JULIE'S BICYCLE ❋❋❋❋

Environmental Resources for the Arts

Sustainability

environmental responsibility

enduring

economic activity

chemical pollution

ozone depletion

land use

Environmental

ocean acidification

ecosystem services

freshwater use

Kyoto Protocol

regulation

balanced

Carbon

social progress

neutral

greenhouse gas emissions

biodiversity

UK Climate Change Act

Carbon Reduction Commitment

offset

air quality

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zero

ARTS COUNCIL ENGLAND

ENVIRONMENTAL RESOURCES FOR THE ARTS

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ENVIRONMENTAL RESOURCES FOR THE ARTS

1. INTRODUCTION
1.1 Which resource for your organisation?

Since the root cause of climate change was definitively identified as humankind's excessive output of greenhouse gases into the earth's thin atmosphere, there has been a dramatic surge in environmental technologies, services, tools and resources. The growth has occurred mainly in the context of larger businesses, and those industries that require intensive use of fossil fuels, such as aviation, manufacturing and retail.

However arts and culture are by no means immune. The scale of change required to transform the industrial infrastructure that developed economies have relied on for so long will affect us all. Broadly speaking, we need to reduce our greenhouse gas emissions by 50% by 2050, which means by 80% by 2050 in industrialised countries. In order to do this we need to reduce consumption, reduce reliance on fossil fuels, and deploy "green-tech" technologies on a wide scale.

This document has identified widely available resources that are especially relevant to the arts and cultural sector to assist with transforming their operations. Arts organisations will need to respond to the many issues associated with environmental sustainability for a burgeoning number of reasons: legislative or funding requirements, opportunities for operating efficiencies thereby reducing costs, preparing for future compliance, or they may consider themselves ethically responsible to their organisations, audiences and artists.

These resources operate within a range of frameworks, some of which focus on sustainability in its broadest sense, while at the other end of the scale is a pure focus on carbon emissions. This guidance focuses mainly on environmental sustainability including carbon, but it indicates where broader sustainability guidance is available and useful. It is likely that arts organisations will not find one tool to fit all their needs – they may want to consider supply chain, products, building and operations, as well as achieve improved performance against internal and external standards. This identifies and differentiates approaches for arts organisations wishing to improve their environmental performance and highlights key resources to help on the way.

1.2 What should I do?
The first issue to be aware of is that environmental considerations cover a wide spectrum of products, activities and spaces and can cover a number of different issues, ranging from the reduction of greenhouse gas emissions, through to audience awareness, sourcing sustainable materials, and 'green' procurement. Furthermore, what you choose to focus on can be broken down into three broad categories:

(i) **Carbon (C)** - shorthand for Greenhouse Gas (GHG) emissions, a carbon focus on reporting, monitoring and reducing carbon emissions responds to the threat posed by climate change, and national and international regulation and agreements including the Kyoto Protocol and the UK Climate Change Act. It is very likely that mandatory emissions reporting will be introduced in the UK in the next few years: energy utilities, manufacturers and large businesses (including some in the creative industries) are already required to report.

(ii) **Environment (E)** – encompasses broader areas of concern that cannot be strictly measured in terms of carbon impacts. These include pollution, chemical use, air and water quality, resource conservation, land use and biodiversity. This scope is increasingly attuned to fair use of resources and sustainable development (see below). We will refer to this as Environmental Sustainability.

(iii) **Sustainability (S) –** an approach that considers an organisation's environmental responsibility alongside its economic activity and social progress (often coined the "Triple Bottom Line"). Arts organisations bring unique social benefits to their communities, so broad sustainability reporting can be a positive way to understand and share organisational performance.

1.3 How should I approach the issue?
To fully address environmental issues organisations need to respond in stages across a range of activities. Each stage feeds back to the others creating a virtuous circle of action. The degree of response will depend on organisational size, complexity, budget and expertise. These stages can be described as follows:

Table 1: Stages of action

Commit

Commit to action, motivate staff, improve relationship with suppliers and audiences, demonstrate leadership, share values.
What you might need to commit to?
Resources, management systems and structures, assigned roles and responsibilities, stated policies and planning.

