

How to measure the impact of culture, sports and business events

A Guide Part I



How to measure the impact of culture, sports and business events: A Guide Part I

This OECD Guide takes stock of the current advice, guidelines, and good practices for assessing the impact of global events. Global events (including culture, sports and business events) can have a significant impact on local development. Yet measuring this impact in a consistent, reliable and comprehensive way can be challenging. This Guide provides an overview of approaches to impact assessment, discusses the issues, challenges and considerations to be made in conducting impact evaluations, and offers a set of actions which event hosts can take to improve impact assessments. In doing so, the Guide supports the OECD Recommendation on Global Events and Local Development, which helps countries and future hosts bring greater local benefits and legacies from global events. This Guide can be read alongside *Impact indicators for culture, sports and business events: A Guide Part II*.

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Executive summary

Global events can have a significant impact on local development. Global events are events of a limited duration that have a global reach (in terms of participation, audience and/or media coverage), require significant public investment, and have an impact on the population and built environment. Global events include sporting events (such as the Olympic and Paralympic Games, world cups and international championships), cultural events (such as film festivals, book fairs and European Capitals of Culture), trade fairs and world expositions. Global events can be multi-sited, rotating between multiple venues within a city or region, or can take place in a single location. Global events can also range in timeframe, from a single day event, to a year-long programme of events. The global reach and significant investment in these types of events means that they have the potential to contribute positively to local development.

The OECD Recommendation on Global Events and Local Development offers guidance on how to leverage local benefits of hosting a global event (OECD, 2018^[1]). The Recommendation is the first OECD internationally agreed standard for global events, which sets out a number of measures to consider when using global events as a catalyst for local development. The Global Events Toolkit (OECD, 2021^[2]) helps to translate these high-level recommendations into concrete guidance for local and national governments, event organisers and hosts, supporting them in implementing the OECD Recommendation.

To further support the Recommendation and complement the Toolkit, this Guide and its companion Guide (OECD, 2023^[3]), **focus on how governments, event organisers, and assessors can measure the impacts of global events.** The purpose of these twin Guides is to address the theoretical and practical considerations for measuring the impact of global events, recognising current practice and future aspirations. In doing so, these documents serve to promote good practice methods and develop consensus around common indicators that have the potential to deliver more informative and comparable impact evaluations.

This Guide takes stock of the current advice, guidelines and good practices for measuring the impact of global events. It draws on a wide range of academic and policy literature, case study evidence and expert working groups convened by the OECD. The Guide provides an overview of common indicators, approaches and methods used in global events and discusses the issues, challenges and considerations to be made in conducting impact measurement studies.

The potential impact of a global event is wide reaching

Global events can have both positive and negative impacts on those directly involved in the event and on wider communities. Global events can mobilise large numbers of people and can impact their lives in different ways. They can also contribute to changing social attitudes and outcomes at larger scale, for example through awareness raising. As such, they can contribute to wider policy agendas, such as health and wellbeing, inequality, and social cohesion. For example, it has been estimated that 500 million new cases of non-communicable disease globally, could be averted by raising physical activity levels (WHO, 2022^[4]) and that increased physical activity in Europe could save European Union Member States 0.6% of their health care budget (OECD/WHO, 2023^[5]). Similarly, engagement with arts and culture has been found to contribute to improved mental health and can promote social inclusion (OECD, 2022^[6]).

Impacts from the event can arise from the bidding and planning stage, through the delivery of an event and many years after. The impacts of a global event occur throughout the event project lifecycle. For example, the process of bidding to host a global event, even if that bid is subsequently unsuccessful, can have positive impacts on the bidding location. Similarly, many of the impacts of a major event such as the Olympic and Paralympic Games can be felt for many years after the event. It is these long-lasting

impacts which are often referred to as legacy. Impact concerns not only the main event itself, but also side or “fringe” events, as well as projects and interventions made in connection with the event, which may or may not be organised or coordinated by the main event hosts. The impact of events can be both positive and negative and impacts can be uneven across population groups.

The scale, setting, frequency and context of the event will affect the level of impact that is achievable. Not all types of impact will be relevant for all events. Nor will all types of impact be achievable for all events. Moreover, impact measurement can be costly and so it is not, in practice, feasible to measure all the various impacts arising from an event. Consequently, event hosts must select which types of impact they wish to pursue and measure, aligning these intended impacts to their overall vision and objectives.

Often referred to as the “triple bottom line”, all events will have economic, social, and environmental impacts, whether they are measured or not. These three impact areas are deeply interconnected and often overlap. For example, encouraging young people to play sport is primarily a social impact, but this social impact can also produce economic impact, such as lowering healthcare costs. Similarly, while increasing employment has primarily an economic impact, it also has important social benefits.

The methods and indicators used to measure impact vary significantly, but a few common themes can be identified

Economic impact is the most widely reported area of impact. The most commonly used measure of event impact is direct economic impact. Based on visitor and organiser spending, direct economic impact is an assessment of the net increase in spending as a result of the event. Many studies also use methods based on, for example, input/out tables, general equilibrium models, or other multiplier-based methods to ascertain the indirect and induced economic impact of events arising from direct spending. However, the exact parameters of economic impact studies and the methods used vary considerably, making direct comparison between economic evaluations challenging.

Typically, social impact is considered primarily for the delivery phase of an event, though there is growing focus on longer lasting social impacts. For example, inclusion and diversity indicators relating to the proportion of participants who are from underrepresented groups (typically relating to gender, ethnicity, age, etc.) are widely used, with generally good comparability across evaluations. Other more long-term indicators of social impact, such as increases in participation (in sport, culture, etc.) after the event and measures of increase in health and wellbeing as a result of the event, are also becoming more commonly used. Case study methods and qualitative evidence are also beginning to be used more in evaluations to capture a deeper understanding of the impact of events on people’s everyday lives. For example, mixed methods and case study approaches are being used to better understand the link between events and social cohesion, trust in society, belonging and connectedness.

Environmental impact is beginning to be more widely incorporated into evaluation studies. The most commonly included indicator of environmental impact is an event’s carbon footprint. However, the scope of activity captured in carbon footprint assessments can vary between events. Other indicators of environmental impact, such as waste and recycling, renewable energy use and pollution have become more commonly used in recent years.

While different events will pursue different impacts, there are common approaches any event can take to improve impact measurement

The evidence base on impact measurement studies suggests that multiple methods, indicators and data can be effectively used to measure the impact of global events. However, there are lessons to

be learned in how best to approach impact measurement in relation to all types of global events, regardless of the main impacts they seek to pursue. Actions to improve the measurement of event impact include:

- **Co-designing impact approaches across local, national and international levels;** by engaging with local residents and stakeholder groups throughout the event lifecycle and evaluation process (e.g. in the identification of key impact outcomes, measurements, and indicators), and by integrating impact approaches within wider national and local strategies.
- **Establish a clear theory of change;** which links event inputs to intended impacts through a logic model, including clearly laid out risk factors. This theory of change can also act as a management tool, supporting the alignment of outputs and outcomes among partners and helping to create consistency over time.
- **Establishing clear impact indicators from early on in the event lifecycle;** this is particularly important, for example, where novel survey data is required, so that baseline data can be established.
- **Consideration of how impact indicators can be disaggregated;** including establishing explicit definitions of sub-populations (such as what constitutes a local resident or business) to aid consistency of reporting over time and between reporting entities.
- **The inclusion of both qualitative and quantitative evidence in impact measurement;** to offer a broader understanding of impact, how impacts have arisen, and help facilitate the detection of unintended (and potentially negative) outcomes.
- **Building a clear data strategy from early on in the event lifecycle;** including establishing contractual agreements with stakeholders as to data collection responsibility, ownership, collection timeframes and reporting standards. In this regard, building a data framework, which links indicators to the theory of change on the one hand and to explicit data sources and statistical definitions on the other is useful for establishing consistency. A good data strategy should also consider data collection and management in relation to legal and ethical data protection and privacy frameworks.
- **Promoting transparency in reporting;** including through third party independent verification of findings, careful consideration of how evaluations are communicated to stakeholders and the public, and consideration of how to make underlying data from evaluation studies available to researchers and future event hosts, while remaining mindful of data protection issues.

GLOBAL EVENTS



Introduction

Taking stock of current advice, guidelines and good practices for measuring the impact of global events

Global events can be a catalyst for development at both the local and national levels (OECD, 2008^[7]). Global events encourage external investment, boost tourism, grow trade, raise the profile of places and bring communities together. They can be used to galvanise commitment to policy priorities, accelerating investment and programmes of work. Fully leveraging the benefits of global events, however, requires significant long-term planning and well-designed monitoring and evaluation frameworks (OECD, 2017^[8]).

Over the last few decades, the imperative for global events to add value and create public good beyond the event has intensified, placing greater demand on the measurement of a wide range of impacts. Partners investing in global events are increasingly seeking to deliver on more than just monetary objectives. This applies to both public authorities seeking to align events with development, social and environmental policies, which positively affect the lives of local populations, as well as private global events actors, seeking to deliver corporate social responsibility strategies. While early impact research primarily concentrated on economic impacts, in recent years there has been an increased shift towards a more holistic evaluation of events, in particular with respect to social and environmental dimensions. As guidance on the legacy of the Olympic and Paralympic Games (IOC, 2017^[9]; IOC, 2021^[10]; IOC, 2019^[11]) shows, the expected long-term benefits from global events can be far-reaching, and can include, for example: health and wellbeing, social development, human skills, networks and innovation, culture and creative development, urban development, environment enhancement, economic value and brand equity.

In this context, the OECD adopted the Recommendation on Global Events and Local Development in 2018, which offers guidance on how to promote, implement and leverage global events for sustainable local development. The Recommendation (OECD, 2018^[1]) is the first OECD internationally agreed standard for global events. It helps countries and future hosts bring greater local benefits from global events and covers the full event lifecycle, from the pre-bidding stage through to long-term legacy. The Global Events Toolkit (OECD, 2021^[2]) helps to translate these high-level recommendations into concrete guidance and covers all areas of the Recommendation.

To further support the Recommendation and complement the Toolkit, this Guide and its companion Guide focus on how governments, event organisers, and assessors can measure the impacts of global events. This Guide, and its companion, Impact indicators for culture, sports and business events: A Guide Part II (OECD, 2023^[3]), aim to (1) provide methodological guidance on impact measurement and (2) identify a set of common indicators for global events. The purpose of these twin Guides is to address the theoretical and practical considerations for measuring the impact of global events, recognising current practice and future aspirations. In doing so, these documents serve to promote good practice methods and develop consensus around common indicators which have the potential to deliver more informative and comparable impact evaluations.

This Guide takes stock of the current advice, guidelines and good practices for measuring the impact of global events. It draws on a wide range of academic and policy literature, case study evidence and expert working groups convened by the OECD, as well as a large-scale survey of academics, event owners, event hosts and policy makers (see Annex A). The Guide provides an overview of some of the most common indicators, approaches and methodologies used in global events and discusses the issues, challenges and considerations to be made in conducting impact measurement studies. Finally, the Guide offers a set of actions that event organisers can take to more effectively measure the impact of global events.

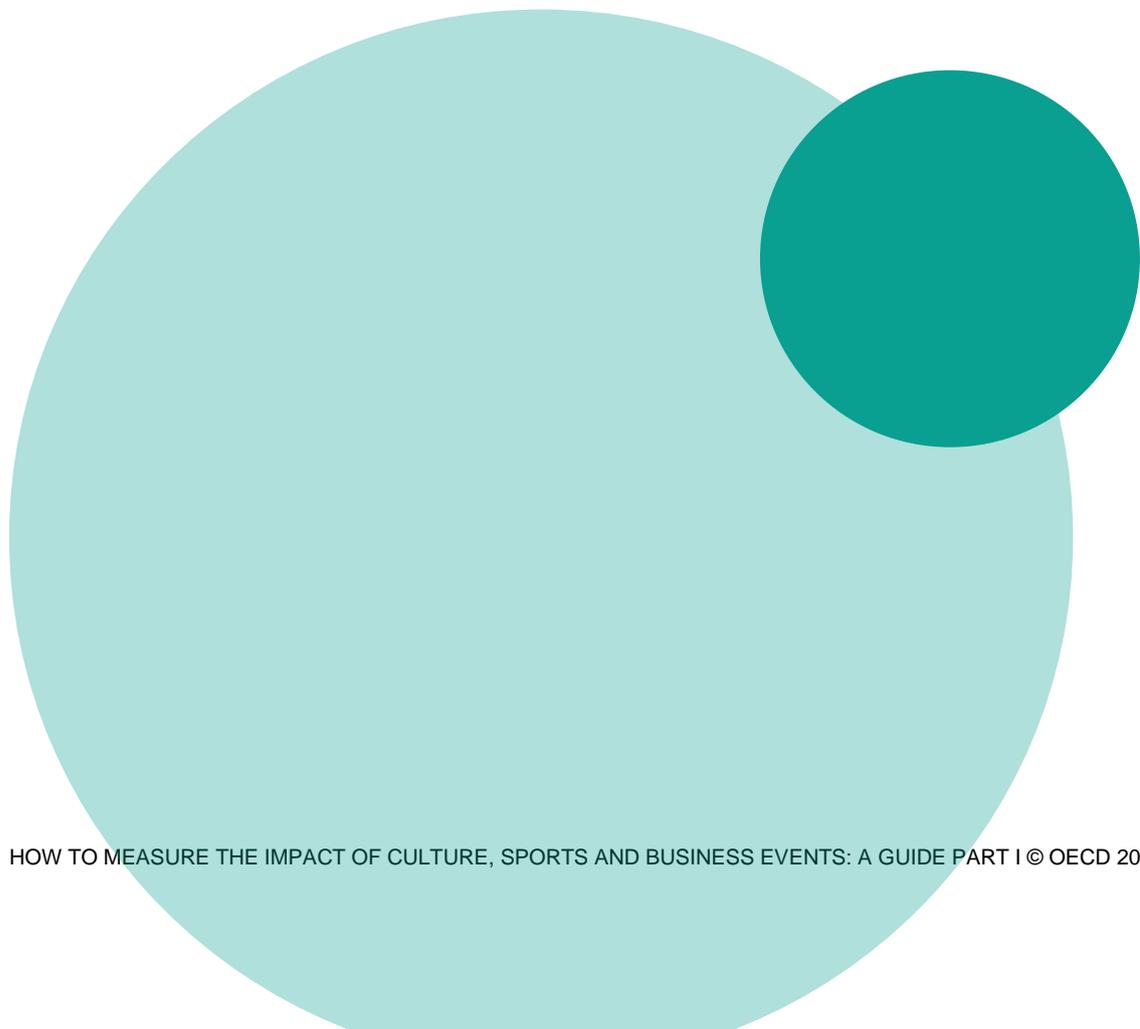
International efforts to improve the quality of global event impact measurement have been accelerating in recent years

