable development.

- Are environmental measures widely understood among event stakeholders?

To be useful, measures of environmental impacts should be understood by different stakeholders, and relevant to the different types of events for comparability purposes. Transparency and clarity of indicators also aids in external communication of findings to sponsors and policymakers.

- Should we engage with other stakeholders in selecting impacts and measurement techniques?

Following on from the above, there can be real value in discussing any framework to explore event environmental impacts with stakeholders. The identification of stakeholder groups can

assist with development, agreement, resourcing and implementation of plans to measure an event's environmental impacts. Critically some stakeholders may be able to assist in the data collection process, or if stakeholders include other event managers there can be a division of labour achieved in collecting different types of environmental information. Stakeholders can include governing bodies, sponsors, international agencies, but also local groups including communities, schools, colleges, local enterprise partnerships. Technical stakeholders might include specialist consultants or universities.
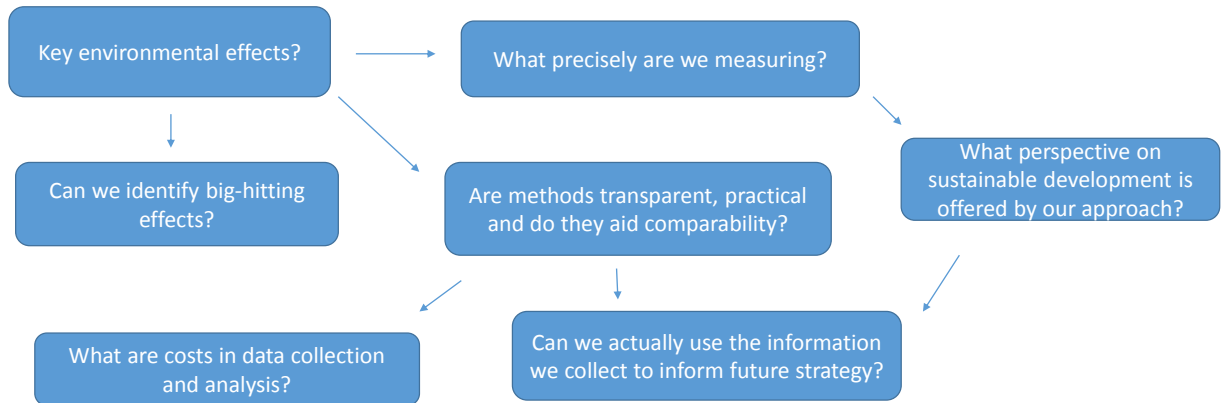
- What are the costs in collecting data to inform environmental measures?

Event managers should be mindful of the costs connected to the collection, validation and analysis of data. As an organisation do we have the skills required to collect data or do we need to bring in specialists? Does the cost of data collection outweigh its usefulness? A further issue here is how far one can generalize on the expected environmental impacts of events by drawing inference from other events. Inevitably the costs involved in primary data collection can be high. The use of secondary or published data can help keep reduce costs, but there can be issues with respect to its suitability.

- Will the analysis of environment impacts influence future event management?

Measurement actions are most useful where they inform future event strategy, perhaps influence changes in spectator or organisational behaviour, or provide knowledge that is relevant for other events. For example, it is likely that an assessment of the carbon consequences of an English Premiership Club spending, and the drivers of these impacts would be useful to other Clubs in the League. Then event managers need to examine structure and processes that effectively communicate findings on environmental impacts. Too often environmental impact assessments are mostly undertaken *post event* and are simply left 'on the shelf', and considered a tick box exercise.

Key issues for event managers on environmental impact measures?

Key environmental effects?

What precisely are we measuring?

Can we identify big-hitting effects?

Are methods transparent, practical and do they aid comparability?

What perspective on sustainable development is offered by our approach?

What are costs in data collection and analysis?

Can we actually use the information we collect to inform future strategy?

1e What sort of approaches are there to measuring the environment impacts of events?

As the environmental impacts of events can be very diverse, there are a series of approaches that might be followed in estimating environmental impacts. These can be quantitative and outcome focused, or qualitative and process oriented.

Quantitative, outcome-oriented measurement approaches

At their simplest, quantitative approaches simply report on environmentally relevant measures i.e. reporting on quantified totals of waste collected at an event, totals for visitor travel, and tonnages of food and drink consumed etc. However, there are quantitative approaches that use environmental information collected/estimated at events to develop further measures. A good example of more quantitative approaches are carbon, water and waste footprints, and ecological footprints.

For example, the carbon footprint seeks to estimate the carbon emissions linked to an event. Similarly, techniques such as ecological footprint analysis can be used to estimate how much resources a visitor or an event uses compared to the earth's fair share. The assumptions underlying such footprint approaches need to be carefully examined by event managers, as both approaches have strengths and weaknesses.

