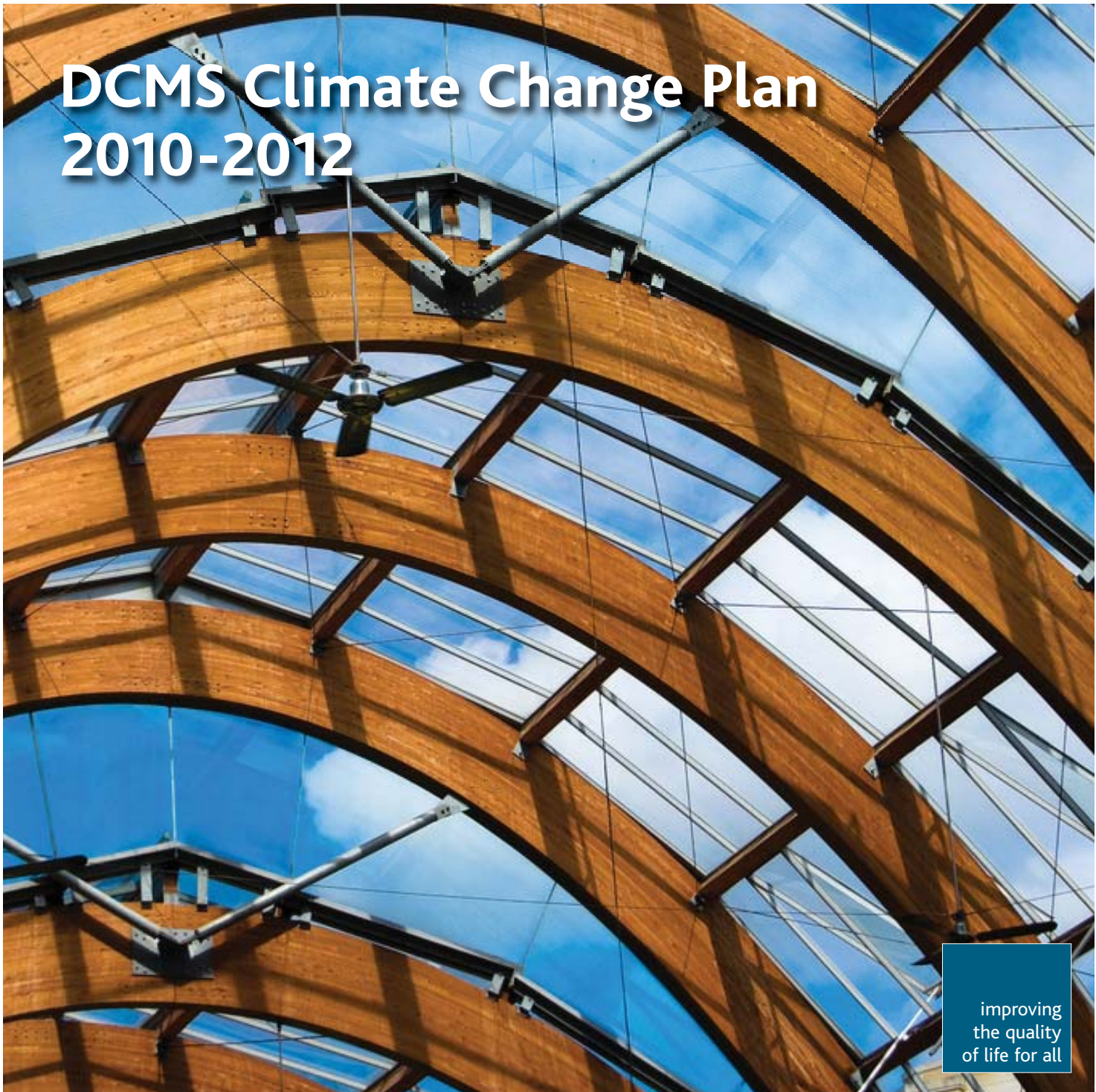




department for  
culture, media  
and sport

# DCMS Climate Change Plan 2010-2012



improving  
the quality  
of life for all

Our aim is to improve the quality of life for all through cultural and sporting activities, support the pursuit of excellence, and champion the tourism, creative and leisure industries.

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# Ministerial Foreword

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Whilst we cannot be certain about how the climate will change in the future, the UK Climate Change Projections 2009 show that we can already expect hotter summers, wetter winters and more extreme weather. If global emissions cannot be reduced we could see more damaging scenarios. This presents challenges for us all. Climate change has the potential to impact on all areas of DCMS business from the protection of our cultural assets, through to our ability to host events and manage sports facilities. DCMS and its sectors can play a valuable role in generating debate and developing forward thinking about these issues. This was shown in the lead up to the December UN Climate Change Summit in Copenhagen, where visual art was commissioned to help raise international awareness.

In 2008 we published the DCMS Sustainable Development Action Plan which sets the direction for the Department's role in helping embed sustainability into everyday life. The DCMS Climate Change Plan builds on this with a stronger focus on reducing the carbon footprint of the DCMS estate and encouraging carbon reduction measures within our sectors, as part of the Government's roadmap to becoming a low carbon country by 2020.

We have already seen how extreme weather like flooding can affect our communities. Whilst individual past weather incidents cannot be attributed directly to climate change, there are considerable social and economic benefits to building up our future resilience to extreme weather through effective adaptation planning. The Adapting to Climate Change (ACC) Programme coordinates activity and policy across-Whitehall but implementation requires a collaborative effort with those working on the ground in the private, public and third sector. The World Class Places programme and the London 2012 Olympic and Paralympic Games are just two examples of how effective adaptation can help transform communities and make them more sustainable. We may also find that a changing climate brings opportunities for our sectors, with a greater call for outside leisure opportunities and positive benefits for tourism. However the message is clear, whether is maximising opportunities or minimising the risks to business and policy- we need to be prepared.

This is the first DCMS Climate Change plan and we recognise that further work is required to ensure that we can effectively meet our commitments in the share of the Government's carbon budget allocations. We are also only in the early stages of truly understanding the potential impacts of climate change on our policies and business. Therefore the focus of this first plan is heavily centred on developing capacity, capability and evidence as part of the wider Government effort. We are committed to building on this and working with our partners to try and reduce the carbon impact of our sectors and manage the risks that climate change already presents, to ensure value for money and contribute to a more sustainable future.

**Gerry Sutcliffe**



# Executive Summary

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The Department for Culture Media and Sport (DCMS) aims to 'improve the quality of life for all through cultural and sporting activities, to support the pursuit of excellence and to champion the tourism, creative and leisure industries'.

Climate Change is one of the major challenges of our time. The UK Climate Change Projections 2009 show that we can already expect hotter summers, wetter winters and more extreme weather. This could have an economic and social impact on DCMS sectors resulting in damage to our historical and cultural assets, difficulties in maintaining public parks and sports pitches; and flooding of tourist destinations and leisure facilities. However a changing climate could also provide opportunities. There could be a greater call for outside events and sports in summer, an increase in tourism and investment in sustainable architecture. DCMS sectors also have a role in mitigating future damage by reducing carbon emissions and contributing to the overall UK and global, drive to create a more sustainable future.

The Climate Change Act 2008 established the independent Committee on Climate Change and introduced legally binding carbon budgets. The Climate Change Act 2008 also provides a framework for developing the UK's ability to adapt to Climate Change which is led by the Adapting to Climate Change (ACC) Programme. DCMS and its sponsored bodies bring to the combined endeavour an excellent network of public, private and third sector organisations working in culture, media and sport.

This first Climate Change Plan builds on the DCMS Sustainable Development Plan 2008-2011. It highlights existing activity and sets out the Department's intentions to:

- Ensure clear governance for addressing climate change and championing the issue through the DCMS Climate Change Board.
- Embed climate change considerations into the Departments future policy development and risk management processes, capital investments and procurement.
- Contribute to the research and evidence base (through the Arup research project, the DCMS Science Research and Advisory Committee and research undertaken by NDPBs).
- Promote and share the carbon reduction and adaptation best practice that already exists within our sectors.
- Implement and promote sustainability, low carbon measures and adaptation with the planning for the London 2012 Olympic and Paralympic Games.
- Develop specific adaptation plans for DCMS sectors.
- Build on the success of our existing sustainable estate management by further reducing our carbon emissions and working with our NDPBs to help reduce the emissions from their estates.
- Work with our NDPBs, the Department for Transport (DfT) and the Department of Energy and Climate Change (DECC) to try and encourage more sustainable ways of travelling to facilities, activities and events that involve our sectors.
- Explore with our NDPBs and other partners how we can influence more sustainable and low carbon behaviour within our sectors, particularly in relation to the heating of workplaces, event management and transport.