The OECD Recommendation and Toolkit for its implementation support the importance of impact measurement

The OECD Recommendation on Global Events and Local Development, offers high-level policy guidance on how to promote more sustainable global events, implement more effective delivery mechanisms and build stronger capacities to leverage local benefits. At its core, the Recommendation states the need for a transparent and legitimate evaluation framework for assessing the economic, social and environmental costs and benefits, which is relevant to all levels of government. Evaluation, based on clear and measurable criteria, is critical to ensuring that public expenditure results in public good. The Recommendation calls for:

- evaluating the global event with a view to assessing its impact, legacy and ultimate contribution to local development and citizens' wellbeing;
- ensuring effective multi-level governance, co-ordination and capacity throughout the event lifecycle and beyond to deliver the event and its legacy;
- establishing collaborative partner relations with global event owners and other previous or awarded host cities with a view to optimising the conditions for the delivery of local and national development outcomes, knowledge transfer and to mitigate risks by all parties.

The Recommendation also calls for the early adoption of an event evaluation strategy to define at the outset what the expected impacts should be, with clear and measurable targets. The Recommendation advises that strategy should rely on quantitative and comparative indicators that can measure the success in achieving a “future vision” of the economy, by setting longitudinal requirements (e.g. 1 year, 5 years, and 10 years following delivery). The strategy should also include qualitative information on social value creation as a mechanism to capture non-tangible outcomes.



What the OECD Recommendation says: Evaluation strategies

The OECD Recommendation makes specific reference to evaluation. It recommends that Adherents evaluate the global event with a view to assess its impact, legacy and ultimate contribution to local development and citizens' wellbeing. To that effect, it recommends that Adherents should, as appropriate:

1. Carry out ex-ante evaluation with a view to provide accurate data and information related to the event in terms of costs, results and impacts. Such ex-ante evaluation should:
 - a. be based on cost benefit analysis as well social and environmental impact analysis, including the costs (or business case) of dismantling facilities;
 - b. be independent, open, transparent and overseen by the competent national authority in cases where the bid benefits from public guarantees;
 - c. enable an ongoing process of evaluation throughout the event lifecycle and beyond.
2. Develop an evaluation strategy which:
 - a. defines at the outset what the expected legacy should be, with clear and measurable targets, and sets longitudinal requirements for measuring and evaluating impacts and outcomes (i.e. 1 year, 5 years, and 10 years following delivery);
 - b. ensures an independent and transparent review of the bid and proposed budget which takes into account known risks and risk mitigation plans;
 - c. includes indicators that can measure the success in achieving a "future vision" of the economy, working across administrations responsible for education, training, employment and social assistance, as well as operators in the field, in order to monitor actions and impacts across the policy spectrum and different spatial scales;
 - d. uses multi-criteria assessments, meta-analysis and social value capture evaluations which include qualitative, quantitative and comparative information as mechanisms to measure non-tangible outcomes;
 - e. uses relevant and appropriate oversight bodies or umbrella organisations such as national statistics offices, public accounts bodies, event delivery bodies and local governments' networks, to carry out independent evaluations of impacts and outcomes;
 - f. uses ex-post cost benefit analysis to monitor the short, medium and long-term impacts of an event and assess how evaluations are implemented and set up rigorous criteria that enables comparison across different types of events in different geographic areas which should be set to monitor public expenditure and impact at all levels;
 - g. ensures the use of consistent criteria and methodologies for ex-post and ex-ante cost benefit analysis and environmental impact assessment;
 - h. implements a risk management framework throughout the event lifecycle;
 - i. sets up monitoring frameworks to map the return of investment as well as the return of influence generated throughout the event lifecycle.

Source: (OECD, 2018^[1])

In order to assist countries in implementing the Recommendation, the OECD Global Events Toolkit (OECD, 2021^[2]) offers practical advice on how countries can advance in designing, implementing and monitoring global events. It identifies overall objectives, potential actions, pitfalls to avoid, and good practice examples for countries in four priority areas: (1) pre-bidding, bidding and planning; (2) operational and delivery phase; (3) evaluation; and (4) multi-level governance. The Toolkit stresses that robust evaluations are critical in assessing the impacts of global events. It recommends that event hosts should:

- Set clear evaluation frameworks with concrete targets and timelines for measuring outcomes and impacts.
- Adopt a pragmatic approach to evaluation that takes into account the trade-offs between what can be measured reliably and the resources available to conduct the research.
- Use relevant oversight bodies or umbrella organisations such as national statistics offices, public audit institutions, event delivery bodies and local government networks, to carry out independent evaluations.
- Take a comprehensive approach to evaluation using both quantitative and qualitative methodologies to measure direct and indirect impacts.
- Evaluate the event against international standards such as the United Nations (UN) Sustainable Development Goals (SDGs), responsible business conduct guidelines, environmental standards, and human and labour rights.

Industry-wide efforts also stress the importance of developing common indicators to measure event impact

The International Association of Events Hosts (IAEH) have produced guidance for measuring the impact of global events, which highlights three guiding principles for impact measurement (IAEH, 2022^[12]). First, measurement approaches should be “objective-driven”, meaning that impacts should be based on specific strategic goals, such as improving health outcomes for a particular population group. Objective-driven measurement therefore requires aligning indicators to these strategic aims and tailoring research to focus on specific target areas. Second, measurement studies should consider the “net additional benefit”, meaning that impact assessment should include both positive and negative impacts and that only those impacts which can be attributed to the event should be considered. Third, it recommends that measurement studies should be “evidence-based”, meaning that impact calculations should be based on robust data and methodologies.

The Olympic Games Guide on Legacy (IOC, 2019^[11]) suggests that the design of robust key performance indicators (KPIs) is critical to accurately assessing impact. It states that good KPIs should be specific, measurable, attainable, relevant and time-bound (SMART). Moreover, the availability of data required to monitor and evaluate these KPIs as well as the governance of data collection must be fully considered. For example, planning who will be collecting indicator data, how this will be shared amongst stakeholders and how to promote consistency in methodology and reporting is essential to coordinate good impact measurement.

Building on the work of the IAEH and the IOC, the Association of Summer Olympic International Federations (ASOIF) developed a framework for measuring the impact of sporting events, aligning impact areas with the UN Sustainable Development Goals (ASOIF, 2021^[13]). This framework identifies a set of common KPIs for five areas of impact (economic, image, social, sport and environmental) and details how these KPIs link to the Sustainable Development Goals. The framework recommends five key stages in developing and reporting on KPIs: 1) develop event objectives; 2) identify the target population for impact; 3) select KPIs of relevance to the event objectives and target population, considering also KPIs which might be useful as baseline measures for future events; 4) commission data gathering before, during and after the event; and 5) share key data to support future research.

As part of its Fit for Life initiative, UNESCO is also developing indicators to assess the sustainability of sporting events. Fit for Life is UNESCO's sport-based flagship which works to utilise sport to promote health and wellbeing and accelerate COVID-19 recovery (UNESCO, 2023^[14]). As part of this work, the Fit for Life: Label for sustainable sport events, aims to support hosts and the organising committees to develop, harmonise and cross-promote legacy plans that boost the social and environmental sustainability of mega-sporting events.

In the business events sector, work by the Joint Meetings Industry Council (JMIC) has also considered the links between the SDG and impact areas (JMIC, 2020^[15]). Drawing on extensive case studies from across the globe, the JMIC report (and related database) details the ways in which the business events industry can contribute to the SDG. They consider impacts in three main areas: how the theme of the event contributes to the SDGs; how the approach taken to the operation of the event contributes to the SDGs; and how an organiser/supplier's own operations contribute to the SDGs. Similarly, UFI, the Global Association of the Exhibitions Industry, has recently developed research on the status of sustainability, as well as the contribution to the Sustainable Development Goals, on top of its economic impact studies (UFI, 2019^[16]).

The European Commission has also developed a set of common indicators to guide cities in assessing the impact of European Capital of Culture (ECOC) events (EC, 2018^[17]). This guidance sets out a list of indicative indicators, set against the intended objectives of the ECOC programme and identifies possible sources of data to support their measurement. The guidance stresses however, that cities should also consider additional indicators of specific relevance to their context, priorities and activities and that the development of additional indicators can be usefully drawn upon by future host cities. As part of the EU Work Plan for Sport, the European Commission is also planning guidance on sustainable sport events.

This Guide builds on existing international efforts to improve the quality of events impact measurement studies and create international consensus on these good practices. There is a wide body of work on impact measurement and many guidance documents targeted towards evaluating the impact of different types of events. This Guide draws together this research, alongside case study evidence and inputs from academia, industry and policy makers to advance a consolidated guidance on impact measurement for all types of global events. In doing so, this Guide and its companion Guide work towards creating international consensus around a set of common principles and indicators for the measurement of global events impact.

IMPACT



1 | Global event impact areas

What the OECD Recommendation says: Definition of global events and legacy

The OECD Recommendation defines global events as:

“Global events” means events of a limited duration that have a global reach (in terms of participation, audience and/or media coverage), require public significant investment and have an impact on the population and built environment. Recurrent events can be covered as appropriate.

The OECD Recommendation defines legacy as:

“Legacy” means the planned and unplanned outcomes from the bidding and hosting of a global event.

Source: (OECD, 2018_[1])

Global events are broad in scope, including cultural, sporting and business events

The OECD Recommendation on Global Events and Local Development covers a broad range of event types. The Recommendation defines global events as “events of a limited duration that have a global reach (in terms of participation, audience and/or media coverage), require significant public investment and have an impact on the population and built environment” (OECD, 2018_[1]). This definition therefore covers a wide range of events, including one-off events, events that occur regularly but in different places, such as the Olympic and Paralympic Games, the Asian Games, or the FIFA World cup, and events which occur regularly in the same place, such as the Edinburgh International Festival. Global events can be multi-sited, rotating between multiple venues within a city or region, or can take place in a single location. Global events can also range in time-frame, from a single day event, to a year-long programme of events.

Global events can be broadly categorised into three groups: cultural events, sporting events and business events. Global cultural events can include events relating to specific forms of culture, such as the Cannes Film Festival, or a variety of cultural activities, such the European Capital of Culture. Similarly, sporting competitions can be for a single sport, or multiple sports. Global business events cover international trade fairs and similar type events and are generally, though not always, centred around a particular market, such as technology. Global events also include World Expositions, which incorporate both cultural and business elements. These categories often overlap, however. For example, the Commonwealth Games is typically accompanied by a cultural programme.

Some impacts are consistent across all types of global event and others will be specific to the event type (cultural, sport or business). For example, while encouraging the uptake of sport by young people would be an obvious impact of a sporting event, this may be less relevant for a trade fair. Similarly, the specificities of different events (e.g. type, focus, duration, etc.) will influence what type of impacts are pursued. However, some events in one area seek impacts from another. For example, the hosts of Olympic and Paralympic Games typically seek to have many culture-based impacts. Similarly, while trade fairs may focus their impact efforts on increasing networking opportunities for small businesses, this could also occur at a cultural event.

The impacts sought will depend on the event goals

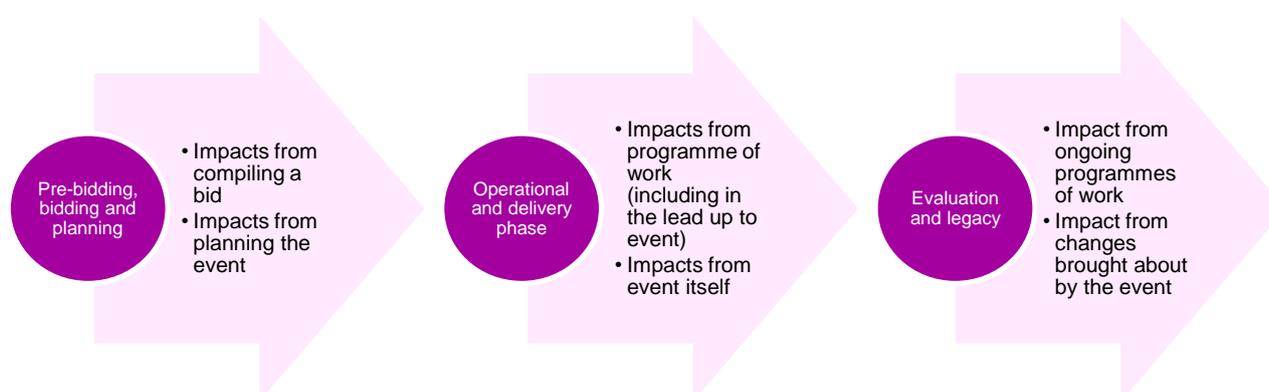
Events will pursue different types of impact. Impact measurement can be costly and so it is not feasible to measure all the various impacts arising from the event. Consequently, event hosts must select which types of impact they wish to pursue and measure, aligning these intended impacts to their overall vision and objectives. However, it is important to remain cognisant that any event has the potential to create both negative and unplanned impacts, and being able to capture both negative and unintended impact is an important part of evaluation.