This type of quantitative approach can offer benefits in terms of prioritising event actions. For example, a carbon footprint approach links closely with sustainable development agendas, and can identify quickly which aspects of event activity or visitation have the largest environmental impacts. These can then be red flagged for action. Moreover, the use of tools such as carbon footprinting can be aided by on-line tools, and used to compare different events. Carbon footprints can also be used as a basis for future target setting.

Event managers also need to be mindful of the following with respect to quantitative models (or measures?):

- Measurement can be resource intensive in terms of collecting underlying primary data, and could require external expertise.
- The use of quantitative tools needs to consider the practical issues highlighted earlier in the environmental section of eventIMPACTS see 1d: What are the practical factors that should be considered in building in measures of environmental impacts?)

- Measurement techniques are constantly developing, and on-line resources are becoming available to assist event organisers. Event managers may require external expertise in selecting measures as on-line resources vary in quality, scope, and underlying assumptions of the analysis.

Qualitative, process-oriented approaches

A qualitative approach will examine the range of activities undertaken in support of an event, and seek to improve the environmental performance and environmental management systems associated with these activities. There are parallels here to quality assurance systems, and British Standards (see ISO 20121). These approaches offer many benefits. As actions are based on existing activities they are transparent and communicable. Moreover, the development of these standards are based on research findings on successful approaches and systems that can be put in place to mitigate the negative environmental impacts of events. A good example here is BS ISO 20121 "Event Sustainability Management System" designed to assist the event managers to consider sustainability when managing and delivering an event. The standard enables event companies and businesses to consider a long-term view and identify the potential impacts of an event, and how to reduce any negative impacts – particularly in terms of innovations in process.

1f What is an environmental impact checklist for event managers?

The following checklist can help event managers ensure they are considering environmental impacts at each stage of an event's life cycle. For further details of developing a comprehensive management system see ISO 20121. Some elements of the checklist would only be appropriate for larger scale events.

Area	Action	Responsibility
A. Before bidding/decision to host		
A1. Develop the knowledge base	Understand: • Broad policy on environmental priorities and role of environment in planning permissions • Develop familiarity with eventIMPACTS • Consult ISO 20121 for Sustainable Event Management Systems	
A2. Broad environmental costs and benefits	• Develop summary of where significant environmental impacts might occur • Assess overall environmental appropriateness of the event; location, scale of event, access and timing	
B. Pre Event		
B1. Environmental scoping	Develop checklist of potential environmental impacts through event lifecycle including consideration of: • Pre event infrastructure development • Organiser impacts (energy use, travel, procurements) • During event visitor, participant, impacts (travel, waste, energy, food and drink) • Post event impacts (clean-up, site remediation) • Identify expected key factors driving impacts	
B2. Stakeholders	Identify stakeholders with interests in limiting and monitoring environmental impacts of the event including: • Public and private sector sponsors • Statutory consultees if event involves a formal planning permission • Suppliers and waste contractors, providers of environmental services • Consultants • Community groups	
B3. Environmental planning	Develop a concise environmental strategy showing practical actions to address expected impacts noted in B1. Consult with stakeholder group on strategy, and environmental risks and rewards. Strategy should red flag drivers of impacts. Strategies related to following (as required): • Travel and transport • Waste, water and energy use • Sustainable procurement • Leveraging behaviour change	

	- Legacy - Monitoring and evaluation process - Checklist of environmental risk/response	
B4. Communication strategy	Develop a plan to inform stakeholder groups of event actions to mitigate and manage environmental impacts. Consider: - Identified stakeholder group - Audiences and participants - Media - Milestones	
B5. Contractual arrangements	Where appropriate formalise contracts or MOU with agents which are required to deliver on parts of the environmental strategy	
B6. Monitoring	Prior to event develop tools, survey resources, sample frames to collect data. Potential to: - Revise tools described in eventIMPACTS - Engage with external consultants to discuss data requirements and analysis, sample frames - Prioritise data collection areas (perhaps linking to red flags identified in Strategy)	
C. During the Event		
C1. Monitoring	Ensure that during the event, monitoring occurs and that necessary data is being captured	
C2. Management	During critical event days ensure management structure and information to ensure proper responses to unforeseen circumstances	
C3. Communication	Environmental and sustainable development messaging to identified audiences	
D. Post event		
D1. Evaluation	Analysis of collected data (from visitors, participants, organisers) and reporting with messages in terms of lessons learned, emerging best practice, and recommendations for future event management	
D2. Dissemination	Communication of environmental impact information, actions and lessons learned	
D3. Legacy task and finish	Remediation or legacy actions identified from Environmental Strategy	