However this is a developing process and the Climate Change Plan will be regularly reviewed and updated to reflect emerging evidence and activity within our sectors and Government.

# Chapter 1: Introduction

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1. The Department for Culture Media and Sport (DCMS) aims to 'improve the quality of life for all through cultural and sporting activities, to support the pursuit of excellence and to champion the tourism, creative and leisure industries'. DCMS is responsible for over sixty public bodies, many of which provide or fund frontline delivery of culture, media and sport. The Department is an advocate and a champion for its sectors and helps set the policies and strategic direction to ensure vibrant and active communities.
2. Climate change affects nearly all areas of our business. It is one of the major challenges of our times and our sectors, with their wide community reach, have a valuable role in raising awareness and generating debate around the realities of these issues. Although individual weather events cannot be directly attributed to climate change, we have already seen how floods, storms and heat-waves in recent years have impacted on our communities. It is expected that we will see warmer summers and wetter winters in the future which may lead to changes in the way that people choose to spend their leisure time and impact on our ability to hold cultural and sporting events. Mitigating climate change and embedding adaptation can lead to longer-term efficiency and value for money. It will also help us deliver our commitment to provide opportunities for all to participate in high quality sport, culture and leisure.
3. The Climate Change Act 2008 established the independent Committee on Climate Change and introduced legally binding carbon budgets. The UK Government is committed to achieving an 80% reduction on 1990 greenhouse gas emission levels by 2050 with an interim target of a 34% cut by 2020. The Climate Change Act 2008 also provides a framework for developing the UK's ability to adapt to Climate Change by introducing UK wide risk assessments, a national adaptation programme and powers that enable the Government to require public authorities to report on adaptation.
4. Government is committed to addressing climate change as a priority and all Government Departments are required to produce Carbon Reduction (mitigation) and Adaptation Plans (managing the adverse effects of climate change). DCMS and its sponsored bodies bring to the combined endeavour an excellent network of public, private and third sector organisations working in culture, media and sport; expertise in relation to architecture, specialist buildings and facilities planning; and funding that could strategically be used to help influence change in carbon use and adaptation. Implementation of this plan will require a collaborative effort between Central and Local Government, DCMS sponsored bodies and the private and third sector. DCMS will show leadership by reducing the Department's own carbon emissions and working with sectors to reduce theirs. We will also work with our sectors to help manage the risks that climate change presents. The current emphasis on securing better value from public funding provides an opportunity to address climate change needs while rationalising and simplifying the way opportunities for culture, media and sport are delivered for the public.
5. The DCMS Climate Change Plan builds on the published DCMS Sustainability Plan 2008-2011 and sets out our commitment to do more. The Climate Change Plan is not intended to cover every aspect of mitigation and adaptation within our sectors. Instead it highlights existing activity and sets out some aspirations to generate debate and move the agenda forward. Progress will be reviewed annually to contribute to the Cross Government reports on Adaptation and Carbon Reduction. The intention is to

update the Plan in 2012 to reflect the new Carbon Budget period and the outcomes of the Adapting to Climate Change (ACC) Programme's UK Climate Change Risk Assessment and Economic Adaptation Economic Analysis.

### **The DCMS Climate Change Plan identifies five priority themes:**

- knowledge, research and improving the evidence base;
- Building capacity, developing capability and leadership;
- embedding climate change into policy and practice;
- identifying and sharing best practice ; and
- Raising awareness.

## **Governance**

6. A DCMS Climate Change Programme Board has been established to oversee the development and coordination of policy and delivery in this area. The Climate Change Board is chaired by a member of the DCMS Board and Executive Committee and includes representatives from right across DCMS itself as well as from the Royal Parks and key strategic funded Non-Departmental Public Bodies. Climate Change is a cross-sector issue with responsibility for DCMS delivery resting with sustainability lead Gerry Sutcliffe MP.
7. DCMS has recently overhauled its strategic management of investment to ensure that business cases are considered more effectively. This more rigorous and strategic control of spending will enable us to consider more effectively adaptation planning and carbon reduction measures in the future.

## **Stakeholder engagement**

8. DCMS delivers through a range of sponsored bodies, direct delivery organisations and Local Authorities. The portfolio of DCMS sponsored bodies is diverse and includes strategic Non-Departmental Bodies (NDPBs) like Arts Council England, Sport England, the Museums, Libraries and Archives Council and English Heritage. Some of DCMS' NDPBs are cultural institutions like the British Library and the national museums, whilst others are advisory like Visit England. DCMS has held a number of workshops looking at a wide range of sustainability and climate change issues and many of our NDPBs have been fully involved in developing this Climate Change Plan.

Priority	No	Action	Indicators	Responsible	Milestones
Building capacity, developing capability and leadership	1	DCMS Climate Change Board to identify future priorities, review activity and champion the issue internally and within the sectors.	Climate Change Board continues to meet regularly and is outcome focused.	Chair of the Climate Change Board	Ongoing (quarterly meetings)
Identifying and sharing best practice	2	DCMS to facilitate best practice/knowledge building workshops for stakeholders and consider appropriate mediums for sharing information.	Workshops held with positive feedback from stakeholders  Climate Change information disseminated through the DCMS NDPB WIKI  DCMS Pathways to Sustainability updated with relevant, useful information.  DCMS climate change newsletter produced (quarterly) to consolidate and disseminate useful information to NDPB network.	Programme Manager (DCMS Programmes Team).	Ongoing
Developing knowledge, research and the evidence base	3	DCMS Evidence and Analysis Unit to work with the Science Advisory Committee to identify priorities for work on climate change	Science Advisory Committee fully engaged and programme of work established.  Evidence/research used to help develop future priorities and actions.	DCMS Director Evidence and Analysis Unit	Ongoing



## Chapter 2: Raising Awareness

***Aim: we will work with our sectors to continue to raise awareness about climate change.***

9. Some of the bodies that are sponsored by DCMS are already leading the way in helping to address Climate Change through awareness raising, research, guidance and practical implementation. For example the Science Museum 'Prove it' campaign explored the evidence relating to Climate Change and invited participants to engage in the debate. Arts Council England is working in partnership with the Royal Society for the Encouragement of Arts, Manufactures and Commerce (RSA) on an 'Arts and Ecology' programme; a centre which aims to catalyse, publicise, challenge and support artists who are responding environmental challenges. In 2007 Arcola Theatre, an Arts Council England regularly funded organisation (RFO), launched Arcola Energy which aims to promote innovation in sustainability through the arts and develop the first carbon natural theatre.
10. The arts played a significant role in the lead up to the United Nations Climate Change Copenhagen Conference (December 2009). Arts Council England funded a number of projects inspired by Climate Change including a life size polar bear ice sculpture by Mark Coreth and an installation by Angela Palmer of seven tree stumps logged from a tropical rainforest in Ghana which was displayed in London and Copenhagen.
11. The London 2012 Olympic and Paralympic Games is an exemplar of adaptation planning. It provides a useful opportunity to promote carbon and water efficiency in the United Kingdom and internationally and to inspire positive change in behaviours and practices in individuals, communities and business, especially in the construction-related and events management industries

### **London 2012 Olympic and Paralympic Games**

In December 2009, the Olympic Board published a revised London 2012 Sustainability Plan – *Towards a One Planet 2012* – which sets out how sustainability is being incorporated throughout the planning and construction, staging and legacy phases of the London 2012 programme.

The construction programme of the London 2012 venues and infrastructure is extremely ambitious, and the Olympic Park is being built to the most comprehensive range of sustainability criteria ever adopted by a large scale project in the UK. The Olympic Delivery Agency (ODA) has aimed to: go beyond construction industry norms; to redefine best practice in sustainable development; and to demonstrate that the sustainability targets it has set for the project, and the tools and processes established to deliver those targets are achievable and replicable.