The scale, setting, frequency and context of the event will affect the level of impact that is achievable. Not all types of impact will be relevant for all events, nor will all types of impact be achievable for all types of event. Setting realistic impact ambitions for an event in the planning stage helps to set the stage for targets that can be met. However, it is also important to consider contextual factors outside of event host's control which may affect the ability of the event to achieve its intended impact and to consider how these risks can be best managed.

The scope of impact measurement includes not only the “main event”, but also subsidiary events (such as side events) and all related projects occurring before, during and after. The impact of a global event concerns not only the main event itself, but also side or “fringe” events, as well as projects and interventions made in connection with the event, which may or may not be organised or coordinated by the main event hosts. Global events also often encompass a wide range of activities leading up to the event and following the event, such as workshops, training, regeneration schemes and policy programmes. All of these could be assessed when considering the overall impact of a global event.

Impact can arise from the bidding and planning stage, through the delivery of an event and many years after an event. The potential impact of a global event is wide-reaching and impacts can occur throughout the event project lifecycle. For example, the process of bidding to host a global event, even if that bid is subsequently unsuccessful, can have positive impacts on the bidding location.

»» Impact can occur throughout the event lifecycle



Source: OECD elaboration

The impact of global events includes both tangible and intangible impacts, on both those directly involved in the event and on the wider community. Tangible impacts of an event may include things such as infrastructure development, economic value generation or CO² emissions. However, there are a plethora of intangible benefits that global events can bring, such as changes in attitudes, increased sense of pride in place or enjoyment of the event itself. These tangible and intangible aspects can impact those directly involved in the event, such as attendees, event organisers and event volunteers, and can impact those who are not involved in the event at all, such as local communities and host country citizens. Some impacts can reach even further, for example by helping to bring about global change on social or environmental issues. However, it is important to point out that the impact of an event will be experienced differently by different population groups.

Impact can be derived from the initiation of policies and investments or from the acceleration of already planned activity. When considering the impact of a global event, identifying which impacts can be attributed to the event entails distinguishing between activities that were only enacted as a result of the event, and activities which were planned but occurred sooner, or with greater investment as a result of the event. For example, capital investment in transportation infrastructure may have been already planned in a region, but the hosting of a global event could lead to this work being conducted earlier than originally planned, with positive benefits accruing faster. Moreover, it is helpful to consider how an event may have contributed to an impact, alongside other interventions as part of wider policy agendas.

What the OECD Recommendation says: Early identification of economic, social and environmental impacts

The OECD Recommendation advises to:

Identify expected social, environmental and economic benefits and impacts of hosting a global event as early as possible in order to provide the evidence base to guide decisions. In particular, Adherents should:

- a. set specific objectives in terms of public value when the event benefits from public funds, and commit to public value assessments to ensure the legacy can be leveraged ex-ante, during and ex-post;
- b. ensure that the identification of benefits and impacts are technically-sound with a view to prevent negative impacts;
- c. ensure that costs are justified, proportionate and that a holistic approach is taken to maximise benefits;
- d. consider the relevance of the proposition to bid for an event against its alignment with city, regional and national strategic objectives, an appraisal of its technical credentials and a transparent process of consultation of relevant stakeholders.

Source: (OECD, 2018^[1])

Incorporating negative impacts

Global events create both positive and negative impacts, and these impacts can be uneven across different groups. Understanding these different impacts is an important part of the evaluation of an event. Moreover, knowledge of uneven impact can help to inform future events, which can lead to developing better mitigation strategies.

The Ironman Lake Placid Resident Survey specifically sought to capture negative impacts of the event on the local community in its assessment of impact. They asked broad questions including “What do you dislike about Ironman?” as well as questions relating to the detriments local residents and business owners experience due to Ironman. The survey reported on the experiences of different groups of people, including:

- Business owners / non business owners
- Residents of the region / towns on the race course / house on the race course
- Business on race course / not on race course
- Respondent competed in an Ironman event / volunteered / spectated / none of the above

The survey used open ended questions, which were then clustered into themes to show the most common issues for each group. This enabled comparison across groups, while allowing for issues to be determined by the community themselves. Moreover, the full qualitative responses were included in an annex of the report, allowing for more comprehensive analysis.

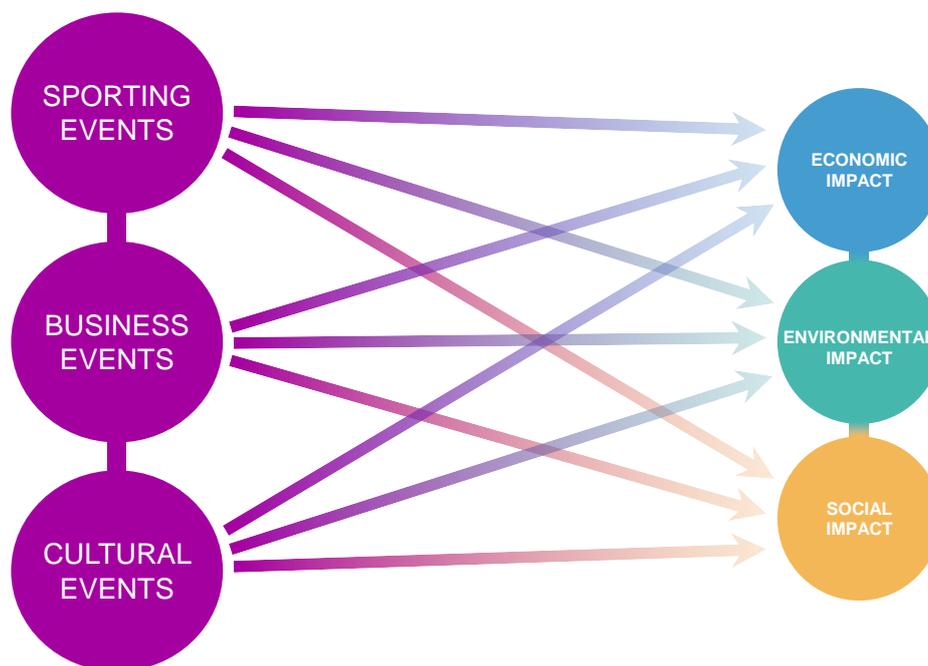
Source: (ROOST, 2021^[18])

Economic, social, and environmental impacts often overlap

Broadly speaking, impact can be divided into the following three areas: social, economic and environmental. Often referred to as the “triple bottom line”, all events will have impacts in these three areas, whether they are measured or not. Social impact includes changes in people’s attitudes, perceptions or behaviours, as well as cultural impacts, such as changes in people’s capability to create and share culture, and to freely express themselves. It also includes activities or changes in policy which impact people’s everyday lives. Economic impact includes the direct, indirect and induced additional economic net benefits/losses to the host region, or to participants. Environmental impacts can arise from waste and emissions produced by an event as well as use of materials and land. However, environmental impacts can also arise through changing attitudes and behaviours towards environmental and sustainability issues.

These three impact areas are deeply interconnected and often overlap. For example, encouraging young people to play sport is primarily a social impact, but this social impact can also produce economic impact, through, for example, lowering healthcare costs. Similarly, increasing employment is primarily an economic impact but also has important social implications. Moreover, a positive impact in one area, can lead to negative impact in others. For example, attracting large numbers of visitors to a region could have positive economic impacts, but could result in greater negative environmental impacts due to increased carbon footprint from travel. Consequently, measuring impact requires an understanding of how an activity or set of activities can impact each of these three areas. Moreover, a positive impact in one area might entail a negative impact in another area. Sound impact evaluation will balance the positive and negative effects of activity both within and across impact areas, as well as amongst different population groups.

» Different types of event and different impact areas overlap



Economic impact is broader than the direct value added of a global event

The economic impact of global events often refers to the total amount of additional resources injected into a defined area, as a consequence of staging the event. Studies in this area typically investigate the net change in the host economy, measuring the monetary inflows and outflows to generate a net outcome. The direct economic impact is a measure of the total amount of additional public and private expenditure within a defined geographical area that can be directly attributed to staging an event. Based on visitor and organiser spending, direct economic impact is an assessment of the net increase in spending as a result of the event, when taking into account the spending which might have occurred without the event taking place, and the spending which did not take place because of the event.

The economic impact of events is, however, broader than what the direct economic impact can measure. For this reason, event organisers may also wish to capture the total economic impact. This calculation aims to capture the “secondary impacts” of additional spending within the host economy, which includes indirect and induced effects.

There are also other indicators relating to an event’s impact on the economy, beyond the immediate impact on Gross Domestic Product (GDP). Alongside consideration of the economic impact of events in terms of GDP, assessment of an event’s deeper impact on the economic landscape can include consideration of new skills, business networks and innovations developed as a result of the event. For example, Mair et al. consider how the Olympic and Paralympic Games generate a legacy of event management skills, knowledge and networks that support the hosting of other subsequent major events in the host city (Mair, Lockstone-Binney and Holmes, 2021^[19]).

Global events can have social impact on local, national and international communities, far beyond the event itself

Most actors engaged in staging global events have witnessed their potential to have positive effects on the people and communities that interact with them, as well as the potential for impact on a global scale. Global events can mobilise large numbers of people and impact their lives in different ways. First, global events can simply create an enjoyable experience for spectators and participants (also known as psychic income). They can also impact participants' capabilities, for example by raising their profile or in the case of sports, impacting their sporting performance. Going further, such events can contribute to positively changing people's long-term life and behaviour. Beyond economic benefits in terms of employment and training opportunities, global events can have significant impacts on health and wellbeing, inequality and social cohesion (see boxes below). They can also contribute to changing social attitudes and outcomes at larger scale, for example through awareness raising.

However, there can also be negative social impacts associated with global events, which include excessive crowding, safety and security risks, transport delays, social exclusion, vandalism, noise and pollution, as well as issues around human rights (see box below). Moreover, negative social impacts can occur at any stage in the event life-cycle, and can reach beyond the immediate geographic location of the event, for example, through supply chains associated with an event. These negative outcomes also fall within the scope of the social impact and its assessment.

The impact of global events on event management capabilities

Hosting a global event requires significant knowledge, skills and resources. The knowledge, skills and networks developed through hosting process, as well as the infrastructure developed for a major event, can increase a host regions capacity to host large-scale events in the future. A recent study of the event management legacies of the Olympic and Paralympic games finds that both structural (e.g. large domestic population and/or proximity to other nearby large populations; existing events capacity; and a good range of venues) and enabling factors (e.g. presence of major education providers; strategic recognition of events; ongoing resourcing of venues; and a planned mixed event portfolio) underpin the ability of host cities to generate an event management skills, knowledge and networks legacy.

The report also identifies a set of indicators to measure a host's capacity (e.g. skills, knowledge, and networks) to host future events:

- Number of other mega events hosted
- Number of major events hosted
- Profile (types) of events
- Utilisation of event venues
- Total number of international and domestic tourist numbers for city
- Event tourist numbers (international and domestic)
- The existence of a destination-wide events strategy of policy
- Number of people employed in the events industry post mega-event
- Number of people employed by the host city organising committee who go on to work in the local events sector
- Changes in international rankings (e.g. International Congress and Convention Association city rankings)
- Awards received by the host destination
- Presence of strategic bodies/agencies responsible for attracting mega and major events to the host destination
- The creation of new strategic partnerships/networks that will facilitate future event hosting

Source: (Mair, Lockstone-Binney and Holmes, 2021^[19])

The impact of sport on health and wellbeing

Joint OECD/ World Health Organization (WHO) research on levels of physical activity in Europe finds that:

- More than one in three adults do not meet the WHO physical activity guidelines, and almost half (45%) report that they never exercise or play sport.
- Less than one in five boys and one in ten girls meet the WHO recommended level of physical activity for adolescents.
- Women and older people are less likely to do regular sports or exercise, as well as people from lower socio-economic groups: only 24% of people who consider themselves working class exercise at least once a week, versus 51% of people who consider themselves upper class.
- The COVID-19 pandemic has worsened the situation, with many people reporting a decrease in physical activity due to restrictions and confinement.

Moreover, the work estimates that if everyone in Europe were to meet the WHO recommended level of 150 minutes of moderate-intensity physical activity per week, this could:

- Prevent more than 10 000 premature (people aged 30 to 70 years) deaths per year – similar to the number of deaths due to COVID-19 in that same age group in France and Germany combined in 2020.
- Increase life expectancy of people who are insufficiently active by 7.5 months, and of the total population by nearly 2 months.
- Save European Union Member States 0.6% of their health care budget on average, a total of nearly EUR PPP 8 billion per year – more than the total annual health care expenditure of Lithuania and Luxembourg combined.