- The first-stage process will have:
    - a company environmental policy
    - assigned board and staff responsibility for environmental matters
    - meeting and reporting structures identified
    - sought advice
- The progressing organisation will have:
    - staff champion(s) identified and engaged
    - educational material provided to staff
    - registered staff for professional training in environmental sustainability
- The performing organisation will be:
    - operating relationships based on environmental criteria with supply chain
    - communicating with audience on environmental issues
    - implementing formal environmental and/or sustainability management systems
    - applying for/have achieved external assessment, certification, standards, awards to measure and promote progress (Note: some may take several years to achieve, some can be applied for at early stages of engagement as they provide a framework for action)

Understand

Understand impacts, prioritise actions, evaluate success, identify costs and savings. What you need to understand? Metric and non-metric impacts.
- The first-stage process will be :
    - measuring energy, waste, water and business travel carbon emissions with a ready-made calculator or carbon audit by external expert or an external tools/resource
    - considering the global hectares required to provide the resources to support the organisational activity
- The progressing organisation will be:
    - measuring staff commuting travel impacts
    - measuring audience travel impacts
- The performing organisation will be:
    - measuring and reducing impacts of supply chain activities
    - conducting annual internal carbon emissions audits 'in house' using standard methodologies and conversion factors and using the findings as a basis for future planning and decisions

Improve

Take action, set targets, demonstrate commitment, measure progress, sustain success, drive innovation, challenge staff and competitors.
What can you improve? Reduction plans, setting targets, assess, review, invest.
- The first-stage process will be :
    - implementing a reduction plan using external advice (e.g. from a carbon audit) or from publicly available resources
    - The progressing organisation will be
    - setting quantitative reduction target

The progressing organisation will be
- undergoing external assessments of reduction via a recognised Standard or Certification schemes

(NOTE: some assessments provide frameworks which can be useful even for the beginner)

- The performing organisation will be:
    - reviewing and setting more challenging targets (e.g. ahead of industry average or Government targets)
    - Investing in new infrastructures and technologies

Communicate

Communicate progress, inspire others, contribute to industry benchmarking and knowledge base, respond to legislation, shift company and business culture.

What should you communicate and to whom? Communicate what you are doing and what your achievements are to Board, Directors, Staff, Shareholders, Funders, Supporters, Suppliers, Artists, Audiences, General Public, attain recognition and compliance via awards, certifications, standards.

- The first-stage process will be
    - make policies and results available to board of directors, senior management, shareholders, key supporters (e.g. funders)
- The progressing organisation will:
    - make policies and results available to staff and clients
- The performing organisation will be:
    - making policies and results available to audience and public
    - reporting on progress against recognised methodologies, certifications and awards (NOTE: some assessments provide frameworks which can be useful for the beginner as a goal to work towards, even if not achievable in the first stages of action)
    - achieving compliance with current energy and GHG regulatory requirements

1.4 Glossary

Carbon Dioxide. A naturally occurring gas,, a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the Earth's radiative balance. It is the reference gas against which other greenhouse gases are measured and therefore has a Global Warming Potential of 1.

Carbon Dioxide Equivalent (CO2e). The universal unit of measurement used to indicate the global warming potential (GWP) of each of the 6 Kyoto greenhouse gases. It is used to evaluate the impacts of releasing (or avoiding the release of) different greenhouse gases.

Climate. Climate in a narrow sense is usually defined as the "average weather," or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands of years. The classical period is 3 decades, as defined by the World Meteorological Organization (WMO). These quantities are most often surface variables such as temperature, precipitation, and wind.

Climate change. A change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability over comparable time periods (Source: United Nations Framework Convention on Climate Change).

Combined Heat and Power (CHP). CHP harnesses not only the power that electricity generates but also the enormous amount of heat created in the process as well. CHP systems can operate at a wide range of scales, from micro (on-site) to large off-site (e.g. district heat systems), and the process works with both renewable and non-renewable sources of electricity (from coal-powered to waste wood or manure).

Control. The ability of a company to direct the operating policies of a facility or organisation. Usually, if the company owns more than 50% of the voting interests, this implies control. The holder of the operating licence often exerts control, however, holding the operating licence is not a sufficient criteria for being able to direct the operating policies of a facility or organisation. In practice, the actual exercise of dominant influence itself is enough to satisfy the definition of control without requiring any formal power or ability through which it arises.

Direct emissions. Emissions that are produced by organisation-owned equipment or emissions from organisation-owned premises, such as carbon dioxide from electricity generators, gas boilers and vehicles, or methane from landfill sites.

Embodied carbon. Is calculated by assessing the total amount of greenhouse gas emissions produced across the entire lifecycle of a product. This normally involves the emissions generated by extracting the raw materials and making the product but also includes the emissions produced from areas such as transporting and disposing of the product, often seen as a 'hidden' carbon impact.

Emissions. The release of a substance (usually a gas when referring to the subject of climate change) into the atmosphere.

Environmental Management System (EMS). An EMS is a guidance framework put in place by a company or group through which its environmental impact can be measured, regulated and controlled. This includes monitoring environmental impacts whilst also implementing schemes to reduce its negative impacts. An EMS can be either informal or formal: they can be made and checked internally within a company, or they can seek accreditation to an independent standard.