The aim is to deliver a low-carbon Games and to showcase how we are adapting to a world increasingly affected by climate change. The London 2012 Carbon Management Strategy has four primary components:

- Defining and measuring the carbon footprint of the Games;
- Reducing the carbon footprint through avoiding emissions, selecting low-carbon/ low-embodied carbon options and substituting conventional systems with lower carbon technologies;
- Influencing the uptake of best practices and innovative approaches and inspiring behaviour change; and
- Implementing climate change adaptation strategies so that the Olympic Park and parklands in legacy are suitable for the long term.

### **Sustainable Cities**

In 2009 CABI (Commission of Architecture and the Built Environment) launched a web-based learning resource [www.sustainablecities.org.uk](http://www.sustainablecities.org.uk) for local authority leaders who are responsible for planning, designing and managing towns and cities. The website is based on a two year programme of research and practical and strategic work with the English Core Cities. It identifies clear priorities for action, highlights the towns and cities that are getting it right and asks what urban design and management can do better to address climate change. The information covers a range of key themes (including water, transport and energy) on a neighbourhood, city and regional scale.

The website receives an average of 6,000 visits a month. CABI is now building on this success with an intensive learning programme for four of the Core Cities. In these areas Sustainability Champions are working alongside CABI to deliver projects that range from near city centre redevelopment to energy saving strategies.

### **Next steps**

12. We will work with our sectors to continue to raise awareness, contribute to the evidence base and generate debate about the realities of climate change. We will also continue to encourage the funding of climate change related initiatives to help maintain the momentum initiated by the Copenhagen Conference.

## Chapter 3 Adaptation

***Aim: we will provide our sectors with information, evidence and support to help effectively embed adaptation into business processes, capital investments and policy development.***

13. Adaptation is about identifying and dealing with the risks and opportunities of a changing climate. The Adapting to Climate Change (ACC) Programme leads and coordinates the cross-Whitehall activity and policy in this area and all Government Departments are required to consider how Climate change may impact on its business. Climate change presents a number of risks, challenges and opportunities for culture, leisure, tourism and sport. Organisations working within these sectors have already started to plan for some of the emerging risks presented by climate change but there is still some way to go to embed adaptation into everyday business planning and policy development. Being well equipped to address a changing climate will help us to:
- continue to deliver world class culture and sport (including major events like the London 2012 Olympic and Paralympic Games);
  - provide communities with the leisure, culture and sporting opportunities that they want and need;
  - better understand and manage changes which affect our cultural assets;
  - continue providing a diverse and vibrant tourism industry; and
  - make good, sustainable capital investments that offer value for money.

### What are the key risks?

14. A UK Climate Change Risk Assessment (as required by the Climate Change Act) and an Adaptation Economic Analysis will be produced in 2012. One of the challenges is trying to break down the evidence on the potential impacts of climate change and possible adaptation responses into something that is directly applicable to DCMS sectors. As a starting point DCMS commissioned Arup to explore the climate change impacts on DCMS sectors and produce sector briefs outlining the key risks for culture, sport, tourism and the creative industries, which will be published in Spring 2010. The research is a useful tool to help the Department, our funded strategic bodies and direct delivery organisations identify emerging individual, sector specific and cross-sector priorities for potential adaptation.

Priority	No	Action	Indictors	Responsible	Milestones and target end date
Developing knowledge, research and the evidence base	4	Arup research to explore impact of climate change on DCMS sectors and produce <ul style="list-style-type: none"> <li>a) Literature review</li> <li>b) Risk analysis</li> <li>c) Sector briefs</li> <li>d) GIS Maps</li> </ul>	Research complete and disseminated.	DCMS Programmes Team	Research published in March 2010

15. The Arup risk assessment is primarily based on the UK Climate Change Projections 2009:
- All areas of the UK will get warmer, and the warming is greater in summer than in winter.
  - There is little change in the amount of precipitation that falls annually, but it is likely that more of it will fall in the winter, with drier summers for much of the UK.
  - Sea levels will rise and are greater in the south and east of the UK than in the north and west.

The Arup research identified a number of priority risks including: flood damage to buildings; extreme weather conditions causing damage to cultural collections (paintings, buried archaeology etc); faster coastal erosion impacting on tourist destinations; and difficulties in maintaining parks, gardens and sports pitches due to drought. This plan does not seek to explore the detail of these risks which can be found in the separately published Arup/DCMS climate change sector briefs. However the impact of key risks on DCMS' current strategic objectives is summarised in the table below:

### **Providing opportunities to participate in sport and culture (DCMS DSO 1)**

- Extreme weather conditions deter visitors and participants
- Extreme weather conditions result in staff and visitor illness, injury, heat stress, dehydration or respiratory problems.
- Coastal erosion causes damage to and loss of heritage assets.
- Flooding of cultural, sports and leisure facilities.
- Weather changes and extreme conditions risk the hosting of events (including major sporting events, festivals and carnivals).
- Weather changes and extreme weather (particularly heavy rainfall in winter and draught in summer) creates difficulties in maintaining sports grounds and pitches.
- Weather (including temperature) changes and extreme weather conditions cause damage to collections, wall paintings, buried archaeology, frescos and other decorated surfaces
- Higher temperatures lead to an increase in pest/insect infestation and year round presence creating risks to collections and built heritage historic fabric.

### **Supporting talent and excellence in culture, media and sport (DCMS DSO 2)**

- Increase in heritage buildings registered as 'at risk' due to impact of flooding and severe weather impacts on buildings.
- Damage to the historic environment (e.g. the destabilisation of historic bridges due to flooding).
- A changing climate and extreme weather conditions may impact on performance in sport.
- Weather changes and extreme weather results in damage to archives (including an increased rate of chemical reactions and accelerated bio-deterioration of materials).
- Potential damage and temporary closures of cultural and sporting venues as a result of flooding.

### **Realising the economic benefits of the Department's sectors (DCMS DSO 3)**

- Sea level rises and faster levels of coastal erosion leads to damage and loss of tourist attractions (including beaches).
- Weather changes and extreme weather (particularly heavy rainfall in winter and drought in summer) creates difficulties in maintaining parks, gardens and outdoor heritage attractions (including the Royal Parks).
- Flooding of tourist areas, attractions and buildings (including hotels, restaurants etc).

- Potential increase in insurance premiums.
- Weather changes, extreme weather and flooding results in events being cancelled.
- Weather (including temperature) changes and extreme weather conditions cause damage to collections, wall paintings, buried archaeology, frescos and other decorated surfaces

#### **The delivery of successful London 2012 Olympic and Paralympic Games and the development of a sustainable (cultural and sporting) legacy (DCMS DSO 4)**

- Extreme weather conditions can result in staff and visitor illness, injury, heat stress, dehydration or respiratory problems.
- Changing climate and extreme weather conditions may impact on performance in sport.
- Weather changes and extreme weather (particularly heavy rainfall in winter and drought in summer) creates difficulties in maintaining sports grounds and pitches.
- Risk of flooding and longer-term water damage to buildings.
- Transport routes affected by severe weather and become unusable in extreme cases
- Impact on long term viability of new homes and facilities on the Olympic Park post-Games

16. Climate change may also bring opportunities for our sectors for example: the warmer summers may lead to an increase in tourism and we could see a greater emphasis on outside cultural events; there could be more opportunities for sponsored bodies like CABE to be engaged with regeneration projects; and we could find that there is an increase in participation levels in certain sports.