Estimates of the global impact of physical inactivity indicate that 500 million new cases of non-communicable disease, could be averted by raising physical activity levels. This could save public health systems USD 300 billion by 2030 (or USD 27 billion / year).

The WHO global guidelines on physical activity show how sports participation can contribute to health and wellbeing. The research finds that:

- Physical activity has significant health benefits for hearts, bodies and minds
- Physical activity contributes to preventing and managing non-communicable diseases such as cardiovascular diseases, cancer and diabetes
- Physical activity reduces symptoms of depression and anxiety
- Physical activity enhances cognitive health such as thinking, learning, and judgment skills
- Physical activity ensures healthy growth and development in young people
- Physical activity improves overall physical and mental wellbeing
- People who are insufficiently active have a 20% to 30% increased risk of death compared to people who are sufficiently active

Evaluation of the London 2012 Olympic and Paralympic Games showed how the event impacted participation in sport and physical activity during the year of the Games. It found that:

- The proportion of adults participating in at least one 30-minute session of moderate intensity sport (including recreational walking and cycling) in the last week had increased by 3.5 percentage points in 2012 compared with 2005/6, equivalent to 1.5 million more participants.
- Data for the 2012 calendar year showed that 15.3% of adults were either motivated to do more sport or more interested in sport because of the UK hosting the Games.
- Of those who already participated in sport, 12.0% said that they had been motivated to do more sport by the UK winning the bid to host the Games.
- Of those who did not already participate in sport, 3.3% said that they had become more interested in sport by the UK winning the bid to host the Games.

However, follow-up studies suggest that the long-term impact on sport participation was not maintained.

Analysis shows that the proportion of adults participating in sport at least once a week fell in the three years after the Games. This reflects the importance of long-term assessment and highlights the challenges of maintaining policy momentum post-event.

Source: (WHO, 2020_[20]; DCMS, 2013_[21]; OECD/WHO, 2023_[5]; WHO, 2022_[4]; NAO, 2022_[22])

The impact of culture on health and wellbeing

Participation in culture has been shown to have a positive impact on health and wellbeing outcomes. Cultural participation can take both active (playing a musical instrument, painting, or performing in a play) or passive (listening to music, reading a book, or playing a videogame) forms. Moreover, new forms of creation and distribution (e.g. open platforms) are merging the production and consumption of culture in new ways, leading to hybrid forms of active/passive participation. Cultural participation has numerous positive benefits that remain under-exploited, from social inclusion to boosting health and wellbeing, as well as cultivation of skills and entrepreneurship. It can also promote behaviour change to address social challenges.

A large-scale scoping review of evidence on the role of the arts in improving health and wellbeing by the WHO finds that the arts can have a positive impact on both mental and physical health. The study finds that participation in arts and culture can:

- Effect the social determinants of health
- Support child development
- Encourage health-promoting behaviours
- Help to prevent ill health
- Support caregiving
- Help people experiencing mental illness
- Support care for people with acute conditions
- Help to support people with neurodevelopmental and neurological disorders
- Assist with the management of noncommunicable diseases
- Support end-of-life care

The UK's What Works Wellbeing research centre specifically finds evidence that, amongst others:

- Engaging in participatory music and singing programmes can help to maintain wellbeing and prevent isolation, depression and mental ill health in older adult age groups
- Listening to music can alleviate anxiety and improve wellbeing in young adults
- Engaging in visual arts activities, of various kinds, can reduce depression and anxiety and increase confidence and self-esteem
- Visiting museums, historic houses, and other heritage sites has a positive impact on individual wellbeing, including life satisfaction and happiness

The 2021 UK City of Culture in Coventry aimed to capitalise on the links between culture and health and wellbeing. They identified health and wellbeing outcomes as part of their key priorities, including developing combined arts and health initiatives and supporting arts and cultural events involving physical activity and other health and wellbeing activities.

In evaluations of the city of culture programme, Coventry measured the impact of these projects on subjective wellbeing. They reported on the different programmes instigated as part of the event as well as reporting the subjective wellbeing scores of those who were involved in these projects. They measured subjective wellbeing of participants before and after the project, finding that subjective wellbeing scores rose for those involved in the projects. These scores were also compared against wellbeing scores for the local population who had not been involved in the projects.

Source: (Fancourt and Saoirse, 2019^[23]; Coventry UK City of Culture, 2021^[24]; Coventry UK City of Culture, 2022^[25]; What Works Centre for Wellbeing, 2023^[26]; OECD, 2022^[6])

Embedding human rights throughout the event lifecycle

The Centre for Sport and Human Rights provides guidance on how event hosts can better promote human rights, prevent potential negative human rights impacts, and provide adequate remedies for abuses that do occur. Their guidance is structured around the event lifecycle, suggesting that actions can be taken from the pre-bidding or “vision” stage, right through to the legacy stage. Their advice includes:

At the pre-bidding, bidding and planning stage:

- Human rights are integral from the outset
- All relevant stakeholders contribute to the vision
- International human rights standards apply
- The responsibilities of different actors are clear
- The rights of children are specifically recognised and protected
- The rights of vulnerable people should be recognised and protected
- The bidding process is fully transparent
- Human rights guarantees are included as part of the bid
- Ongoing stakeholder engagement continues throughout the lifecycle
- Supporting infrastructure is subject to the same standards as event infrastructure
- Expectations are communicated across government and contractors
- Access to land and resources is based on due process

At the operation and delivery stage:

- Hosting the event supports local economies and suppliers
- Sponsors are subject to human rights due diligence
- Broadcasters are subject to human rights due diligence
- Sponsors are required to identify human rights risks
- Broadcasters are required to identify human rights risks
- Human rights are embedded in supplier contracts
- Issues in supply chains are monitored and resolved
- Supply chain sources are disclosed
- A grievance mechanism is in place for supply chain grievances
- Specific risks associated with a migrant workforce are addressed
- Unions participate in joint site inspections
- Independent investigations of workplace accidents and injuries are ensured
- A grievance mechanism is in place for on-site grievances
- Ongoing due diligence on contractors is carried out
- Security and policing are subject to international principles on the use of force
- The rights of journalists and free speech are protected
- Space for legitimate protest is accommodated
- Training for diverse workforces is in place to ensure a harm-free environment
- The risks of modern slavery, trafficking, and forced labour are effectively mitigated
- The human rights of athletes are upheld and protected
- Anti-doping and integrity measures respect the rights of participants
- The risks to child athletes are specifically considered

At the evaluation and legacy stage:

- Event infrastructure has a long-term future
- Events are used as a platform for advancing human rights in host communities
- Lessons are captured and transferred

Source: (Mega-Sporting Events Platform for Human Rights, 2018^[27])

The environmental impact of global events can be wide reaching

The planning, delivery and legacy phases of global events all involve environmental impacts. Some of these are explicit, for example, land use for a stadium or emissions created by visitor travel to and from events. Others are more hidden, like the carbon emissions generated in the production of merchandise. Global events can, however, also have positive impacts on the environment, through promoting sustainable businesses and investment, and by contributing to changing attitudes and behaviours. They can also contribute positively to sustainability agendas through “demonstration effects”, whereby event organisers create a demand for more sustainable goods and services, businesses then innovate to supply more of these goods and services, consumers then see events using these goods and services, which can then lead to both a greater supply and a greater demand for these goods and services.

Consideration of all actors involved in the event’s supply chain is important in understanding environmental impact. This includes the sourcing of materials, construction methods and the movement of goods. The use/reuse of event-related materials after the event also forms a considerable component of the environmental impact. In both cases, event hosts can seek to use suppliers who can demonstrate supply chain due diligence (OECD, 2020^[28]), and can conduct supply chain mapping to help assess pre and post event environmental impact.

Towards net zero events

An environmental impact study of the FIFA Women’s World Cup France 2019 shows the large-scale impact on the environment that global events can have. It also shows how much of the carbon footprint of an event can be linked to international travel. The study found that:

- 340 000 tonnes of CO₂ equivalent were emitted in relation to the event, similar to the emissions generated annually by 28 500 French residents
- 1.1 million m³ of water was consumed on-site, as well as by the global supply chain, the equivalent of 216 Olympic swimming pools
- 42 700 tonnes of raw materials were used on-site, as well as by the global supply chain, the equivalent of the weight of six Eiffel towers
- Spectator transport accommodation and catering accounted for 95% of the carbon footprint, 75% of which was due to international air travel
- Only 0.5% of the carbon footprint was attributed to activities of the host city (including stadium operation, staff and volunteers)

The Net Zero Carbon Events initiative brings together a wide range of industry stakeholders and international organisations in developing and supporting plans to reach net zero in the events industry. The initiative launched its Net Zero Roadmap for the Events Industry at COP27 in Egypt, which outlines how the events industry can work towards net zero by 2050, and emissions reductions by 2030, in line with the Paris Agreement and climate science. The roadmap provides an overarching framework for the events industry to move towards net zero alongside guidelines and resources to help support the industry in the net carbon transition. The initiative aims to:

- Jointly communicate the events industry's commitment to tackling climate change and driving towards net zero by 2050
- Develop common methodologies for measuring the industry's direct, indirect and supply chain greenhouse gas emissions
- Foster collaboration with suppliers and customers to ensure alignment and common approaches
- Establish common mechanisms for reporting progress and sharing good practice

The initiative is working towards developing indicators for the events industry to use in capturing events progress towards net zero carbon footprint. They have identified indicators in eight different emission categories.

Net Zero Carbon Events high-level indicators

Category	Sub-category	Data/Indicator
Event	Event	✓ No. of attendees
		✓ Occupied floor area
		✓ Event duration (days, hours, etc.)
		✓ Event revenue
Venue Energy	Energy	✓ Amount of total energy used (kwh)
		✓ Amount of total energy from renewable source (kwh)
Waste	Waste	✓ Total waste generated by material type and disposal method
Accommodation	Accommodation	✓ Total room nights for each accommodation type and hotel location
Food and Beverage	Food and Beverage	✓ Totals number or weight of meals provided and type
		✓ Total number or weight of F&B items procured
Upstream exhibits, production and logistics	Logistics and Freight	✓ Distance shipment travelled by mode of transport type
		✓ Weight or volume of shipment transported
	Materials and Furniture	✓ Weight of materials/furniture items used by each type
Travel (within and to and from the destination)	Travel (within and to and from the destination)	✓ Mode of transport
		✓ Fuel consumption
		✓ Distance travelled
Digital Events and Communication	Digital Events and Communication	✓ Number and hours (as applicable) of emails sent, websites searches, and video conferences organised

Source: (Utopies, 2021^[29]; Net Zero Carbon Events, 2022^[30]; Net Zero Carbon Events, 2022^[31])

Global event organisers and hosts need to work together with local stakeholders to define impacts

The OECD Recommendation states that event hosts should identify expected economic, social and environmental impacts as early as possible in order to provide the evidence base to guide decisions. Intended impacts can be identified and made explicit at the bidding phase. This step is fundamental to creating focus for event planning and delivery, and is also essential in developing baseline indicators upon which to measure impact.

The OECD Recommendation goes on to state the importance of aligning intended impacts with city, regional and national strategic objectives and the need for a transparent process of consultation of relevant stakeholders. Hosting a global event can be a catalyst for change. As such, intended impacts should reflect broader strategic objectives at the regional and national level and should be aligned with wider policy agendas. However, it is also important that local communities and stakeholders are given a voice in identifying and defining impacts, as well as in the governance process of impact measurement. This includes engaging with diverse groups of stakeholders, in recognition that events will likely affect different population groups in different ways.

Co-construction of impact objectives with local stakeholders can influence the choice of methodology and indicators used, as well as the likelihood that their actions will contribute to positive impact. Stakeholders can be defined as all those affected by, or who affect, the event (Social Value International, 2019^[32]). Engaging with stakeholders early on in the bidding processes and co-creating impact strategies can generate consensus and a common path of delivery for all involved. It can also help to identify unintended impacts and impacts on different population groups.

International standards can also play a role in shaping the design of impact indicators. For example, event hosts can draw on the SDGs to help frame their impact ambitions. Alongside the OECD, the WHO, World Bank, ILO and other multilateral global and regional institutions also provide guidance and good practice on specific types of impact and potential ways to measure it.

From stakeholder participation to co-creation

The OECD Recommendation on Open Government defines three levels of stakeholder participation:

- **Information:** an initial level of participation characterised by a one-way relationship in which the government produces and delivers information to stakeholders. It covers both on-demand provision of information and “proactive” measures by the government to disseminate information.
- **Consultation:** a more advanced level of participation that entails a two-way relationship in which stakeholders provide feedback to the government and vice-versa. It is based on the prior definition of the issue for which views are being sought and requires the provision of relevant information, in addition to feedback on the outcomes of the process.
- **Engagement:** when stakeholders are given the opportunity and the necessary resources (e.g. information, data and digital tools) to collaborate during all phases of the policy-cycle and in the service design and delivery.

For global events, this third level of engagement is particularly important in shaping the design, delivery and ultimately the legacy of an event. This includes engaging stakeholders in the design and delivery of impact measurement. The importance of stakeholder engagement in impact assessment has been identified by Social Value International as the first principle of social value measurement.

The Birmingham 2022 Festival (a Cultural event linked to the Commonwealth Games) set co-creation as one of the main goals of the festival. The Birmingham 2022 Festival produced a specific case study evaluation of how co-creation was incorporated into the various activities of the festival. They used interviews, photographs, video evidence, project reports, social media, and artworks to develop in-depth qualitative case studies of some of the different co-creation projects the festival delivered.