Equity share. The percentage of economic interest in/benefit derived from an organisation.

Global warming. The continuous gradual rise of the earth's surface temperature thought to be caused by the greenhouse effect and responsible for changes in global climate patterns (see also Climate Change).

Global Warming Potential (GWP). The GWP is an index that compares the relative potential (to CO2) of the 6 greenhouse gases to contribute to global warming i.e. the additional heat/energy which is retained in the Earth's ecosystem through the release of this gas into the atmosphere. The additional

heat/energy impact of all other greenhouse gases are compared with the impacts of carbon dioxide (CO2) and referred to in terms of a CO2 equivalent (CO2e) e.g. Carbon dioxide has been designated a GWP of 1, Methane has a GWP of 21.

Greenhouse Effect. Trapping and build-up of heat in the atmosphere (troposphere) near the Earth's surface. Some of the heat flowing back toward space from the Earth's surface is absorbed by water vapour, carbon dioxide, ozone, and several other gases in the atmosphere and then reradiated back toward the Earth's surface. If the atmospheric concentrations of these greenhouse gases rise, the average temperature of the lower atmosphere will gradually increase. See greenhouse gas, , climate, global warming.

Greenhouse gases. The current IPCC inventory includes six major greenhouse gases. These are Carbon dioxide (CO2), Methane (CH4), Nitrous oxide (N2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulphur hexafluoride (SF6).

IPCC. The Intergovernmental Panel on Climate Change. A special intergovernmental body established by the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) to provide assessments of the results of climate change research to policy makers. The Greenhouse Gas Inventory Guidelines are being developed under the auspices of the IPCC and will be recommended for use by parties to the Framework Convention on Climate Change.

Indirect emissions. Emissions that are a consequence of the activities of the reporting company but occur from sources owned or controlled by another organisation or individual. They include all outsourced power generation (e.g. electricity, hot water), outsourced services (e.g. waste disposal, business travel, transport of company-owned
goods) and outsourced manufacturing processes. Indirect emissions also cover the activities of franchised companies and the emissions associated with downstream and/or upstream manufacture, transport and disposal of products used by the organisation, referred to as product life-cycle emissions.

Kyoto Protocol. The Kyoto Protocol originated at the 3rd Conference of the Parties (COP) to the United Nations Convention on Climate Change held in Kyoto, Japan in December 1997. It specifies the level of emission reductions, deadlines and methodologies that signatory countries (i.e. countries who have signed the Kyoto Protocol) are to achieve.

Methane (CH4). A hydrocarbon that is a greenhouse gas with a Global Warming Potential most recently estimated at 23 times that of carbon dioxide (CO2). Methane is produced through anaerobic (without oxygen) decomposition of waste in landfills, animal digestion, decomposition of animal wastes, production and distribution of natural gas and petroleum, coal production, and incomplete fossil fuel combustion. The GWP is from the IPCC's Third Assessment Report (TAR).

Nitrogen Oxides (NOx). Gases consisting of one molecule of nitrogen and varying numbers of oxygen molecules. Nitrogen oxides are produced in the emissions of vehicle exhausts and from power stations. In the atmosphere, nitrogen oxides can contribute to formation of photochemical ozone (smog), can impair visibility, and have health consequences; they are thus considered pollutants.

Nitrous Oxide (N2O). A powerful greenhouse gas with a global warming potential of 296 times that of carbon dioxide (CO2). Major sources of nitrous oxide include soil cultivation practices, especially the use of commercial and organic fertilizers, fossil fuel combustion, nitric acid production, and biomass burning. The GWP is from the IPCC's Third Assessment Report (TAR).

United Nations Framework Convention on Climate Change (UNFCCC). The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. The Convention enjoys near universal membership, with 189 countries having ratified.

Water Vapour. The most abundant greenhouse gas is the water present in the atmosphere in gaseous form. Water vapour is an important part of the natural greenhouse effect. While humans are

not significantly increasing its concentration, it contributes to the enhanced greenhouse effect because the warming influence of greenhouse gases leads to a positive water vapour feedback. In addition to its role as a natural greenhouse gas, water vapour plays an important role in regulating the temperature of the planet because clouds form when excess water vapour in the atmosphere condenses to form ice and water droplets and precipitation. See greenhouse gas.

Weather. Atmospheric condition at any given time or place. It is measured in terms of such things as wind, temperature, humidity, atmospheric pressure, cloudiness, and precipitation. In most places, weather can change from hour-to-hour, day-to-day, and season-to-season. Climate in a narrow sense is usually defined as the "average weather", or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period is 30 years, as defined by the World Meteorological Organization (WMO). These quantities are most often surface variables such as temperature, precipitation, and wind. Climate in a wider sense is the state, including a statistical description, of the climate system. A simple way of remembering the difference is that climate is what you expect (e.g. cold winters) and 'weather' is what you get (e.g. a blizzard).