## **Addressing the risks**

### **Building capacity, developing capability and leadership**

17. We are still at an early stage in developing our understanding of the potential impacts of climate change on the culture, sport, leisure and tourism sectors. It is therefore important that we continue to build our knowledge and capacity to be able to address the risks effectively. The establishment of the DCMS Climate Change Board created a mechanism for looking at the research/evidence, financial, policy and practical measures relating to this area. It also embedded a clear governance structure with reporting lines to the DCMS Board and relevant corporate committees. The DCMS Climate Change Board will continue to drive forward delivery and explore what measures are needed to help our sponsored bodies and sectors adequately address the potential impacts of climate change.
18. In 2009 the HM Treasury published supplementary guidance to the Green Book Appraisal and Evaluation in Central Government; Accounting for the Effects of Climate Change. This provides a useful methodology for considering and assessing the costs of climate change and its associated risks and uncertainties.
19. The Adapting to Climate Change Programme is working with the Office of Government Commerce (OGC) to produce new OGC guidance *Adapting to Climate Change through Public Procurement; Improving the long term sustainability of our public buildings and infrastructure through procurement* in spring 2010. This will set out why and how climate change adaptation should be incorporated within public procurement.
20. It is important for DCMS to show leadership by embedding adaptation into business planning in accordance with the principles of the Green Book and the revised OGC procurement guidance. Therefore the risks of climate change and sustainability will be key considerations when making future capital investments, considering relevant procurement opportunities (in line with OGC best practice) and risk managing relevant key programmes and initiatives. The Department will also be encouraging key strategic NDPBs to take a similar approach.



Priority	No	Action	Indicators	Responsible	Target date and milestones
Building capacity, developing capability and leadership	5	DCMS to incorporate adaptation into the Departments future capital investments, procurement and risk management	Sustainability (including Adaptation) firmly embedded into business processes (including scoping/ initiation and planning of new projects/ policies)	DCMS Executive Committee	March 2011
	6	DCMS to encourage sponsored bodies (particularly strategic NDPBs) to incorporate adaptation considerations into business and policy planning.	Sustainability (including Adaptation considerations) included in Funding Agreements with key strategic NDPBS (as part of value for money considerations)  Adaptation included in NDPB Sustainability/ climate change plans.  Climate change (including Adaptation) incorporated into NDPB business risk management, business plans and policy statements.	Sponsored Bodies. DCMS Programmes Team to co-ordinate with Sector Teams.	March 2011

### Policies and best practice.

21. Work is already underway within our sectors and across Government to prepare for some of the emerging risks of climate change. Sustainability and planning for climate change has been incorporated into every stage of the London 2012 Olympic and Paralympic Games and its legacy plans. The sustainability plan for London 2012 'Towards a one planet 2012' outlines the adaptation and sustainability practices covering flood management, building design, landscaping, ecological management and operational planning.
22. In May 2009 DCMS and the Department for Communities and Local Government (CLG) published World Class Places, a strategy for improving the quality of the built environment. This was followed by a detailed Action Plan in November 2009 which highlighted the importance of green infrastructure. In 2008 CABE published 'Public Space Lessons' a briefing that sets out the lessons learned in the UK and around the world in relation to using public spaces to adapt. The continued work on the adaptation of buildings and estates will be taken forward in collaboration with the developing cross-Government project on adapting the built environment.

23. The heritage sector is already playing a significant role in promoting best practice in adaptation to buildings, gardens and landscapes and the recent Government Vision Statement on the Historic Environment highlights the importance of considering climate change and sustainability. In 2008 English Heritage published a statement 'Climate Change and the Historic Environment' which outlines some of the key risks and responses in this area. English Heritage is also involved in more detailed research on the impacts of climate change and has produced a range of guidance documents on specific issues including flooding. The National Trust is also active in campaigning around climate change and is already adapting its properties and land.

### **English Heritage: Climate Change and your home**

<http://www.climatechangeandyourhome.org.uk/live/>

English Heritage has launched a web portal to help homeowners of traditionally constructed houses (largely built before 1919) understand the potential impacts of climate change on older buildings and the possible adaptation measures that can be taken. The website is interactive; homeowners are able to submit information on their property to receive tailored advice. The portal also provides useful information on cutting green house gas emissions by saving energy.

24. DCMS and English Heritage are contributing to a Department for Environment, Food and Rural Affairs (Defra) led project to support communities that face risks of coastal erosion. This work aims to ensure that communities and infrastructure are more resilient to the impacts of coastal change and that the heritage and environmental value of a coastline is managed effectively. The approach to coastal risks from climate change will be developed and delivered through Shoreline Management Plans (SMPs). These outline the agreed management policies for each section of the coast for the next twenty, fifty and one hundred years, taking into account increased sea level rise from climate change. A new coastal change policy framework to help communities plan and respond to change will also be developed.
25. Sustainability and environmental impact are also key considerations in the Governments Sea Change programme, which aims to drive cultural and creative regeneration in seaside resorts through the funding of innovative projects.
26. Other DCMS sponsored public bodies have also started to embed adaptation into future planning and investment strategies. For example Arts Council England and CABE's guidance 'Building Excellence in the Arts' highlights the importance of managing the risks of climate change when undertaking capital development work to arts buildings. The Museums Libraries and Archives Council (MLA) and the National Archives new policy for publically-funded archive services will incorporate sustainability and new operational standards for environmental conditions will be developed. The Big Lottery Fund has built sustainable development into its capital programmes and provided guidance, checklist and signposting to help applicants. The organisation is looking to broaden this out to ensure that all organisations and projects that are funded take into account sustainability.

Priority	No	Action	Indicators	Responsible	Target date and milestones
Embedding climate change into policy and practice	7	National Archives and MLA to publish a British Standards Institute – Publicly Available Standard (PAS:BSI) – Environmental Standards for cultural heritage collections	Standards published and implemented	National Archive lead in partnership with the MLA	Autumn 2011
Embedding climate change into policy and practice	8	DCMS & CABE to continue to work in partnership with CLG on a programme of work to help build regional and local capacity for adaptation and champion sustainable architecture and design.	Implementation of next steps & actions set out in 'World Class Places' published 2009	CLG lead with DCMS support	Milestones outlined in world class places Action Plan

## Next steps

27. During the development of the Climate Change Plan DCMS held two Adaptation stakeholder workshops; one helped to identify key risks as part of the Arup research and the other (run in partnership with Green Museums and Defra) provided stakeholders with the opportunity to test the available on-line tools to identify potential adaptation responses. We will build on this by providing further forums for policy makers and front-line practitioners to share best practice and identify emerging issues across the sectors. The second phase of the Arup research is exploring the resilience (including financial) of DCMS sectors to climate change. This will be used by the Climate Change Board and our NDPBs to consider the future potential resource implications of effective adaptation planning and to help develop DCMS sector specific adaptation plans.

Priority	No	Action	Indicators	Responsible	Target date and milestones
Developing knowledge, research and the evidence base	9	Arup to undertake 'resilience to climate change' study of front-line delivery organisations and produce guidance on how the sectors can best adapt.	Research complete and presented to Climate Change Board	DCMS Programmes Team.	Research published Spring 2010
Embedding climate change into policy and practice  Identifying and sharing best practice.	10	Strategic bodies to continue to explore and disseminate adaptation best practice to assist their sectors	Adaptation guidance produced for relevant sectors on priority risks and recommended strategies.  Strategic bodies effectively linked in with relevant Cross - government adaptation strategies (e.g. DEFRA's coastal erosion programme)	Strategic funded bodies (in partnership with DCMS Programmes Team and DCMS sector leads).	Sector specific adaptation plans produced by March 2011

### The DCMS Estate

Risk management is integral to the management of the DCMS estate and contingency plans are already in place to address some the emerging impacts of climate change like flooding. Adaptation will be incorporated into the SOGE/HPP framework from 2010 and the Department, having already contributed to the cross-Government consultation, will identify key adaptation issues for our estate to meet the new requirements.

# Chapter 4: Mitigation

## Reducing carbon emissions

*Aim: we will continue to implement sustainable practices in the management of the Department's Estate and encourage our NDPBs to measure their own carbon emissions and adopt energy efficiency measures.*

28. The Climate Change Act 2008 established the independent Commission on Climate Change and introduced legally binding carbon budgets. The Climate Change Act 2008 commits the UK Government to achieving an 80% reduction on 1990 greenhouse gas emission levels by 2050. An interim target of a 34% cut by 2020 has also been agreed. Each Government Department has been set a 'Departmental Carbon Budget which covers emissions relating to its own estate. This is based on the existing Sustainable Operations on the Government Estate Framework (SOGE) which has a target to reduce CO<sub>2</sub> emissions from office buildings by 30% by 2020 (from a 1999/2000 baseline) and from administrative transport by 30% from a 2005//6 baseline.
29. Additionally it has been agreed that Departments should be responsible for a share of the carbon budgets for each sector of the economy over which it has a significant carbon emission influence (homes and communities, transport, waste, power and heavy industry, industrial process, heating workplaces, farming and land use). DCMS has responsibility for 4% of the Travel Carbon Budget (owned by the Department for Transport) to reflect the impact of leisure and tourism related travel. DCMS also has responsibility for 1% of the Heating Workplaces Carbon Budget (owned by the Department for Energy and Climate Change) to reflect the emissions from workplaces that are used for leisure, sport and cultural activity. The carbon budgets are set in five year periods: 2008-2012, 2013-2017, 2018-2022.