This work followed the same theory of change methodology as the main Commonwealth Games 2022 framework, and assessed the needs and opportunities of the projects, the people and places involved in the projects, the design and delivery of the projects and the legacy and learning implications of the festival. On this last point, the evaluation concluded with recommendations on how the legacy of the projects could be best supported.

Source: (Punch Records, 2023^[33]; OECD, 2017^[34]; Social Value International, 2019^[32])

METHODS



2 | Methodological approaches to impact measurement

Methodological approaches to impact measurement vary depending on the event, its objectives and context

Impact measurement occurs throughout the event lifecycle: in the bidding and planning stage, throughout the duration of the event itself and at different time periods after the event (e.g. 1 year, 5 years 10 years). Although the indicators used at each of these stages may be similar, the methodologies applied to anticipating, monitoring and evaluating impact are often different.

Ex-ante monitoring of global events is needed to provide accurate data and information related to the event in terms of costs, results and impacts. Such ex-ante evaluations are generally based on cost benefit analysis as well social and environmental impact analysis, including the costs (or business case) of dismantling facilities.

Ex-post impact studies gauge the short, medium and long-term consequences of the event and assess their implementation. Several techniques may be applied, which can be broadly divided into: 1) statistical modelling to estimate monetary impacts through general equilibrium effect or input-output methodologies; 2) experimental or quasi-experimental designs deploying a counterfactual to quantify the causal effect which can be attributed to the intervention; and 3) more qualitative, theory-based approaches that follow a theory of change in order to assess the causal mechanisms at play, from inputs to outcomes and impacts.

Many impact measurement methodologies may be considered, which can be broadly divided into:

- **Statistical modelling** can be used to estimate economic impacts through general equilibrium effect or input-output methodologies. Computable general equilibrium (CGE) models use actual economic data to estimate how an economy might react to changes in policy, technology or other external factors. Input-output analysis is a form of macroeconomic analysis based on the interdependencies between economic sectors or industries. It is commonly used for estimating the impacts of positive or negative economic shocks and analysing the ripple effects throughout an economy. These are however not always feasible at the local or regional level, due to insufficient data granularity, including in national statistics. Indeed, a national input-output (Leontief) matrix may not be representative of a host region. Moreover, conventional input-output tables are typically not able to provide detail on particular target groups, such as small and medium-sized enterprises¹ or those in the social and solidarity economy. In this case, statistical modelling can be combined with other approaches, for instance an experimental study or a cost benefit analysis, in particular through the application of a social value function. Similar approaches within statistical modelling focus on net injection (Stricker and Derchi, 2021^[35]), which use household and business multipliers that are based on the amount of additional spending estimated to be retained within the host region.
- **Experimental or quasi-experimental approaches** deploy a counterfactual to quantify the causal effect that can be attributed to the intervention. They calculate the effect of a treatment (i.e. the intervention, as an explanatory or independent variable) on an outcome (i.e. the expected impact, as the response or dependent variable) by comparing the average change in the treatment group

against the control group. Observational studies can be deployed through cohort or cross-sectional surveys. Longitudinal data for the control group can then be retrieved from existing national or local statistics, as in the difference-in-difference technique. Robust empirical experiments face numerous limitations, such as the absence of comparable samples, as well as difficulties related to the endogeneity of indicators. This may occur when some of the variables affecting the indicator (e.g. contextual factors) are not independent from the intervention at hand, yielding biased and inconsistent estimates. The core assumption is, however, that the comparison groups are identical, in the absence of treatment. This requires carefully considering the demographics of the beneficiaries reached by the intervention with respect to the external proxy.

- **A theory-based approach** is a way to structure an evaluation, without ruling out the use of any particular evaluation method. In such an approach, a theory of change needs to be formulated to outline how the intervention intends to reach its results and to assess the assumptions underlying the causal chain, from inputs to outcomes and impact. A theory-based approach helps to answer how and why the observed results have been achieved (International Initiative for Impact Evaluation (3ie), 2012^[36]). Unlike experimental designs, these approaches do not rely on counterfactual causation, but analyse the (intervening) causal mechanism or process that generates a certain outcome. Among the most frequently used approaches in theory-based causal analysis, contribution analysis relies on a formalised process to test the theory against logic and evidence to confirm that an intervention or initiative has contributed to an observed result. When relying on a solid theory of change and a mixed method approach, some authors suggest that contribution analysis may be “stretched” to estimate the size of effects in a quantitative manner (Ton et al., 2019^[37]).

The table below outlines some of the methodologies used for ex-ante and ex-post evaluations.

» Examples of different methodological approaches to global events impact measurement

Ex-ante and ex-post impact studies	
Econometric modelling	2004 Athens Olympic and Paralympic Games (Kasimati and Dawson, 2009 ^[38])
Input–output modelling	1996 Georgia Summer Olympic and Paralympic Games (Humphreys and Plummer, 1995 ^[39]) 2002 Korea–Japan FIFA World Cup (Jang, Lee and Ahn, 1999 ^[40]) 2020 Global Exhibitions (UFI, 2020 ^[41])
Computable general equilibrium (CGE) modelling	2000 Sydney Olympic and Paralympic Games (Giesecke and Madden, 2007 ^[42] ; Madden, 2002 ^[43]) 2008 Beijing Olympic and Paralympic Games (Li, Blake and Cooper, 2011 ^[44] ; Li, Blake and Thomas, 2013 ^[45]) 2012 London Olympic and Paralympic Games (Blake, 2005 ^[46]) 2015 Cricket World Cup Australia and New Zealand (PWC, 2015 ^[47]) 2018 Gold Coast Commonwealth Games (Pham, Becken and Powell, 2019 ^[48])
Theory-based evaluation (Theory of change, surveys and interviews)	2010 South Africa FIFA World Cup (Heere et al., 2013 ^[49] ; Kaplanidou et al., 2013 ^[50]) 2008 Liverpool European Capital of Culture (Garcia, Melville and Cox, 2010 ^[51]) 2014 Commonwealth Games Glasgow (McCartney, Hanlon and Bond, 2013 ^[52]) 2015 Edinburgh Festivals (BOP Consulting, 2016 ^[53])
Valuation (Cost-Benefit Analysis, Social Return on Investment)	2018 FIFA World Cup bid in the Netherlands (Nooij, Berg and Koopmans, 2011 ^[54]) 2020 Winter World Masters Games in Austria (Lintumäki et al., 2020 ^[55]) 2017 Bradford Literature Festival (Provident Financial, 2017 ^[56]) 2013 Auckland Museum’s My Ocean Exhibition (Allpress, Rohani and Meares, 2014 ^[57])

While early impact studies' main ambition was to “measure” the economic or social benefits and costs of hosting an event, a more recent shift (acknowledged by the IOC) puts emphasis on the conditions under which changes happen. Quantitative approaches, which are very useful to assess the existence of impacts and measure their magnitude, provide limited insight when it comes to analysing these conditions and answering “why” and “how” types of questions. For this reason, qualitative methods, which were traditionally side-lined from impact studies (and rather reserved for the academic literature), are now gaining in importance. More fundamentally, it seems that the development of mixed methodologies combining qualitative and quantitative tools can allow for a closer examination of each impact and its causal pathways.

Common underlying theoretical approaches to understanding social impact of major events

There is no overarching theory or framework that governs social impact measurement in events research. Instead, social impact measurement in this context mixes concepts, ideas, and terms borrowed from other disciplines, such as evaluation, accounting, business management, social research, economics, and finance. A few of the most common underlying theoretical approaches to understanding social impact of major events are:

- *Social exchange theory* is similar to a cost-benefit analysis, but conceived at the person level and extrapolated to the community level. The theory suggests that individuals evaluate the personal benefits to them of living in an area in which an event takes place (e.g. psychic income, increased opportunities for participation, etc.) and weigh these up against the negative effects on their lives (e.g. increased traffic, more expensive food, etc.) when evaluating the impact of an event. If a large enough and representative sample of community members evaluate the event as positive, then the culmination of these individual value judgements can be used to indicate that the event produced more positive social impacts than negative ones.
- *Social representation theory* is based on the idea that people co-construct their beliefs, values, and attitudes through social interaction in groups and that this meaning making concretely shapes an individual's experience of the world. Understanding how community members frame an event in discourse and the aspects which they feel are salient in shaping the narrative around an event, are therefore important components of an events impact, regardless of the “facts on the ground”.

Source: (Wallstam, Kronenberg and Pettersson, 2019^[58]; OECD, 2021^[59])

Learnings around methodological design

Global events hosts and organisers must weigh the differences between methodologies and select the ones that are more appropriate for each given event. The diversity of impact areas being targeted by global events calls for a differentiated approach that incorporates a range of different methods, data and evidence. Hence, it is not a matter of identifying the single best solution for an event, but rather of defining an approach which is best tailored to the event's impact and delivery strategy. Events can thus incorporate multiple methods within an evaluation strategy, whilst adhering to some common guiding principles and ground rules.

The lack of data infrastructure remains the main constraint in developing comprehensive impact assessments. This is often the first condition that has to be considered when defining the measurement approach, taking into account the local context. In some countries, for instance, national statistics on sport

or cultural participation rates may not exist. Moreover, a lot of essential data may not exist at the required level of disaggregation or on a suitable territorial scale. In addition, there may be an issue of transferability of analysis from rural to urban areas, depending on the location of the event. The paucity of secondary data that is readily available to events hosts and organisers will increase the cost of data generating activities that have to be engaged ad hoc for the event.

The choice of key performance indicators and the underlying data collection strategy needs to be tailored to the event context and in particular to the target community. While there is a tendency to rely on tangible and easily quantifiable measures, it is equally important, yet more challenging, to capture the views and perspectives of people affected by events, especially the more vulnerable and marginalised. Technological advancements and the digital shift offer new opportunities to gather perception data and conduct sentiment analysis from event participants and beyond (e.g. web scrapping, big data mining and real time data collection from social media and mobile devices), but these are still largely unexplored by the global events industry and carry ethical considerations.

Credibility of the overall evaluation strategy can be supported by communicating adequately on impact measures. There is a natural temptation to be (and hence the risk of coming across as) too ambitious and to oversell the potential benefits of hosting an event. The quality of measurement hinges upon the validity of the evidence produced, as well as on its interpretation, through cross-analysis of different sources of information. In order to uphold the credibility of impact claims, methodologies should move beyond correlation and towards causality. This implies the use of a theory of change, in order to map out and test what activities and processes contributed to achieving a given outcome. It also underlines the importance of establishing a credible benchmark against which to measure change, if possible already at the pre-bidding stage.

Finally, significant efforts are needed to bring emerging evidence to the level of decision making, to enable continuous improvement during the event lifecycle as well as organisational learning across multiple events. This could be supported by global events hosts and organisers agreeing on clear responsibility schemes, which warrant an independent, and if possible participatory, governance of the measurement process. So far, the global events industry has seen very little engagement through the evaluation process, with only few examples of co-creating methods and measures within communities. A multi-stakeholder governance model enhances the credibility, ownership and uptake of the ensuing metrics. In this respect, establishing a databank with evaluation reports from past events would be another valuable step to promote knowledge transfer across the industry.

The impact of COVID-19 on global events

COVID-19 dramatically affected the events industry, with many global events being cancelled, postponed, or changed to an online format. The health and safety issues surrounding events over the pandemic period also highlighted accessibility issues, with research from the Australian Audience Outlook Monitor suggesting that people with a disability were less likely to return to in-person event attendance than people without a disability. While the move by many towards online, or hybrid events has the potential to increase accessibility for some, the potential displacement of physical visitor numbers with virtual ones, raises challenges in capturing the benefits of these events to a local area.

Postponement of the 2020 Olympic and Paralympic games in Tokyo as a result of COVID-19 marked an unprecedented challenge for the event hosts. Original plans for the games focused on record participation levels and aimed to help regenerate the Tohoku region, which had been badly affected by the 2011 Great East Japan Earthquake and tsunami. However, in light of COVID-19, the vision of the games shifted, towards using the games as a beacon of hope. To enable the games to go ahead in 2021, a new governance board was established which brought together different levels of government, games organisers, public health officials and experts. Significant counter measures were put in place to support a safe delivery of the games, including in areas such as travel and transport, physical distancing, personal protective equipment, cleaning, testing and vaccination. Many of the measures put in place over the pandemic period led to improved outcomes and are likely to be carried forward for future events. For example, virtual meetings of the Coordination Commission, led to a reduced carbon footprint and overall travel cost, improved access to meetings and more engaged and informed stakeholder participation.

Source: (Patternmakers, 2023^[61]; IOC, 2023^[62])

Notes

¹ Although the international statistics community, under the auspices of the OECD Expert Group on Extended Supply-Use Tables, is beginning to develop new tables that can help address these data challenges.

INDICATORS



3 | Global events impact indicators

Well-designed indicators are needed to accurately measure impact

Indicators play a central role in the monitoring process by generating regular and objective feedback about progress towards objectives. They provide crucial information to judge implementation and to make adjustments where required. Indicators can be classified into three general categories according to what is measured: input indicators, output indicators, and outcome indicators.

- **Input indicators** are used to measure the amount of resources that are allocated to an intervention. Thus, they are measures of effort. They do not give any information whether the resources are efficiently spent or whether a policy is effective in achieving an objective.
- **Output indicators** monitor how efficiently activities are executed. They help to improve the implementation.
- **Outcome indicators** are used to monitor the effectiveness of projects in achieving their objectives. They help to understand whether activities are well designed in view of their objectives. Outcomes are the underlying motivation behind the intervention, but in most cases they can only be affected through the production of outputs. An outcome indicator always has a normative component in the sense that (within a reasonable range) a movement in one direction is considered a positive development and a movement in the other direction is considered a negative development.