2. DECISION TREE
What do you want to do?
This section outlines possible next steps to support your investigation of options, and decision-making.
Table 2: Decision Tree

2.1 Commit

Resources to help you identify and articulate your organisation's values regarding the environment.

Develop environmental policy
- Extensive resources available including:
  - <u>Arts Energy Toolkit</u> (EN)
  - <u>Business Link</u> (E)
  - <u>Carbon Trust</u> (C)
  - <u>CBI</u> (E)
  - <u>Julie's Bicycle</u> (C, E)

Implement formal management systems to improve environmental performance
- What are you?
  - Event producer > <u>BS 8901</u>, <u>Eventberry</u> (S)
  - Large office based organisation > <u>ISO 14001</u> (E)
  - Small office based organisation > <u>BS 8555</u> (E)
  - Venue > <u>BS 8901</u>, <u>Eventberry</u> (S)

Certify my organisational management system certified to an external standard
- What are you?
  - Event producer > External assessor to certify compliance with <u>BS 8901</u> (S)
  - Organisation > External assessor to certify compliance with <u>BS 8555</u> (E), <u>ISO 14001</u> (E)

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2.2 Understand

Measure your energy, waste, water and business travel impacts. Most of these tools provide results in terms of carbon emissions, and assess waste, water and travel because they contribute to an organisation's carbon footprint, however reducing impact in all these areas does have broader environmental, social and economic benefits as well.

- **DIY** using a ready-made calculator?
  - What are you?
    - Event/Festival > <u>IG tool for festivals and outdoor events</u> (OT)
    - Film Production Company > <u>Green Screen Carbon Calculator</u> (OFT)
    - Office based organisation > <u>10:10</u> (OT), <u>Best Foot Forward</u> (OT), <u>Carbon Trust</u> (OT), <u>IG tool for offices</u> (OT), <u>SMEasure</u> (OT, EN)
    - Rural Museum> <u>Rural Museum Carbon Calculator</u> (OFT)
    - Tour > <u>Green Theatre Carbon Calculator</u> (OFT), <u>IG tool for tours</u> (OT)
    - Venue > <u>IG tool for venues</u> (OT), <u>SMEasure</u> (OT, EN)
    - Creator
    - Broker (agent, manager, promoter)

- **DIY** manually using methodologies?
  - Organisational reporting > <u>GHG Protocol</u> (G, M), <u>ISO 14064</u> (G, M, LAC)
  - Product and supply chain reporting > <u>ISO 14040</u> (G, M, LAC), <u>PAS 2050</u> (G, M)

- Use an external expert?
  - <u>Carbon Trust</u> (C)
  - <u>Julie's Bicycle</u> (C, E)
  - <u>Theatres Trust EcoVenue</u> (C)
  - Many other commercial, free and subsidised consultants available

2.3 Improve

Develop a reduction plan so that you can improve on your initial measurement of environmental impacts.

- Extensive resources available including:
  - Arts Energy Toolkit (EN)
  - Business Link (E)
  - Carbon Trust (C)
  - CBI (E)
  - Julie's Bicycle (C)

- Get my carbon emissions reductions assessed:
  - Carbon Trust Standard (C)
  - Julie's Bicycle Industry Green Programme (C)

2.4 Communicate

Report on progress against recognised standards, methodologies, certifications and awards. You should be reporting to your Board, Directors, Staff, Shareholders, Funders, Supporters, Suppliers, Artists, Audiences, General Public.

- What are you?
  - CD Packaging Manufacturer
    - Industry Green (ig) mark (C, LAC, VR)
  - Festival
    - Agreenerfestival Award (E, LAC, VR), BS 8901 (S, LAC, VR),
    - Industry Green (ig) mark (C, LAC, VR)
  - Manufacturer of a product
    - Carbon Reduction Label (C, LAC, VR)

  - New Building
    - BREAM Awards (C, E, LAC, VR)
  - Organisation
    - 10:10 campaign (C, LAC, VR)
    - BS and ISO Standard certifications (see above) (S, E, LAC, VR)
    - Carbon Disclosure Project (C, LAC, VR)
    - Carbon Trust Standard (C, LAC, VR)
    - Global Reporting Initiative Guidelines (S, LAC, VR)
    - Industry Green (ig) mark (C, LAC, VR)
  - Tourist attraction or hotel
    - Green Tourism Business Scheme (S, LAC, VR)

Achieve and claim carbon neutrality
- BSI PAS 2060 (C, G, VR)