### DCMS carbon budgets 2008-2012

	Public Sector 2008-2012	2008-2012 Transport	2008-12 Heating Workplaces	Total DCM Allocation 2008-2012
DCMS allocation	0.2MtCO <sub>2</sub> e	4% 26MtCO <sub>2</sub> e	1% 4mtCO <sub>2</sub> e	30.47 MtCO <sub>2</sub> e
Combined Public Sector Total	53 MtCO <sub>2</sub> e	648 MtCO <sub>2</sub> e	452 MtCO <sub>2</sub> e	3018 MtCO <sub>2</sub> e

### Carbon budgets 2013-2017 & 2018-2022

	Public Sector 20013-2017	Total DCM Allocation 2013-2017	Public Sector 2 018-2022	Total DCM Allocation 2013-2017
DCMS allocation	0.02 MtCO <sub>2</sub> e	29.27 MtCO <sub>2</sub> e	0.02 MtCO <sub>2</sub> e	27.62 MtCO <sub>2</sub> e
Combined Public Sector Total	49 MtCO <sub>2</sub> e	2782 MtCO <sub>2</sub> e	41 MtCO <sub>2</sub> e	2544 MtCO <sub>2</sub> e



## The DCMS Estate

30. The Department's Estate is managed by the Property and Procurement Services Team reporting to the Director of Finance who is a member of the DCMS Board. The Estates team has a dedicated person responsible for sustainability on the DCMS estate. The current DCMS estate comprises of two buildings occupied by DCMS (Table 1) and two buildings that are sublet (Table 2).

**Table 1.**

	Type	Total Sq M	Sq M sub-let	Tenure	Lease Expires
Cockspur Street	Headquarters Office	8,744	749	Leasehold	16.12.2017
Queen's Yard	Art Gallery, workshops + office space	1,840	310	Leasehold	30.04.2014

**Table 2.**

	Type	Total Sq M	Sq M sub-let	Tenure	Lease Expires
Oceanic House	Office	1,320	1,161	Leasehold	16.12.2012
Grove House	Office	1,461	1,461	Leasehold	23.06.2013

31. There is a cross-Government commitment to reduce carbon emission from offices by 12.5% by 2010/11 (relative to 1999/2000 levels) and 30% by 2020. DCMS (including the Royal Parks estate) has already exceeded the 2010/11 target with a 22% decrease from the original baseline. DCMS is also making good progress on reducing emission from business related travel.

### CARBON DIOXIDE FROM OFFICES (12.5% reduction by 2010/11)

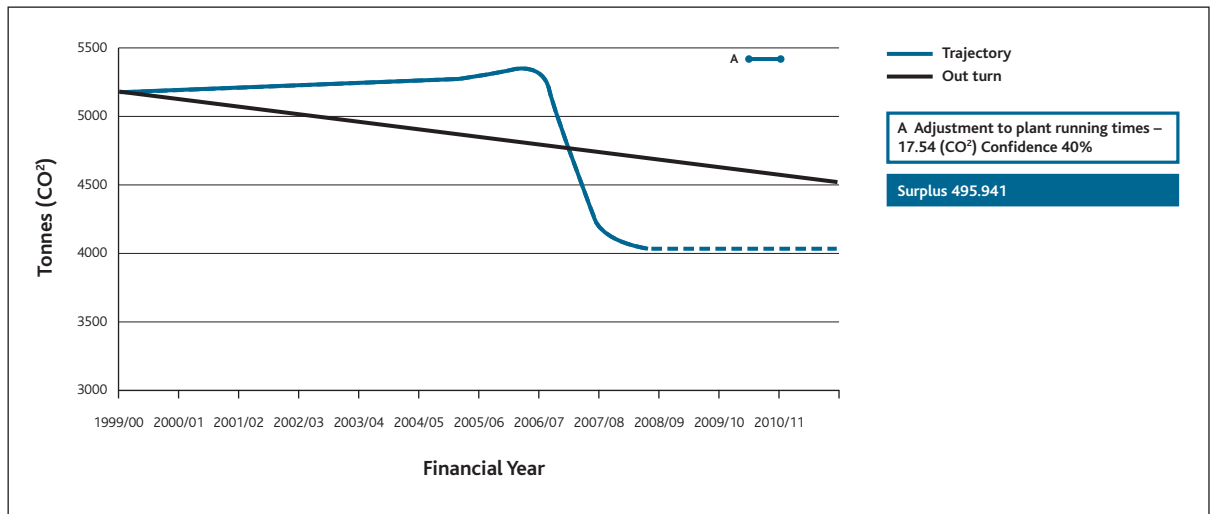
Baseline (tonnes of CO <sup>2</sup> )	2010/11 Target (tonnes of CO <sup>2</sup> )	2007/08 Reported % Reduction/ (Increase)	2008/09 (tonnes of CO <sup>2</sup> )	2008/09 Reduction/ (Increase)	2008/09 % Reduction/ (% Increase)
5,117 t CO <sup>2</sup>	4,478 t CO <sup>2</sup>	<b>19.2%</b>	3,999 t CO <sup>2</sup>	1,118 t CO <sup>2</sup>	<b>21.9%</b>

### CARBON DIOXIDE FROM ROAD VEHICLES (15% reduction by 2010/11)

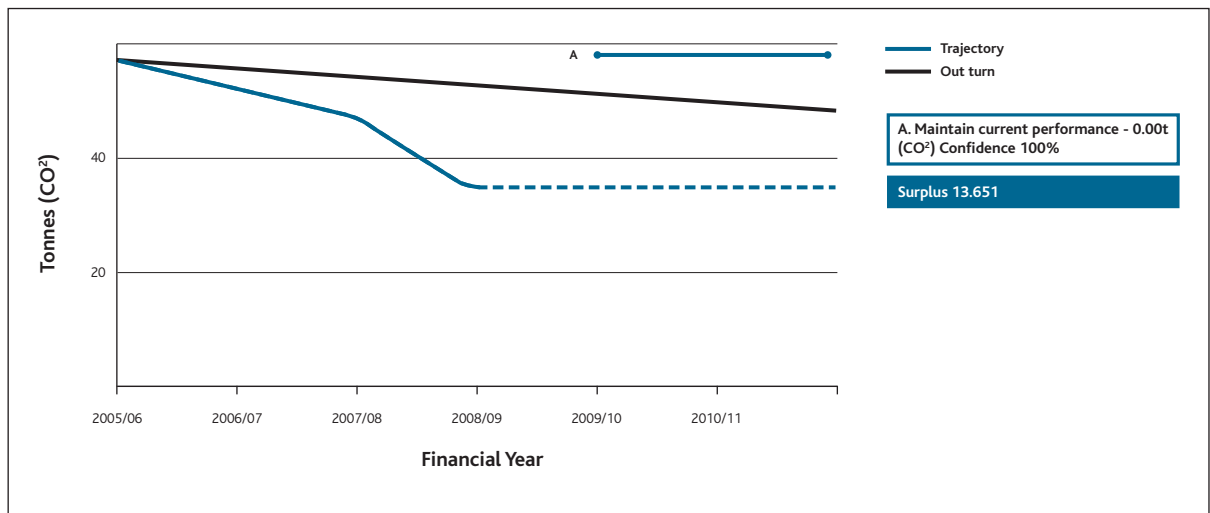
Baseline (tonnes of CO <sup>2</sup> )	2010/11 Target (tonnes of CO <sup>2</sup> )	2007/08 Reported % Reduction/ (Increase)	2008/09 (tonnes of CO <sup>2</sup> )	2008/09 Reduction/ (Increase)	2008/09 % Reduction/ (% Increase)
57.3 t CO <sup>2</sup>	48.7 t CO <sup>2</sup>	<b>17.3%</b>	34.8 t CO <sup>2</sup>	22.6 t CO <sup>2</sup>	<b>39.4%</b>