All three of these indicators are needed to monitor and evaluate impact, but they play different roles in measurement methodologies. Input indicators are necessary for cost benefit analysis and in theory of change methodologies. In this context, input indicators provide a baseline against which output indicators can be assessed (ASOIF, 2021^[13]). According to the 2019 IOC Guide on Legacy (IOC, 2019^[11]), outputs are essentially things that are produced or delivered, for example the number of hours of training delivered to volunteers. Outcomes are the difference these things make – either positive or negative – for example new professional skills that were developed through the training or increased employability of the volunteers who received the training. Measures based on outcomes help to determine the level of success and improve understanding about the ultimate benefits that were created.

A theory of change approach can help to identify how inputs connected to the event can lead to outputs and outcomes. Establishing a clear theory of change, which articulates how the inputs to the event are intended to produce change and what those changes are, can greatly help in guiding the selection of appropriate indicators. By establishing a theory of change early on the events lifecycle, the requisite indicators can be better identified and baseline data can be gathered to inform subsequent analysis.

Often aggregate measures are developed which incorporate multiple input, output and outcome indicators. For example, common measurements of the economic impact of global events incorporate economic input indicators (such as net spending) with output indicators (such as number of jobs directly created) and outcome indicators (such as the value of trade deals associated with the event).

Economic impact indicators

Economic impact studies can focus on the direct economic impact of an event, or incorporate indirect and induced impacts as well. Economic impact can be summarised as the net economic change in a host area that results from spending attributed to the event. Direct economic calculations require consideration of three main aspects: what constitutes investment (inputs), what constitutes visitor or attendee spending (outputs), and what constitutes the local area. However, to adequately assess direct economic impact, calculations must also account for factors such as “deadweight” – economic activity that would have occurred regardless of an event being held; “displacement” – the value of normal activity which did not occur as a result of the event; and “leakages” – event-related activity that results in money being expatriated from the defined host economy (IAEH, 2022^[12]). Accounting for these aspects is what is referred to by the term “net”.

Calculating indirect and induced impacts requires the use of additional information. While visitor spending captures some of the wider economic impact of an event in sectors such as tourism, there are further levels of value generation which visitor and organiser spending can generate. In addition to the direct economic impact, indirect economic impact can be calculated by considering the additional value generated by businesses in the wider supply chain and induced impact can be calculated by considering additional household spending made as a result of increased income. Here “multipliers” are used to calculate how much additional indirect and induced value can be attributed to an event. These multipliers are typically derived from input-output tables, which describe the income generated from the use and production of goods and services in a given industry in a given location. Total economic impact can be considered as the sum of direct, indirect and induced impacts.

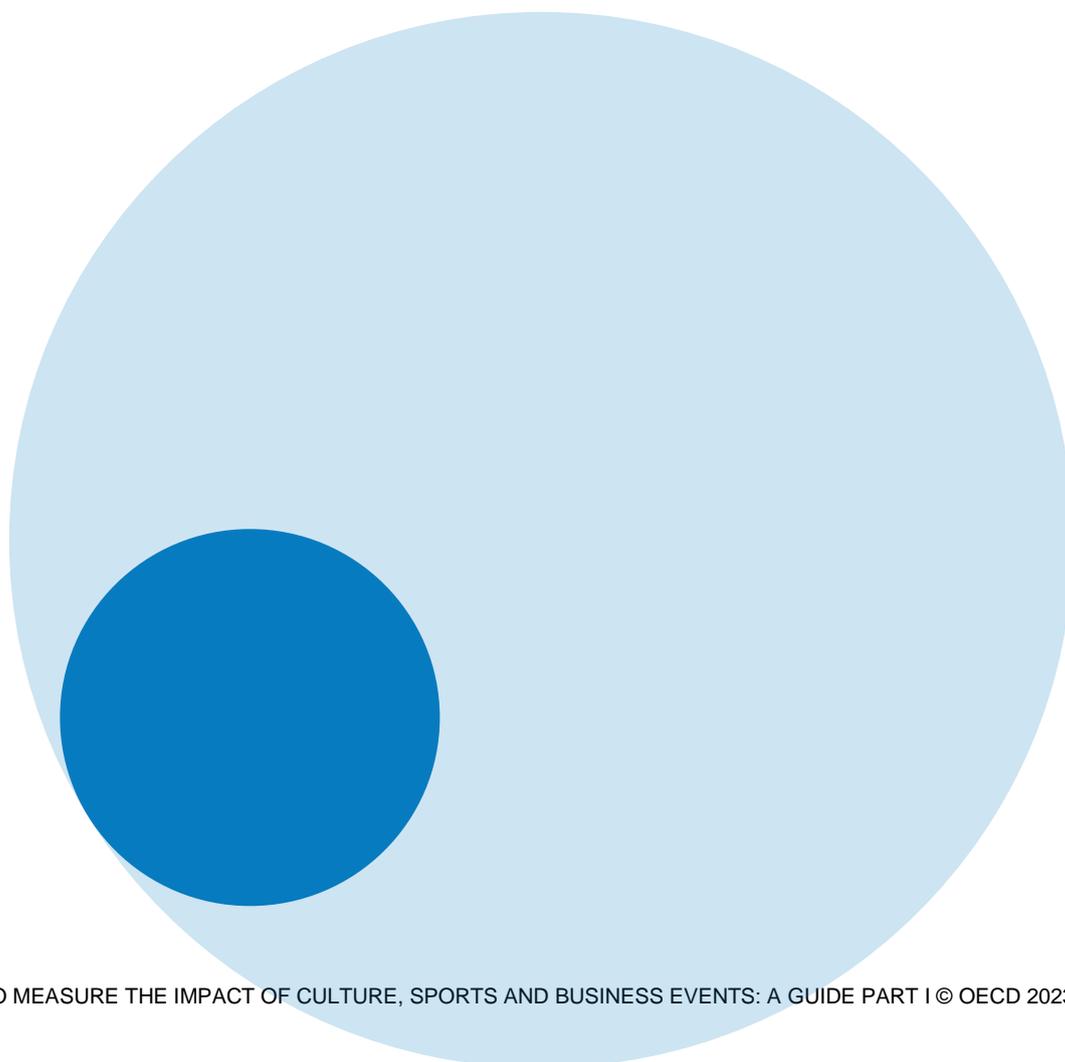
For example, the concept of net injection is one way to use multiplier analysis to identify spending inside the reference area that is financed by revenue from outside of the reference area. Stricker and Derchi (2021^[35]) have used this model to calculate the economic impact of international sports organisations in Switzerland 2014-2019. First, the primary income (the combination of the direct and indirect impacts) is computed. The direct impact mostly corresponds to the effect on local residents of salaries and social security contributions as well as by the construction and business tourism sectors. The indirect impact corresponds to the effect on local companies of purchased goods and services and investments, based on a business multiplier which represents the rate of leakage. Second, the induced impact (i.e. the expenses induced by the spending of the primary income by local residents and local companies) is calculated using a household multiplier which also takes into account leakage. Finally, the overall economic impact is estimated by adding the primary income (direct and indirect impacts) to the induced impact. Consequently, this model attempts to account for leakage at all stages of the impact calculation.

Compiling economic impact assessments requires the collection of a range of different data and consideration of the limitations of each data type. For example, ticket sale data can be used as a basis for calculating attendees but does not extend to all those visiting the host region as a result of the event (for example, those accompanying attendees or those attending non-ticketed side events). In ex-ante evaluations, estimating visitor numbers based on data from prior events must take into account contextual differences, such as event types, location, tourism trends, etc. For ex-post assessments, survey data collected during the event can be useful for establishing total visitor numbers. Similarly, survey data is typically used to determine average visitor spend in a host region. This should take into account different types of visitor and different types of stay, for example, a three night stay will not necessarily result in three times the cost of a one night stay. Establishing total investment in an event relies on transparent data from event hosts. However, the extent to which spending should be attributed to an event often requires extracting spending data from multiple budgets and differentiating between induced and accelerated spending. Establishing indirect and induced economic impact requires the use of robust multipliers. When these multipliers are derived from official input/output matrixes from national statistics offices, it is important that such sources are applicable to the reference area and that consideration of the reference time for such sources is made. This is especially the case in ex-ante studies, which may be conducted five to ten years before an event, and could already be based on matrixes which could be several years old (Massiani, 2020^[63]).

Beyond the indicators used for direct, indirect and induced economic impact assessments, there are many other indicators which affect the economy of a host region. For example, the skills gained by volunteers are difficult to incorporate within an economic assessment model as described above, but can have a significant impact on employment rates, especially for target groups. Global events can also prompt innovation and research projects, which can benefit the economy in ways which are difficult to capture and may not be realised for many years after the event. Similarly, for some events, such as trade fairs, the impact of networking and new business contacts made during the event may not result in a business deal directly, but could lead to further connections and increased trading in the future, alongside more generally enhancing the knowledge economy (Foley et al., 2019^[64]). Finally, profile raising of the event region and positive visitor experiences can lead to increased tourism after the event takes place, which can be a major boost to local economies.

There are different approaches to economic impact measurement and a one-size-fits-all solution is not feasible nor desirable. Each type of event (e.g. trade show, sports, culture) has its own characteristics and every single event is unique. Moreover, events will have differing resources available for evaluations, in relation to time, money and expertise. While using typical input-output models for measuring the economic impact of global events is an important part of understanding the value they generate, greater transparency is needed in the formulation of such assessments, which makes explicit the underlying assumptions and limitations of each methodology employed. Moreover, there is a need for such studies to look at the distribution of economic impact: how benefits and costs may be attributed differently among different parts of the population and territory.

The table below offers the most common indicators used to measure the economic impact of global events, broken down into broad areas.



» Economic indicators for measuring the impact of global events

Impact area	Link to SDGs	Indicator	Aggregate indicator	Reporting unit
GVA/GDP	8.1	Direct economic impact	✓	Currency, percentage of total GVA/GDP
		Indirect economic impact	✓	Currency, percentage of total GVA/GDP
		Induced economic impact	✓	Currency, percentage of total GVA/GDP
		Net injection on host economy	✓	Currency, percentage of total GVA/GDP
Employment and skills	4.4, 8.5, 8.6	Direct employment of event (temporary/permanent jobs created)		Number
		Indirect employment linked to event (temporary/permanent jobs created)	✓	Number
		% of event jobs attributed to people in target groups		Percentage
		% of new jobs going to previously unemployed		Percentage
		% of volunteers who developed skills through volunteering		Percentage
		Event-related spending on employment, skills or education programmes		Currency
Business and trade	8.1, 8.3	Value of trade deals associated with the event		Currency
		Value of contracts paid to local suppliers		Currency, percentage of value of all contracts
		Value of contracts to SMEs and social businesses		Currency, percentage of value of all contracts
		Value of FDI (at local or national level) associated with the event		Currency, percentage of value of all FDI
		Number of B2B meetings associated with event		Number
Infrastructure	9.1, 11.2	Event-related spending on new/upgraded venues		Currency
		Event-related spending on new/upgraded equipment		Currency
		Event-related spending on new/upgraded transport systems		Currency
		Event-related spending on regeneration of regions/areas		Currency
		Event-related spending on accessibility		Currency
		Number of unused spaces repurposed for event		Number, M ²
Tourism	8.1, 8.9	Additional visitor numbers during event		Number
		Total number of visitor nights caused by event		Number
		Average visitor spend		Currency
		Total net additional visitor expenditure	✓	Currency
		Visitor increase after event		Number, percentage
		Classification of the host in international rankings of tourism attractiveness		Change in ranking position
		% visitors reporting high likelihood of visiting again		Percentage
% visitors reporting high likelihood of recommending destination		Percentage		
Research and innovation	8.2, 8.3	Number of research projects directly associated with the event		Number
		Investment value of research projects directly associated with the event		Currency

Social impact indicators

Social impact incorporates a wide range of issues for a large and diverse group of people. It includes the direct impact on local communities, on attendees and on global audiences. It also includes broader impacts on the destination ecosystem (Mair et al., 2021^[65]). Social impacts include both tangible and intangible elements and therefore are often assessed through qualitative or mixed methods.

Some social impacts can be measured objectively, but the majority of social impacts involve subjective or perception-based indicators. Two of the most commonly used indicators of the social impact of events are “quality of life” and “subjective wellbeing” (Wallstam, Ioannides and Pettersson, 2018^[66]), both of which involve the perception of community members. Quality of life indicators measure a person’s “perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (WHO, 2012, p. 11^[67]). On the other hand, subjective wellbeing measures are used to indicate a person’s “cognitive and affective evaluations of his or her life as a whole” (Diener, 2009, p. 187^[68]), in other words, their sense of happiness or contentment. Subjective wellbeing indicators are widely used by policy makers to assess a range of different policies that aim to create non-market value – i.e. value which is not well captured in monetary terms (OECD, 2013^[69]). Enhanced sense of community and pride in place are two other commonly used indicators of social impact, in relation to global events. These measures assess the extent to which residents in a host area or country felt a stronger sense of community as a result of the event and the extent to which the event resulted in a stronger sense of pride in the local area or country. These types of indicators require survey-based instruments, either developed and distributed by evaluators, or as part of wider national tracking of social attitudes and behaviours. These surveys need to be mindful of capturing evidence from a range of different population groups, as the same event could positively impact some groups of people, whilst negatively affecting others.