Achieve compliance with current energy and GHG regulation
- What are you?
  - Building
    - Private > Energy Performance Certificate (C, EN, RR)
    - Public over 1000m2 > EPC and Display Energy Certificate (C, EN, RR)
  - Organisation
    - Electricity use over 6,000 MWh p/a (approx £500k spend) > CRC Energy Efficiency Scheme (C, EN, RR)

Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback

3.0 TOOL AND RESOURCE PROFILES

Table 3: Tool and Resource Profiles

Name	Resource type	For?	Scope	Cost	Period	Features/data analysis/feedback provided
Carbon						
10:10 Campaign http://www.1010 uk.org/	A C LAC OT	Organisation, individuals Beginners	Carbon emissions from electricity, gas, on-site fossil fuel (oil, coal), company fleet, business travel (flights only)	Free	Annual	• Campaign to reduce emissions by 10% in 2010. Any cut above 3% counts. • Self-reporting to a baseline that can commence anytime between 1st July 2008 – 30th June 2009 and finish anytime between 1st September 2009 – 31st August 2010. • Automatically calculates GHG emissions. • Results in CO2/kg. • Accompanying carbon planning tool enables you to adjust data inputs to see how it affects your percentage reduction target. • Tips on reducing CO2.
Best Foot Forward Standard footprinter (Basic) https://www.foot printer.com/stan dard/	A C OT	Organisations (versions can be customised for a range of specialist projects including building construction or events). Medium-level. Best suited to those with an	GHG emissions from gas, electricity, on-site fossil fuels, CHP, company fleet, process emissions	Free for basic, Cost for premium	Annual	• Self-reporting. • Automatically calculates GHG emissions • Includes carbon credits as a reduction from total. • International conversion factors enable footprinting for non UK companies. • Analytics functions allow for comparison between different company locations, or different emissions scenarios for the same location, helping to set benchmarks and reduction targets. Merge function allows for totalling emissions from different sites. • Export footprint as pdf, take jpg photos

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
		understanding of the basic principles of carbon accounting.				of graphs.
Carbon Disclosure Project https://www.cdproject.net/en-US/Pages/HomePage.aspx	VR	Organisations Medium-level.	GHG emissions reporting as defined by GHG Protocol or ISO 14064		Annual	• International reporting platform for organisational GHG emissions and climate change strategies. • This data is made available for use by a wide audience including institutional investors, corporations, policymakers and their advisors, public sector organisations, government bodies, academics and the public.
Carbon Reduction Label http://www.carbon-label.com/	C LAC VR	Manufacturers of products. Advanced.	The GHG emissions across every stage of its lifecycle – including production of raw materials, processing, transportation, storage, preparation, use and disposal	Minimum £5000 per year	Product by product basis. Continual reductions must be demonstrated every two years or use of the label will be withdrawn.	• The Carbon Trust Footprinting Certification Company uses the freely available PAS 2050 methodology with proprietary data. This provides third party certification of compliance with PAS 2050 Standard. • Enables comparison with other similar products assessed using the same certification.
Carbon Trust footprint calculator http://www.carbontrust.co.uk/cut-carbon-reduce-costs/calculate/	A C OT	Organisations Beginners	GHG emissions from electricity, gas, on-site fossil fuels, company fleet, CHP,	Free	Annual	• Self-reporting. • Automatically calculates GHG emissions. • Results in tCO2e/yr. • Export results as pdf. • Online resources available to support GHG emissions reduction.

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
carbon-footprinting/pages/organisation-carbon-footprint.aspx			business travel and commuting (flights, road, rail, bus, tube)			
Carbon Trust Standard http://www.carbontruststandard.com	A C LAC VR	Organisations Medium-level.	GHG emissions from gas, electricity, other on-site fossil fuel sources, company fleet, business travel	From £1000	24 months	• Applicants can complete the footprint calculator and assessment form themselves (require an understanding of principles of carbon accounting) or pay for additional assistance. • Application will be assessed and a certificate provided if successful – no bespoke report or advice is provided, although the Carbon Trust provides generic advice including tips, checklists and online training.
CRC energy Efficiency Scheme http://www.environment-agency.gov.uk/business/topics/pollution/98263.aspx	C EN RR Environment Agency administers.	Large businesses whose annual half-hourly metered electricity use is above 6000 megawatt-hours (MWh) (approximately over £500k per year). Medium level - advanced.	GHG emissions from electricity, gas, and any other on-site fossil fuel types such as coal, LPG, diesel, etc. and company fleet	Registration is mandatory for eligible organisations and costs £950. Participants must buy carbon allowances from 2011. Allowances will be priced at		• Self-reporting of energy supply data to the CRC registry. The CRC registry will calculate GHG emissions however self-calculation of company GHG emissions is considered best practice and a spreadsheet based and online tool are available alongside and within the CRC registry. • Results of each organisation's GHG emissions will be published in a league table. League table determines recycling of revenue from purchase of carbon allowances.