- 32. The good progress on carbon reduction has resulted from a major refurbishment of 2-4 Cockspur Street during 2006-07, where sustainability was a major element of the project. The project achieving a provisional BREEAM rating of 'very good'. New energy efficient lighting and fan coil units were installed and the chillers, condensers and Air Handling Unit were replaced with smaller more efficient units. The Building Management System was also upgraded to allow for better control of the mechanical systems in the building. It is now possible to control individual units, set zonal temperatures and adjust the temperature according to the external climate conditions. The lighting is controlled by a day light sensor on the roof which adjusts the lighting on the floors to the amount of daylight. All lighting works on presence detectors. Early indications are that the Department is saving about 12% on its energy usage.
- 33. We have also replaced the two boilers in the building which were over 20 years old, with more energy efficient ones. Since the major items of plant have been replaced it will be challenging to make any further savings through the replacement of equipment. However we anticipate that savings will come from the planned reduction in the amount of space occupied by DCMS in Cockspur Street and a move to a new flexi desk policy. This will also help reinforce the environmentally friendly practices of the Department by creating a more 'paperless' culture.
- 34. The estates team monitor progress against the SOGE targets and trajectories (Table 3 and 4 below) on a quarterly basis to identify any deviations from planned activity.

**Table 3: Department for Culture, Media and Sport Carbon Dioxide from Offices**



**Table 4: Department for Culture, Media and Sport Carbon Dioxide from Vehicles**



## DCMS sponsored bodies

35. To help implement the EU Energy Performance of Buildings Directive the Government introduced Energy Performance Certificates (EPCs) for newly built, rented or sold properties and Display Energy Certificates (DECs) for public buildings. A phased roll-out of the DECs started in April 2008 and since October 2008 large public buildings are required to display their DECs and are subject to regular inspection. The definition of public buildings includes galleries and museums and some of DCMS sponsored bodies volunteered to participate in a pilot prior to the DECs formal introduction.
36. In 2007/2008 DCMS approached the Carbon Trust and AEA to carry out a carbon footprint assessment of the estates for eighteen DCMS Non-Departmental Public Bodies. The study found that electricity consumption tended to be dominant followed by gas and business travel was generally less significant than buildings energy use.

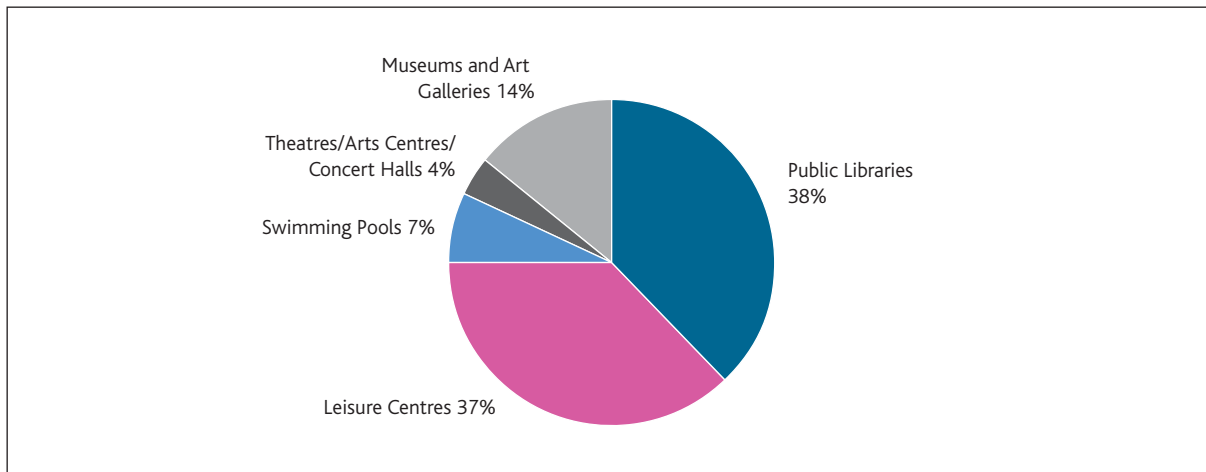
## Next steps

37. This plan is based on the current scope of the SOGE targets and the Department's current carbon budget which includes the office estate and administrative transport emissions. There are ongoing discussions around bringing NDPBs within the SOGE framework and the possible inclusion of some NDPBs within Department's carbon budgets for the second carbon budget period (2013-2017). In light of the progress already made by some of our sponsored bodies on measuring their carbon emissions, we will test how this might work in practice with selected organisations over the coming year. As the details of the new SOGE framework are built into the carbon budget allocation from the second carbon budget period onwards, we will work across our estate and wider Departmental family to ensure that we monitor and report against the more challenging targets.
38. The reductions in public sector carbon emissions will also deliver financial savings, contributing to the Government's aim of releasing £300M in energy bill savings by 2012/13. We will present the Department's new share of the public sector Carbon Budget and outline the new measures which are being explored to secure both carbon and financial savings in the revised plan for 2012.

## Heating Workplaces (within the wider DCMS sectors)

***Aim: we will promote existing best practice in energy efficiency and work with stakeholders to encourage further initiatives within our sectors.***

39. We recognise that there is still some way to go before energy efficiency and carbon reduction is fully embedded into the wide range of buildings that are involved in the culture, leisure and sport sector. The data that we have is currently limited to CO<sub>2</sub> emissions for publically owned buildings and we recognise that we need to work with the Department for Energy and Climate Change to help obtain a clearer picture of the emissions from the wider range of buildings which fall within the DCMS sectors.
40. The data suggests that public libraries and leisure centres are responsible for three quarters of all heating buildings emissions from a selection of our sectors (see graph 1). There are fewer museums and galleries, which means that their cumulative impact is less but these buildings do release relatively high emissions.

**Graph 1: Relative Contributions of DCMS Sectors to Heating Buildings Emissions<sup>1</sup>**

Facility	Number	Average Emissions	No. * Emissions
Public Libraries (not schools etc)	3933	376.8	1481954.4
Leisure Centres	1921	760.6	1461112.6
Swimming Pools	472	603.4	284804.8
Theatres/Arts Centres/Concert Halls	496	348.1	172657.6
Museums and Galleries	733	755.9	554074.7

### Next steps

41. There are a number of challenges to developing policies and practices that will enable DCMS to meet its contribution to the Department for Energy and Climate Change's 'heating workplaces' sector budget particularly because many of the organisations working within the DCMS sectors are privately or Local Authority funded and/or charitable bodies. Therefore the Department's role is to work with the Department of Energy and Climate Change, the Department for Communities and Local Government, the Department for Business Innovation and Skills and our sponsored bodies to try and encourage change and provide best practice.
42. However some pioneering work is already underway to measure carbon emissions and explore best practice in energy efficiency within our sectors. For example the V&A has developed and used low energy methods that are able maintain the right environmental conditions to preserve its collections, which is generating an interesting debate about energy use in this area. In 2008 the Theatres Trust launched Ecovenue a three year programme to provide environmental advice and free DEC assessments for 48 small theatres in London. Arts Council England has produced an online toolkit for arts organisations to help them implement effective energy programmes (with the potential to help reduce energy costs by up to 20%). We will explore how can build on the existing carbon reduction and energy efficiency projects to benefit the wider sector and encourage cultural change.

<sup>1</sup> •Average emissions is the mean figure for the total annual CO<sub>2</sub> emissions (in tonnes) of 100 public buildings of that type. Sample size is only 97 for swimming pools as emissions data was only available for this many. Source is CLG data on energy efficiency of public buildings.

- Number of each type of building includes publicly owned buildings only. (CIPFA 08/09 estimates).
- Figures are general CO<sub>2</sub> emissions, not specific heating buildings ones. Unfortunately no data is available for this, so these figures are the best estimate that can be used.

43. Seizing the opportunity to imbed to incorporate energy efficiency into major capital investments is already part of DCMS policy and practice. It is a key aim of the sustainability plan for the London 2012 Games and Sport England's environmental sustainability guide for sports buildings encourages the use energy efficiency measures to help influence long-term change in this area.