A second major area of impact common to global events is increased participation (in sports, culture, etc.). For sporting events in particular, increasing participation in a specific sport, in sport more generally or increased participation in general physical activity, is one of the most commonly stated goals and one of the most widely used indicators of impact. Similarly, increased participation in culture (e.g. visiting museums, attending concerts, etc.) is also often used in evaluations of cultural events. Participation can be roughly grouped into supply side indicators and demand side indicators (Thomson, Kennelly and Toohey, 2020^[70]). Supply side indicators typically relate to increased investment in facilities for long-term use after the event, investment in programmes for raising participation rates and increased awareness of sport or culture as a result of the event. Demand side indicators are typically focused around increased frequency of participation or increased motivation to participate as a result of the event. These indicators are often also targeted towards certain population groups, such as young people or people from low economic backgrounds. Sport and cultural participation can also have a tangible bearing on health behaviours and health outcomes. Many studies therefore also include indicators of tangible physical health outcomes as a result of behavioural and lifestyle changes (e.g. playing more sport, being more active, healthy eating, etc.) directly related to the event.

Inclusion and diversity are another major area of social impact for global events. This area is wide reaching and includes indicators related to the event itself and the long-term impacts of the event. For example, output indicators include the proportion of participants, attendees or volunteers from underrepresented groups. Indicators also include accessibility measures for the event, such as venue accessibility and public transport accessibility. Global events can also help to change attitudes towards minority groups, offering greater visibility and promotion in coverage of the event, and can be used to set new standards for inclusion and diversity in the host country (Inoue et al., 2023^[71]). However, it is important to stress that issues of diversity and inclusion, whilst presented here as a specific impact area, should be considered as part of all impact areas. For example, the economic and environmental impacts of events

should also consider how they may affect different population groups. Moreover, the methods used in impact evaluation can consider if there is subconscious bias in study design which could exclude, or over/under represent perspectives from certain population groups. Consequently, it is important to promote engagement of all stakeholder communities from the pre-bidding stage all the way through to the evaluation stage.

Impact areas in Para sport

The International Paralympic Committee encourages Paralympic Games' Organising Committees to measure legacy impact in three key areas: social inclusion, infrastructure and accessibility, and development of Para sport.

Social inclusion includes:

- Attitudinal changes in the public perceptions and advancement of self-esteem of persons with disabilities
- Quality support services for persons with disabilities and their families are available
- Ensure that ICT products, systems, and services are accessible for persons with disabilities
- Employment rates of persons with disabilities
- Inclusive quality education for people with disabilities

Infrastructure and accessibility includes:

- During Paralympic Games
 - Accessible facilities in Paralympic venues, in Games-related recreation areas, in sightseeing sites (monuments, museums, etc.)
 - Accessible vehicles fleets for Games purposes
 - Implementation of standards and best practices in Games venues and in city operations
- Post-Games Legacy
 - Inclusive facilities in public buildings, recreation areas and housing
 - Inclusive transport networks
 - Development and implementation of accessibility codes and standards for new buildings, in transport, and in information and communication
 - Review and revise existing legislation for consistency with the UN's Convention on the Rights of Persons with Disabilities

Development of Para sport includes:

- Development of sport structures for persons with disabilities
- % of persons with disabilities who regularly engage in physical activity

Source: OECD consultation response

The table below offers the most common indicators used to measure the social impact of global events, broken down into broad areas.

» Social indicators for measuring the impact of global events

Impact area	Link to SDGs	Indicator	Aggregate indicator	Reporting unit
Health and wellbeing	3.4	% (of attendees/participants/local community) reporting change in health and wellbeing as a result of event		Percentage
		% (of attendees/participants/local community) reporting change in quality of life as a result of event		Percentage
		% (of attendees/participants/local community) reporting change in quality of life as a result of change in health-related behaviour linked to event		Percentage
Inclusion and diversity	5.1, 5.5, 10.2, 10.3	% of participants/attendees/volunteers/organisers from underrepresented ¹ groups		Percentage
		Pay ratio for participants/organisers from underrepresented vs other groups		Ratio
		New standards for equal opportunity in place in host communities or nationally		Yes/no
		% of event media coverage on people from underrepresented groups (e.g. in broadcast and print media, websites, etc.)		Percentage
		Net change in % of public reporting positive attitude towards underrepresented groups		Percentage (change)
		Expenditure on specific diversity and inclusion programmes/projects		Currency
		Number of venues that meet accessibility standards		Number, percentage of venues
Participation (in culture, sports business, etc.)	3.4	% (of attendees/local community) reporting increased frequency of participation linked to event		Percentage
		% (of attendees/local community) reporting increased motivation to participate linked to event		Percentage
		Investment in ongoing programmes to facilitate participation		Currency
		Investment in facilities for long-term use of local community		Currency
		% of people engaged in ongoing programmes to facilitate participation from target groups		Percentage
Community building	10.2, 16	Number of community-led event-related local projects		Number
		Participation in event-related local projects		Number of participants
		Net change in % of community residents' perceived sense of cohesion following an event		Percentage (change)
		Net change in % of community residents' sense of pride from living in a locality where the event takes place		Percentage (change)
Volunteering	10.2, 16	Number of people volunteering during event		Number
		% of volunteers from target groups		Percentage
		% (of volunteers/local community) motivated to volunteer more		Percentage
		Monetary value of voluntary hours (total hours x average/minimum hourly wage)		Currency

Note: Underrepresented groups typically entails disaggregation by gender, ethnicity and (dis)ability, but could include other context specific criteria.

Environmental impact indicators

The environmental dimension of global events impact measurement has gained increasing prominence over the past decade. The environmental impact of global events includes the use of resources, such as land, energy, water and building materials, the impact of activities conducted as part of the event, such as transport, food consumption, and pollution, as well as impacting attitudes and behaviour around environmental issues. Global event organisers are encouraged to explicitly consider how their event contributes to the UN's sustainable development goals and to consider seeking accreditation from ISO 20121, an international management standard for sustainable events.

The most commonly reported indicator of environmental impact is carbon footprint. This indicator measures the total greenhouse gas (GHG) emissions, which include various different harmful gases. All the different types of GHG are measured and converted to units which represent the equivalent amount of carbon dioxide in terms of environmental harm. Calculating carbon footprint is complex and different methodologies can produce very different results. Consequently, transparency in how carbon footprints are calculated is necessary even when following international protocols such as the Greenhouse Gas Protocol. Moreover, there is debate about the extent to which carbon offsetting should feature in reporting on carbon footprint. Some argue that carbon offsetting should be included in carbon footprint calculations, producing a net carbon footprint indicator. However, others argue that due to variation in carbon offsetting schemes, such inclusion makes carbon footprint data less robust and comparable. Where net carbon footprint is used instead of total carbon footprint, transparency is needed in communicating how much the net carbon footprint was reduced through offsetting.

How a global event manages waste is a major area of environmental impact. The Zero Waste International Alliance stipulates that events should strive for 90% of their waste to be diverted from landfill or incineration (ZWIA, 2022^[72]). To achieve this goal, they recommend a hierarchy of actions; firstly, event organisers can rethink/redesign their material use to include as much recycled and recyclable material as possible. Secondly, they can seek to reduce the potential for unused resources through sustainable purchasing methods. Thirdly, they can seek to reuse or repurpose materials after the event as well as seeking to recycle or compost waste. One of the most common sets of indicators of the environmental impact of waste therefore include the proportion of waste sent to landfill/incineration or the proportion of waste which is reused/recycled.

Sustainable sourcing is a further area through which global events can seek to minimise their negative environmental impact. Sustainable sourcing seeks to ensure that service providers throughout the event supply chain are operating within sustainability frameworks. Many event owners have already set sustainable sourcing guidelines. For example, the *Fédération internationale de football association* (FIFA) has a sustainable sourcing code (FIFA, 2021^[73]) which outlines expectations for all FIFA suppliers in areas including greenhouse gas (GHG) emissions and air pollution; waste generation; water use and discharge; and biodiversity conservation. Similarly, the IOC (2019^[74]) have produced guidance on sustainable sourcing in sport for Olympic and Paralympic Games hosts, which is also applicable to any major sporting event.

Finally, global events can promote behavioural changes that benefit the environment. Alongside changes in attitudes and behaviours towards social aspects discussed in the previous section, global events can impact people's attitudes and behaviours to be more environmentally conscious. An indication of the impact of positive actions taken to promote environmental issues throughout an event can be achieved by surveying participants and attendees about changes they have made to benefit the environment as a result of the event.

Towards frameworks for measuring the environmental impact of events

The French Ministry of Sport and the Olympic and Paralympic Games recently commissioned a benchmarking study of common approaches to measuring the environmental impact of major sporting events.

The study found that:

- Despite ambitious communications, the main environmental impacts of major international sporting events are rarely reported in an exhaustive manner.
- The vast majority of impact assessments focus solely on the event's carbon footprint, the amount of waste generated, and water and energy consumption, with fewer studies incorporating other areas of environmental impact such as waste, recycling, transport, etc. They also found very few studies which included consideration of the environmental footprint linked to digital technology use associated with events or the impact of sponsors or advertising.
- There is a need to design impact assessments in a way that goes beyond the short-term: anticipating long-term legacies through comprehensive and robust ex-ante studies, defining key performance indicators that are easy to monitor and appointing a person responsible for ex-post measurement.
- There is also a need to develop frameworks for measuring the environmental impact of events which are adaptive to the specificities of different types of event (e.g. indoor/outdoor, single/multi-sited, etc.).
- Responsible communication of the environmental impact of events is important to avoid misrepresentation.

The Paris 2024 Olympic and Paralympic Games has worked on new methods to estimate its environmental impact. Paris 2024's environmental strategy focuses on four main topics: 1) securing carbon neutrality, 2) protecting and regenerating biodiversity, 3) developing a more circular economy, and 4) bolstering resiliency. For these topics, Paris 2024 has worked on new ways to estimate its impact and reduce negative impacts as much as possible. This includes:

- In working towards reducing its carbon emissions by half when compared with previous Games, Paris 2024 has set a "carbon budget" and is performing yearly re-estimations of its expected carbon footprint. These estimations allow Paris 2024 to work effectively on activities with the highest impact.
- To develop more circular Games, Paris 2024 has estimated the first "materials footprint" of the Games, covering all resources (products, materials, goods and consumables) that are either bought, rented or used by the Organising Committee and its suppliers to deliver the Games. Paris 2024 is using this mapping as a baseline for its action plan to reduce and manage resources, secure second life when possible, and limit waste generation.
- For protecting and regenerating biodiversity, Paris 2024 developed an assessment approach which involves assessing the environmental conditions of each venue (presence of species, scenery, ecological continuum, quality of air and water, etc); assessing the potential impacts of Paris 2024's operations; and then mapping out an action plan to mitigate those potential impacts. This approach has led to pivotal recommendations such as routing equestrian event trails to avoid altering oak tree lines, to take less land and to avoid disrupting water birds on the lake by the Palace of Versailles.

Source: (UTOPIES, 2023^[75]), OECD consultation response

The table below offers the most common indicators used to measure the environmental impact of global events, broken down into broad areas.

» Environmental indicators for measuring the impact of global events

Impact area	Link to SDGs	Indicator	Aggregate indicator	Reporting unit
Energy, emissions and water	6.4, 7.2	Net event carbon footprint	✓	tCO ₂ e
		Total carbon footprint	✓	tCO ₂ e
		% of energy used that comes from a renewable source		Percentage
		% of visitor journeys by public/sustainable transport		Percentage
		Water footprint	✓	M ³
Waste and recycling	12.3, 12.5	%/weight of waste from event going to landfill/incineration/recycled		Percentage, tonnes
		%/ weight of construction using recycled materials		Percentage, tonnes
		%/ weight of food recovered		Percentage, tonnes
		%/ weight of materials re-used post event		Percentage, tonnes
		%/ weight of food and drink containers made from recyclable/biodegradable material		Percentage, tonnes
		Improvements in waste management infrastructure		N/A
Biodiversity and land use	11.4, 15.5, 15.a	Event-related spending on maintaining or improving areas of land		Currency
		Use of green vs brownfield sites		Percentage, ratio
		Areas of protected land disrupted/developed		M ²
		Number of ecosystems disrupted/developed		Number, M ²
		Biodiversity Net Gain or Loss		Percentage (change)
Pollution	3.9, 11.6	Noise pollution		dB(A) level
		Air pollution		Percentage change (e.g. in PM _{2.5} concentration)
Environmental promotion	12.6, 12.7	% of contracts awarded in compliance with sustainability standards		Percentage (of number), Percentage (of monetary value)
		% participants/attendees reporting a change in their lifestyles to act to benefit the environment		Percentage

ACTIONS



4 | Actions for effective impact measurement

While different types of event will pursue different types of impact, there are common approaches which can be taken to improve impact measurement for all types of event. The evidence base on impact measurement studies suggests that multiple methods, indicators and data can be effectively used to measure the impact of global events. However, there are lessons to be learned in how best to approach impact measurement in relation to all types of global events, regardless of the main impacts they are wishing to pursue.

In drawing on this evidence base and on consultations conducted by the OECD, presented below are several actions for effective impact measurement. These proposed actions outline the main considerations for event hosts in designing and implementing their impact measurement strategy and as such complement guidance outlined in the OECD Toolkit (OECD, 2021^[2]). Each of these actions can be developed in the pre-bidding phase and can continue to be implemented throughout the event lifecycle.