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
				£12 p/ tCO2		
GHG emission reporting guidance. DECC. Department of Energy and Climate Change (DECC)/Department of Environment Food and Rural Affairs (Defra) http://www.decc.gov.uk http://www.defra.gov.uk	C G	Organisations Advanced	Same range of organisation-al emissions as GHG Protocol	Free	Annual	• Provides "Guidance on how to measure and report your greenhouse gas emissions". • DECC/Defra publish the UK factors used to convert activities into GHG emissions ("conversion factors"). • This guidance also advises on what conversion factors to apply to the activities included within the carbon footprint. • No automatic calculations or external assessments are provided. This guidance is best for individuals with experience of GHG accounting.
GHG Protocol http://www.ghgprotocol.org	C G M VR	Organisations Advanced	Defines three "scopes" of emissions sources: direct (gas use and company fleet), indirect (electricity) and indirect from water, waste, procurement, employee travel	Free	Annual	• Internationally recognised methodology. Forms the basis for most GHG accounting methods globally. • The organisation will need to obtain the appropriate national emissions conversions factors for its calculations (eg DECC/Defra in the UK see below). • Self-assessment (for guidance only), no feedback provided. • This guidance is best for individuals with experience of GHG accounting.
Green Screen Carbon Calculator	A C OFT	Film production companies	GHG emissions across	Free	One-off per production	• Automatically calculates GHG emissions within excel spreadsheet. Unclear how up to date the conversion

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
http://filmlondon.org.uk/filming_in_london/london_filming_partnership/green_screen		Medium-level – requires a high degree of detailed information (60+ questions).	production phases including energy (office-based, rehearsal space and on-site), travel (business and production equipment), embodied GHG emissions from paper use, set construction, props and costumes			factors being used for calculation are. • Does not require internet access to complete. Results can be shared using the spreadsheet. • Results given in tCO2 and split across pre-production, production and post-production areas. Three biggest emission sources in each area are identified.
Green Theatre Carbon Calculator http://www.greeningtheatres.com/	A C OFT	Theatre companies Medium-level – requires a high degree of detailed information (60+ questions).	GHG emissions across production phases including energy (office-based, rehearsal space and performance venue), travel (business, rehearsals and production equipment),	Free	One-off per production	• Automatically calculates GHG emissions within the spreadsheet. Unclear how up to date the conversion factors being used for calculation are. • Does not require internet access to complete. Results can be shared using the spreadsheet. • Results given in tCO2 total and per show, and split across pre-production, production and post-production areas. Three biggest emission sources in each area are identified.

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
			embodied GHG emissions from paper use, set construction, props and costumes			
Industry Green (IG) tools http://www.juliesbicycle.com/ig-tools	A C OT	Organisations, Festivals, Tours Beginners	GHG emissions from gas, electricity, on-site fossil fuels, business travel and commuting (flights, road, rail, bus, tube), audience travel, freight, hotel accommodation (where relevant)	Free	Annual, one-off (for events or tours)	• Self-reporting. • Automatically calculates GHG emissions. • Results in kg CO2e, kWh, other relevant metrics and sector specific benchmarks. • Individual feedback provided on data quality and results against industry benchmarks. • Online resources available to support GHG emissions reduction in the creative industries.
Industry Green http://www.juliesbicycle.com/about-jb/industry-green	A C LAC VR	Organisations, Festivals and Outdoor Events, Venues, CD Packaging Manufacturers, Tours. Medium-level.	GHG emissions from energy, waste, water, travel including audience travel, company commitment, improvement strategy and	£500 in the first year, £250 for return applications	Annual	• Applicants submit performance data for measurement via the online IG tool, and submit contextual information about engagement, reduction and disclosure via a written application. • Application assessed and bespoke report summarising progress and status provided.