### South Kensington Estate Master Plan

A unique collaboration between the major institutions of the South Kensington Estate, the V&A, the Science Museum, the Royal Albert Hall and the Imperial College will lead to a 10 year carbon reduction Master Plan. In 2006 the Government, provided an invest to save grant to the National History Museum to co-ordinate a pioneering project that aims to:

- Measure energy flows and usage in all the buildings
- Deliver real changes in operating practices
- Provide an opportunity for CHP and Aquifer Thermal Energy Storage
- Deliver near-term energy and carbon savings; and
- Instigate energy awareness campaigns.
- Disseminate findings across the UK and internationally

Priority	No	Action	Indicators	Responsible	Milestones
Embedding climate change into policy and practice	11	DCMS to ask all key NDPBs to develop carbon reduction plans for their own estate and strategic bodies to consider how to incorporate carbon reduction/energy efficiency into policy, strategy, procurement and funding investments ( as a VFM consideration).	Energy efficiency/ carbon reduction considerations included in strategic NDPB Funding Agreements (as part of value for money considerations)  Carbon reduction targets included Sustainability/climate change plans.  A high number of organisations from across the sectors signed up to 10:10 campaign (cut emissions by 10%)	DCMS sector teams and NDPBs	March 2011
Embedding climate change into policy and practice	12	A 10 year South Kensington 'Master Plan' produced and findings disseminated widely	Kensington 10 year carbon reduction energy plan produced.	Natural History Museum (and partners)	December 2010

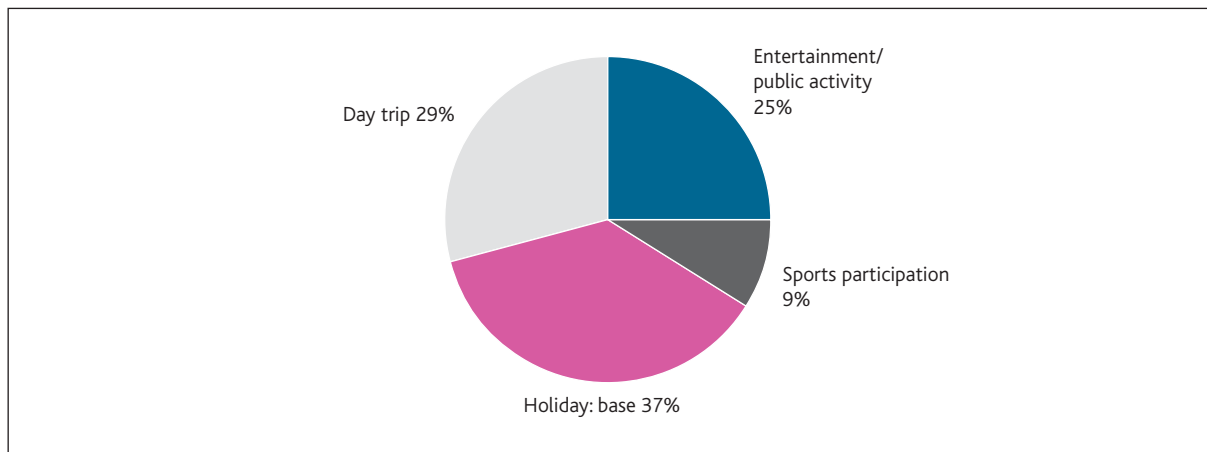


## Transport related carbon

***Aim: we will work with our sectors and the Department for Transport to promote sustainable tourism and sustainable ways of travelling to culture, media and sporting activities.***

44. DCMS is committed to providing opportunities for all to participate in culture and sport and encouraging tourism in England<sup>1</sup>. This nearly always involves some form of travel (with the exception of digital participation). The National Travel Survey showed that leisure related travel accounted for 19.7% of journeys in 2007/8 (combined journey by purpose data 2007/8). More detailed analysis suggests that holidays account for the largest proportion of leisure related mileage per person per year. This is followed by day trips and entertainment/public activity.

**Figure 1: Percentage of total leisure mileage per person per year accounted for by each leisure sector (National Travel Survey 2008)**



45. The tourism industry in England is looking at ways to help reduce its environmental impact by encouraging the use of public transport, cycling and walking. To some extent the use of public transport depends on availability but the tourism industry does have a significant role in helping promote sustainable travel where possible. DCMS published *Sustainable Tourism in England: a framework for action* in March 2009 which asks stakeholders to:
- Use marketing messages to persuade visitors to use public transport and educate them about the impacts that car use can have on the environment.
  - Persuade businesses to encourage their visitors to use public transport through promotional material or by providing details of bus times etc to local places of interest.
  - Better destination planning for tourism to reduce CO2 impacts from transport with the best possible use of public transport and other means of travel such as walking or cycling.
46. The framework is advisory to reflect that tourism is supported by a range of public sector organisations at national, regional and local levels. In England local tourism delivery is the responsibility of the Regional Development Agencies as part of their wider role in promoting economic development and is supported by other regional and sub-regional partners. However we are working to ensure that the framework is embedded into local policies and plans, monitoring results on an annual basis and undertaking a comprehensive review in partnership with stakeholders in 2012.
47. VisitEngland is responsible for marketing England within the UK and is actively supporting greening business through a range of activities. This includes the Green Start program which educates businesses on sustainable issues and encourages them to take action and promote social and environmental good practice. There are also more formal certification schemes such as the Green Tourism Business Scheme. Providing local transport information and promoting car free excursions,

<sup>1</sup> As tourism is a devolved matter, the Scottish Executive, the Welsh Assembly Government and the Northern Ireland Executive are responsible for the direction and funding of tourism support in Scotland, Wales and Northern Ireland respectively.

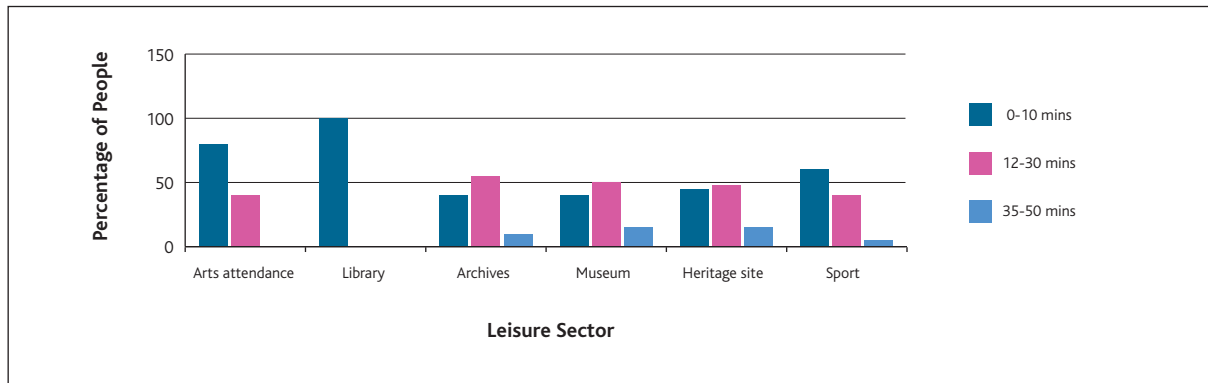
walking and cycling are all central components of these initiatives. Regional Tourism Boards are also delivering a number of innovative initiatives including the promotion of integrated public transport and attractions tickets, car free days and cyclists and walkers 'welcome schemes'.