Co-design impact approaches across local, national and international levels

Stakeholder engagement is crucial to understanding how a global event can impact the local community and for aligning plans and priorities between all those involved in and affected by the event. Understanding the needs, challenges and expectations of the local community is essential not only in underpinning the relevance of impact areas but also in gaining buy-in from local stakeholders. Thorough engagement with stakeholders can be embedded throughout the process of establishing an impact strategy and can continue by promoting stakeholder engagement throughout the event lifecycle and evaluation process.

Impact strategies should also reflect broader strategic objectives and wider policy agendas. Gaining an understanding of how a global event can help to achieve broader local and national strategic objectives entails integrating local and specific benefits within regional or national policy frameworks. Doing so can help to strengthen overall impact and promote synergistic policy making across levels of governance.

International standards and guidelines offer opportunity to create more comprehensive and replicable impact assessments. Aligning impact and measurement approaches to international standards and guidelines helps to establish links to the international community, encourages transparency and promotes replicability. For example, aligning impacts to the UN SDGs links local, national and international efforts, whereas conforming to a sustainable management standard, such as the ISO 20121 or the GRI standards can help hosts in identifying the various aspects of sustainability which relate to their actions.

Establish a clear theory of change

In approaching impact, event organisers should have a clear understanding of what they want to achieve and how the event will contribute to these goals. This means that event hosts must consider not only how realistic and feasible their impact aims are, but also chart a clear path to which actions are required in order to meet these objectives, including clearly laid out risk factors. Developing a theory of change conceptual framework is helpful in this regard. Moreover, the theory of change can itself be informed by evidence, including substantive input from local stakeholders (see above).

A clear theory of change can act as a management tool, not only an evaluation tool. A clear impact strategy, based on a well-developed theory of change, can drive decision making and promote consistency. For complex events with multiple delivery partners, having a clear theory of change supports the alignment of outputs and outcomes between partners. Similarly, such documentation helps to create consistency over time. For many events with long lifecycles (such as the Olympic and Paralympic Games), it can be 10 or even 20 years between the pre-bidding phase and the end of planned post-event evaluations. Having a clearly established theory of change helps to guide the continuation of action, whilst allowing for adaptations in light of changing contexts.

Establish clear impact indicators from the pre-bidding phase

Establishing a core set of impact indicators can be integrated into strategic planning from the very start of the event lifecycle. Commonly, the pre-bidding phase of a global event involves the production of ex-anti impact assessments to demonstrate the potential impact that hosting a global event might have on the host region. It is important even at this stage to consider which indicators are used so that subsequent evaluations remain comparable to initial aims.

Baseline data are also a requirement for many types of indicators. For some types of indicators (those which assess a change), official regularly collected datasets can be used to provide baseline data. However, for more novel types of data, for example where new survey data are required, it is important that such requirements are identified early so that baseline data can be established.

Given the long timeframe of some global events, consideration can be paid to how indicator frameworks can be adapted to changing circumstances. For instance, some key indicators may be established from early in the event lifecycle, whereas some indicators may be developed after the event in response to an emerging need. In this regard, early-stage planning can incorporate consideration of the data requirements for additional indicators, if the need for them arises in the future.

Consider how impact indicators can be disaggregated

Global events can have uneven impacts across population groups. Moreover, what can be seen in one context as a positive impact could be seen in a different context as a negative impact. For example, a rise in local house prices after an event could be viewed as an indication of a positive economic impact or an indication of loss of affordability for local residents. Establishing how indicators will be disaggregated by different population groups (e.g. gender, ability, etc.) and how these data will be gathered will be necessary for measuring more targeted impact areas.

Explicit definitions of subpopulations are needed to aid consistency of reporting over time and between reporting entities. For example, one of the most crucial areas in which an explicit and statistically robust definition is required is in deciding what constitutes the boundaries of a local area. This is particularly important for indicators related to travel, tourists and money flows, but also important for areas such as local business contracting and pride in place impacts. All elements of an indicator can also be defined to reflect the available data sources and risk to definitional changes in these data sources overtime should be considered.

Include both qualitative and quantitative evidence in impact measurement

The majority of impact indicators are quantitative in nature. As shown in the previous section, the most common impact indicators rely on quantitative data. These indicators are important in assessing changes and establishing trends.

However, it is important that impact measurement also considers data collection strategies which incorporate qualitative evidence. Increasingly, the use of qualitative evidence, such as case studies, interviews and focus groups are seen as important complements to quantitative measures. Such evidence helps to offer a broader understanding of impact at its source and is able to shed light on *how* impacts have arisen. The integration of qualitative data may also help facilitate the detection of unintended (and potentially negative) outcomes. By incorporating different perspectives and narratives into reporting, qualitative data can be used to enhance and triangulate with quantitative measures to provide a fuller picture of impacts.

Build a data strategy

Establishing a clear data strategy is necessary for co-ordination between different stakeholders and across time. Clearly planning who will be collecting indicator data, what data they will be collecting, how this will be shared amongst stakeholders and how to promote consistency in methodology and reporting is essential to coordinate impact assessments. In this regard, building a data framework, which links indicators to the theory of change on the one hand and to explicit data sources and statistical definitions on the other is useful for establishing consistency. Additionally, establishing contractual agreements with stakeholders as to data collection responsibility, ownership, collection timeframes and reporting standards should be considered early on in the process and based on the identified data framework.

Having a plan for data ownership and evaluation coordination after the event is also important. Often, an event organising body will be disbanded shortly after the event has finished. This means that often there is no specific body or group with responsibility for monitoring and evaluating legacy in the medium to long-term. Establishing ongoing responsibility for impact and legacy monitoring and evaluation in initial planning can help to support longer-term impact ambitions and can help to enable greater resources for future research.

Initial scoping can also be conducted as early as possible to identify data gaps. Global events can be a catalyst for new data collection at a local level (e.g. new targeted surveys) or a national level (e.g. newly disaggregated data). Identifying where data gaps exist and establishing a clear plan to address these gaps will be a necessary component of providing a comprehensive data strategy for impact measurement.

A data strategy should also include consideration of legal and ethical issues arising from data collection and storage. This includes issues around data ownership, the treatment of sensitive data, how data are collected, who data are shared with, how data are stored and for how long data are kept.

Promote transparency in reporting

Transparency is important in all aspects of global events organisation, and impact measurement is no different. Promoting transparency in impact measurement is important both for accountability and for enabling collective learning. For other event hosts to effectively learn from the successes and challenges of prior events, the measures used to quantify impact need to be easily understandable.

Consideration of the range of stakeholders benefiting from evaluation reporting is helpful in this regard. For example, while experts may be interested in the technical detail of measurement approaches, public audiences may not always have the expertise to interpret overly scientific or academic language. This does not mean however, that such details should not be included in public facing reporting. Rather impact reporting should seek to incorporate as much detail as possible in the most accessible way.

Additionally, hosts could consider how to make the underlying data from evaluation studies available to researchers and future event hosts, whilst remaining mindful of data protection issues. Making the underlying data available to researchers can be useful in working towards more sustainable events at a global level, as it enables additional evaluation research and comparisons with other events. Moreover, these data can be helpful for the event hosts themselves in developing continued efforts towards positive event delivery.

Maintaining independence in evaluations is also important. The OECD Toolkit recommends the use of third party independent verification of findings and to include oversight by competent national authorities. In this regard it specifies the importance of agreeing on common approaches amongst auditors and oversight bodies to evaluate and monitor costs and expenditures.



G L O

B A L

W E L L

N E S S

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GLOBAL
BEHAVIOURS

Annex A. Organisations who participated in consultation

Below is a list of organisations and individuals who participated in the consultation process to develop this Guide. The list includes those who took part in three online only workshops which were convened in October 2021 (attendance of 74, 56 and 60 people), a hybrid workshop convened in July 2022 (~120 people in attendance), an in-person workshop for members of the World Union of Olympic Cities conducted in October 2022 (~40 people in attendance) and those who responded to a survey in December/January 2022/23 (57 full responses, plus 153 partial responses).

» Consultation participants

Academics and experts from the following institutions	
Bordeaux University	Swiss Graduate School of Public Administration
Bournemouth University	Università di Milano Bicocca
Brunel University London	Université d'Angers
Cracow University of Economics	Université Gustave Eiffel
European Tourism Research Institute (ETOUR), Mid-Sweden University	Université Paris Sud
Far Eastern University	Université Rennes 2
George Mason University	University Gustave Eiffel
Griffith University	University of Algarve
International Academy of Sports Science and Technology (AISTS)	University of Florida
International Institute for Management Development (IMD business school)	University of Gothenburg
Johannes Gutenberg University Mainz	University of Lausanne
Laboratoire Erudite	University of Liverpool
Leeds Beckett University	University of Oxford
London School of Economics	University of Porto
Luiss Business School	University of Queensland
Manchester Metropolitan University	University of the Algarve, Portugal
New York University	University of The West of Scotland
Politécnico de Leiria	University of Western Ontario
Politecnico di Milano	University of Zurich
School of Economics and Business University of Ljubljana	University of Lausanne, Swiss Graduate School of Public Administration
SDA Bocconi School of Management	Vilnius University
Sheffield Hallam University	
Global event hosts and foundations	
Brisbane 2032	LA 2028
Festivals Edinburgh	Paris 2024
Fondazione Milano Cortina	PyeongChang 2018 Legacy Foundation
Internationale Filmfestspiele Berlin	PyeongChang Heritage Foundation
Jaarbeurs	Reno Tahoe Winter Games Coalition
Kaunas 2022 European Capital of Culture	Lausanne 2020
LA 2028	Olympia Sport- und Veranstaltungszentrum Innsbruck GmbH

Global event hosts and foundations (cont.)	
Olympic Park Munich GmbH	St. Louis Olympic Legacy Committee
Richmond Olympic Oval	Theatre City - Budva Montenegro
Southern California Committee for the Olympic Games	Utah Olympic Legacy Foundation
Spirit of 2012	Vancouver 2010
Government departments and policy makers	
Australia:	Italy:
Australia Council (Creative Australia)	City of Torino
Australian Government Office for Sport	Japan:
City of Brisbane	City of Sapporo
Department of Health	Sport Council
Department of the Premier and Cabinet	Korea:
Office for Sport, Department of Health	Jeongseon County Office
Queensland Government	Korea Sports Promotion Foundation
Sunshine Coast Council	Pyeongchang County
Tourism and Events Queensland	Seoul Metropolitan Government
Belgium:	Netherlands:
City of Antwerp	City of Rotterdam
Bosnia and Herzegovina:	City of Amsterdam
City of Sarajevo	Ministry of Health, Welfare and Sport
Brazil:	New Zealand:
City of Rio de Janeiro	Ministry of Business, Innovation and Employment
Canada:	Norway:
City of Montreal	City of Lillehammer
City of Richmond	Visit Bergen
Sport Canada	Visit Norway
Colombia:	Portugal:
National Department of Planning	City of Aveiro
France:	Institute of Employment and Professional Training
Agence française de développement (AFD)	Spain:
City of Chamonix	City of Barcelona
City of Paris	Ministry of Culture and Sport
Délégation interministérielle aux Jeux Olympiques et Paralympiques 2024 (DIJOP)	Sweden:
France Stratégie	City of Stockholm
Ministry of Economics	Switzerland:
National Institute of Sport, Expertise, and Performance (INSEP)	City of St. Moritz
Observatory of the Sports Economy, Ministry for Sports	Department of Physical Education and Sport
Greece:	State of Vaud - Service de l'éducation physique et du sport
City of Athens	City of Lausanne
Hungary:	United Kingdom:
Ministry of Culture and Innovation	Event Scotland
Ministry of Foreign Affairs	Department for Digital, Culture, Media & Sport
Ireland:	Event Wales
Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media	Greater London Authority
The Creative Ireland Programme	Tourism NI

Government departments and policy makers (cont.)	
United Kingdom (cont.):	United States:
UK Sport	Lake Placid
International organisations and associations	
Centre for Sport and Human Rights	International Paralympic Committee (IPC)
Commonwealth Secretariat	International Volley Federation (FIVB)
Directorate General for Education, Youth, Sport and Culture, European Commission	Joint Meetings Industry Council (JMIC)
European Exhibition Industry Alliance	Union of European Football Associations (UEFA)
European Major Exhibition Centres Association (EMECA)	United Nations Educational, Scientific and Cultural Organization (UNESCO)
Fédération internationale de football association (FIFA)	World Federation of the Sporting Goods Industry (WFSGI)
Global Association of the Exhibition Industry (UFI)	World Health Organization (WHO)
International Association Event Hosts (IAEH)	World Union of Olympic Cities
International Council of Museums (ICOM)	World Union of Olympic Cities
International Olympic Committee (IOC)	
Other	
3AFB Conseil	ITS (Innsbruck)
Agence Phare	KPMG
Autonomy	Lake Placid Regional Office of Sustainable Tourism
Budapest Observatory	Laureus: Sport for Good
Business Events Sydney	Lee Valley Regional Park Authority
Choose Paris Region	Legacy Delivery Ltd
CityO	Lillehammer Olympic Legacy Sports Centre
Community Economic Development and Employability Corporation (CEDEC)	Quebec City Business Destination
Destination Uppsala	Sapporo Global Sports Commission
Disneyland Paris	Smartcities & Sport
Fondazione Scuola dei beni e delle attività culturali	Sport et Citoyenneté
GL events	St. Louis Sports Commission
Glasgow Life	Topsport Amsterdam
Global Sport Innovation Centre powered by Microsoft	Union Française des Métiers de l'Événement (UNIMEV)
Intesa Sanpaolo	

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