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Name	Resource type	For?	Scope	Cost	Period	Features Data analysis provided/feedback
			communication			
ISO 14040 http://www.iso.org/iso/catalogue_detail?csnumber=37456	C G M	Product manufacturers Advanced	Embodied GHG emissions i.e. generally from "cradle to grave" – e.g. from a mine to a landfill site - though exact scopes are determined on a case by case basis.	£60 approx	As above (?)	• Provides the principles, framework, requirements and guidelines for a life cycle assessment study. • Internationally recognised. • Self-reporting – no external assessment.
ISO 14064-1 http://www.iso.org/iso/catalogue_detail?csnumber=38381	C G M	Organisations Advanced	Same range of organisational emissions as GHG Protocol (above). Includes requirements for GHG inventory design, development, management, reporting and verification	£60 approx	Annual	• Internationally recognised methodology. • The organisation will need to obtain the appropriate national emissions conversions factors for its calculations (eg DECC/Defra in the UK see below). • An organisation can self-certify to ISO 14064 standard or be certified by an accredited third party assessor. • This guidance is best for individuals with experience of GHG accounting.
Rural Museums Network Carbon Calculator http://www.reading.ac.uk/merl/w	A C OFT	Rural Museums Beginner to medium-	GHG emissions from gas, electricity, on-site fossil	Free	Annual	• Automatically calculates GHG emissions within the spreadsheet, although some calculations are required to input some data. Unclear how up to date the conversion factors

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hatson/exhibitions/merl-goinggreen.aspx		level, the detailed analysis option benefits from some basic understanding of the principles of carbon accounting.	fuels, company fleet, travel (business travel, staff commuting and visitors)			being used for calculation are – most recent version is 2008. • Two data entry options: quick estimate and detailed analysis. • Takes account of the emissions impact resulting from capital investment in the building infrastructure. • Results in kg CO2. Options to benchmark against annual revenue, number of visitors, number of full-time staff equivalents, area in m2.
PAS 2050 http://www.bsigroup.com/Standards-and-Publications/How-we-can-help-you/Professional-Standards-Service/PAS-2050	C G M	Product Manufacturers Advanced	Embodied GHG emissions i.e. generally from "cradle to grave" – e.g. from a mine to a landfill site - though exact scopes are determined on a case by case basis	Free	Product by product basis.	• Developed by the British Standards Institute. • Self-reporting – or can apply for third party certification e.g. via the Carbon Trust's Footprinting Certification Company. • This guidance is best for individuals with experience of GHG accounting.
PAS 2060 http://shop.bsigroup.com/en/ProductDetail/?pid=000000000030198309	C G	Organisations wishing to claim carbon neutrality	Applicable to the demonstra-tion of carbon neutrality for a wide range of subjects including activities, products, services, buildings,	£95	Determined on a subject by subject basis, but requires a baseline date and subsequent qualifying dates (to determine progress).	• Developed by the British Standards Institute, PAS 2060 provides a standard definition of carbon neutrality, protocol for achieving carbon neutrality and permissible declarations about carbon neutrality. • It identifies appropriate existing standards, industry codes and established protocols for carbon footprint quantification, greenhouse gas reduction and offsetting.

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			projects, towns and cities, events			
Energy Management						
Arts Energy Toolkit http://www.artsenergy.org.uk	A C EN G OT	Building-based arts organisations Beginner	GHG emissions from gas and electricity, also considers the organisation-al management systems	Free	Annual	• Automatically calculates GHG emissions. • Results provided in kWh and tCO2. • Benchmarks (kWh only) against m2 and visitor numbers. • Focus more on energy than GHG emissions, with resources including energy management performance assessment tool, technical assessment tool, checklists, factsheets and action plan (including template).
Display Energy Certificate http://www.communities.gov.uk/planningandbuilding/theenvironment/energyperformance/publiccommercialbuildings/displayenergycertificates/	C EN RR	Buildings occupied by a public authority or institution and more than 1,000m2 in floor area. Beginner	Gas, electricity and other fuels, based on actual consumption.	Varies	Annual	• External assessment by an accredited assessor. • Energy, emissions, performance rating A to G based on CIBSE benchmarks.
Energy Performance Certificate http://epc.direct.gov.uk/index.html	C EN RR	Mandatory for any building being built, sold or rented Beginner	Gas, electricity and other on-site fuels, based on the construction type and building services.	Varies, depending on building type and size. Normall£200-300	Whenever a building is built, sold or leased, valid for one year.	• External assessment by an accredited assessor. • Energy, emissions, performance rating A to G based on CIBSE benchmarks. • An advisory recommendation report valid for seven years accompanies the EPC.
SMEasure	C	Building-	Building	Free	Weekly readings,	• Automatically calculates GHG

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http://www.smeasure.org.uk	EN OT	based arts organisations. Beginner	energy use (gas and electricity)		ongoing monitoring	emissions. Results in kWh, carbon and £. • Performance analysis using 'degree days' that predicts how much energy the building should be using and identifies over/under-spend. • Provides projected DEC ratings.
Environmental Performance and Management						
Agreenerfestival Award http://www.agreenerfestival.com	E LAC	Festival and outdoor events – primarily musical Beginner	Office policies, energy use, carbon reduction, travel and transport, waste, recycling, water, environment-al protection and noise pollution	£100 registration	Event (annual)	• Self-reporting of event performance against checklist with external site visit by assessor. • Award granted at bronze, silver or gold level. • No GHG emissions calculation.
BREEAM Awards http://www.breeam.org/page.jsp?id=97	C E LAC	Buildings Beginner	Range of environment-al factors in building design, construction and use	Varies, depending on building type. Starts at £2000	One-off, for new build, major refurbishment and during occupation, including at design stage and post-occupation review	• Independent assessment of building design, whether at design stage for a new build or major refurbishment, or building operation. • Pass, Good, Very Good, Excellent and Outstanding Awards.
BS8555 http://shop.bsigroup.com/en/ProductDetail/?pid=	G S LAC	Organisations – SMEs Medium	Internal company management systems	£50	Ongoing	• This British Standard for implementing an Environmental Management System links the International Standards for Environmental

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0000000000300 77920			related to environment-al performance			Management Systems (ISO 14001) and Environmental Performance Evaluation (ISO 14031). • Provides a clear phased approach for implementing an environmental management system. The inclusion of ISO 14031 allows for more development of performance indicators. • Guidance is generic and does not specify performance levels. • Assists with achieving ISO 14001. • Organisation can self-report against the standard or obtain third party certification.
ISO 14001 http://www.bsigr oup.com/en/Ass essment-and-certification-services/manag ement-systems/Standa rds-and-Schemes/ISO-14001/	G S LAC	Organisations Medium-Advanced	Internal company management systems related to environmental performance	£65 approx	Ongoing	• Internationally recognised standard for implementing an environmental management system. • Guidance specifies generic requirements for a management approach including system development, monitoring, reporting, training etc. • Guidance does not specify particular performance levels (e.g. performance against specific targets, benchmarks or indicators.) • ISO 14001 provides assurance that the organisation is in control of its processes and activities that have an impact on the environment • Organisation can self-report against the standard or obtain third party certification.
Sustainability Performance						

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and Management						
BS8901 http://www.bsigroup.co.uk/en/Assessment-and-Certification-services/Management-systems/Standards-and-Schemes/BS-8901	G S	Event producers, Venues, Suppliers to Events	Internal company management systems related to sustainability performance.	£120	Per event, ongoing	• Guidance documentation for implementing appropriate management systems to ensure continual improvement of organisational sustainability performance. Guidance identifies what a company should consider/address, including reference to company values, policy-setting, issue identification, risk assessment, legal requirements, stakeholder identification and engagement, objectives, targets, training, resources, communication, reporting and record-keeping, monitoring and measuring. Evaluating, reviewing. • Self reporting. • Organisations can also be certified by a third party assessor.
Eventberry http://www.eventberry.com	OT R	Event organisers, event suppliers, venue managers	Events, Buildings Management system implementation for sustainability reporting, including information on risk analysis, environmental policy, energy, waste, water, community,	Free for basic (one event), £499 premium per event	Per event, ongoing	• Provides step by step support for achieving BS8901 identifying all documentation required. • Acts as database for documentation and email correspondence. Provides some project management tracking functionality. • Self-reporting to online tool with checklists and questions. • No automated feedback but support from Eventberry team available. • No GHG emissions calculations function. • Provides a database of sustainable event suppliers in the UK using the Eventberry tool.

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			construction, location, health and safety, purchasing and sourcing.			
Global Reporting Initiative (GRI) http://www.globalreporting.org/Home	G R	Organisations	Environmental, Economic and Social	Free	Annual	• A framework that sets out the principles and indicators that organisations can use to measure and report their economic, environmental, and social performance. • Guidelines do not assess performance levels (i.e. values or benchmarks) but describe what is required for the appropriate reporting of sustainability performance. • Internationally recognised approach. • Self reporting. GRI can conduct 'application level' check to ensure the report is reporting correctly. Reports can also be externally assured.
Green Tourism Business Scheme http://www.green-business.co.uk	C LA	Owners or managers of tourist destinations or hotels	Range of environmental factors including: management and marketing, social involvement and communication, energy, water, purchasing, waste,	Scaled one off joining fee and annual fee	Annual	• External audit against criteria by assessor. Bronze, silver or gold level.

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			transport, heritage, biodiversity, innovation			
Sustainable Operations on the Government Estate (SOGE) http://www.defra.gov.uk/sustainable/government/gov/estates	RR	Central Government Departments and their Executive Agencies. Apply to Non-Departmental Public Bodies on a case-by-case basis.	Buildings, land. Energy use and carbon emissions, waste arisings, recycling, water consumption, biodiversity and procurement.	Free	Annual	• Questionnaire • SOGE will be replaced by the Sustainable Development in Government (SDiG) framework in 2011.

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