## Next steps

48. We need to take a closer look at how people are travelling to the wide range of facilities that relate to our sectors. Whilst mileage for travelling to entertainment and sports facilities may be less than that of tourism, it appears that a high proportion of people tend to use private 'high carbon' transport (cars & motorcycles) rather than public transport, walking or cycling. The data also suggests that journeys for sport, the arts and libraries are predominantly short (under ten minutes). Accessibility is already a key factor when planning for new leisure related facilities but we need to consider how we can encourage greater use of public transport, walking and cycling to these activities. Many of our stakeholders have already participated in innovative schemes with public transport owners through advertising and integrated ticket schemes. We will work with the Department for Transport and stakeholders to explore how we can better disseminate this best practice and provide better information to the public about more sustainable ways of travel.
49. The intention is for London 2012 to be the first 'public transport' Olympic Games by making it completely accessible. The ambitious aim is to have 100% of spectators and workforce travel to London venues by sustainable transport, namely by public transport, walking or cycling. To support this ticketed spectators and accredited members of the Olympic Games 'family' will receive free travel on London's public transport on the day of the event they are attending. There will be no private car parking for spectators at any venue, except for some Blue Badge parking facilities. In addition long-distance domestic and near continental visitors to the Games (including competitors and officials) will be encouraged to use rail rather than fly. This is underpinned by a significant programme of transport infrastructure improvement and development, including 80km of walking and cycling route improvements in London, and 20km outside London to leave a sustainable transport legacy after the Games in terms of behaviours and practices. Inevitably, there is also a strong focus in securing a legacy of people being inspired to be more active with an aim of getting one million people participating in more sport by 2012/13. Cycling is already a popular activity and a strong grassroots programmes, a growing number of mass participation events and the encouragement of work cycle schemes are all contributing to an increase in its profile.

Priority	No	Action	Indicators	Responsible	Milestones
Embedding climate change into policy and practice	13	DCMS, NDPBs and DfT to explore ways of disseminating best practice on integrated ticket schemes and raising awareness of sustainable transport options.	Best practice disseminated  More uniform approach across sectors to promoting sustainable transport options.	DCMS Programmes Team (in partnership with NDPBs and DfT)	March 2011
Embedding climate change into policy and practice	14	DCMS and Visit England to work with local bodies to help embed <i>Sustainable Tourism in England: a framework for action</i> into local decision making	Review completed and high level of compliance found	DCMS Leisure Sector Team and Visit England	Review in 2012

### Time taken to get to Leisure Activities by Sector<sup>2</sup>



Priority	No	Action	Indicators	Responsible	Milestones
Embedding climate change into policy and practice	15	To make London 2012 games the first 'public transport' games; aim for 100% of spectators to get to the games by public transport, walking or cycling.	Independent sustainability assurer for the London 2012 Games will review preparations.	GOE with ODA and LOCOG	2012

### Further sustainability measures

#### Sustainable and Low Carbon Event Management

50. The London 2012 Olympic and Paralympic Games presents an opportunity to pioneer and champion sustainable events management. The Games has helped inspire the development of BS 8901 a management system and standard that enables event managers and planners to manage their activity in a sustainable way to help minimise the impact on the environment. A number of Non-Government Organisations and other bodies are also looking at ways to help promote sustainable events. For example Julies Bicycle undertook some independent research into festival related travel and is now working within the sector to try and encourage more carbon friendly events.

#### Sustainability and the Creative Industries

51. The Creative Industries and the production of film and music and other media can leave a significant environmental impact and the sector is already starting to explore how this can be addressed. For example the UK Film Council is working with partners to develop practical policies and guidance to help the industry change and has recently launched GreenFilm a website which is targeted at professionals working in the film industry. The changing climate also has the potential to have a significant impact on businesses and this is an area that is explored in more detail in the Department for Business, Innovation and Skills (BIS) Adaptation and Carbon Reduction Plans. We will need to work with BIS and other partners to try and help the Creative Industries prepare for the potential impacts of climate change on their business and explore the economic benefits of more sustainable practices.

<sup>2</sup> National Travel Survey 2008

## Annex A: Table of Actions

Priority	No	Action	Indicators	Responsible	Target date and Milestones
Building capacity, developing capability and leadership	1	DCMS Climate Change Board to identify future priorities, review activity and champion the issue internally and within the sectors.	Climate Change Board continues to meet regularly and is outcome focused.	Chair of the Climate Change Board	Ongoing (quarterly meetings)
Identifying and sharing best practice	2	DCMS to facilitate best practice/knowledge building workshops for stakeholders and consider appropriate mediums for sharing information.	Workshops held with positive feedback from stakeholders  Climate Change information disseminated through the DCMS NDPB WIKI  DCMS Pathways to Sustainability updated with relevant, useful information.  DCMS climate change newsletter produced (quarterly) to consolidate and disseminate useful information to NDPB network	Programme Manager (DCMS Programmes Team).	Ongoing

Annex A: Table of Actions (continued)

Priority	No	Action	Indicators	Responsible	Target date and Milestones
Developing knowledge, research and the evidence base	3	DCMS Evidence and Analysis Unit to work with the Science Advisory Committee to identify priorities for work on climate change	Science Advisory Committee fully engaged and programme of work established. Evidence/research used to help develop future priorities and actions.	Director DCMS Evidence and Analysis Unit	Ongoing
Developing knowledge, research and the evidence base	4	Arup research to explore impact of climate change on DCMS sectors and produce a) Literature review b) Risk analysis c) sector briefs d) GIS Maps	Research complete and disseminated.	DCMS Programmes Team	Research published in March 2010
Building capacity, developing capability and leadership	5	DCMS to incorporate adaptation into the Departments future capital investments, procurement and risk management	Sustainability (including Adaptation) firmly embedded into business processes (including scoping/ initiation and planning of new projects/policies)	DCMS Executive Committee	March 2011

Annex A: Table of Actions (continued)

Priority	No	Action	Indicators	Responsible	Target date and Milestones
Embedding climate change into policy and practice	6	DCMS to encourage sponsored bodies (particularly strategic NDPBs) to incorporate adaptation considerations into business and policy planning.	Sustainability (including Adaptation considerations) included in Funding Agreements with key strategic NDPBs (as part of value for money considerations)  Adaptation included in NDPB  Sustainability/climate change plans.  Climate change (including Adaptation) incorporated into NDPB business risk management, business plans and policy statements.	Sponsored Bodies. DCMS Programmes Team to coordinate with Sector Teams.	March 2011
Embedding climate change into policy and practice	7	National Archives and MLA to publish a British Standards Institute – Publicly Available Standard (PAS:BSI) – Environmental Standards for cultural heritage collections	Standards published and implemented	National Archive lead in partnership with the MLA	Autumn 2011

Annex A: Table of Actions (continued)

Priority	No	Action	Indicators	Responsible	Target date and Milestones
Embedding climate change into policy and practice	8	DCMS & CABE to continue to work in partnership with CLG on a programme of work to help build regional and local capacity for adaptation and champion sustainable architecture and design.	Implementation of next steps & actions set out in 'World Class Places' published 2009	CLG lead with DCMS support	Milestones detailed in World class places: The Government's strategy for improving quality of place – an action plan for delivery
Developing knowledge, research and the evidence base	9	Arup to undertake 'resilience to climate change' study of front-line delivery organisations and produce guidance on how the sectors can best adapt.	Research complete and presented to Climate Change Board	DCMS Programmes Team.	Research published Spring 2010
Embedding climate change into policy and practice Identifying and sharing best practice.	10	Strategic bodies to continue to explore and disseminate adaptation best practice to assist their sectors.  Sector specific adaptation plans produced	Adaptation guidance produced for relevant sectors on priority risks and recommended strategies.  Strategic bodies effectively linked in with relevant Cross -government adaptation strategies (e.g. DEFRA's coastal erosion programme)	Strategic funded bodies (in partnership with DCMS Programmes Team and DCMS sector leads).	Sector specific adaptation plans produced by March 2011



Annex A: Table of Actions (continued)

Priority	No	Action	Indicators	Responsible	Target date and Milestones
Embedding climate change into policy and practice	11	DCMS to ask key NDPBs to develop carbon reduction plans for their own estate and strategic bodies to consider how to incorporate carbon reduction/energy efficiency into policy, strategy, procurement and funding investments (as a VFM consideration).	Energy efficiency/carbon reduction considerations included in strategic NDPB Funding Agreements (as part of value for money considerations)  Carbon reduction targets included Sustainability/ climate change plans.  A high number of organisations from across the sectors signed up to 10:10 campaign (cut emissions by 10%)	DCMS sector teams and NDPBs	March 2011
Embedding climate change into policy and practice	12	A 10 year South Kensington 'Master Plan' produced and findings disseminated widely	Kensington 10 year carbon reduction energy plan produced.	Natural History Museum (and partners)	December 2010

Annex A: Table of Actions (continued)

Priority	No	Action	Indicators	Responsible	Target date and Milestones
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Embedding climate change into policy and practice	14	DCMS and Visit England to work with local bodies to help embed sustainability guidance into local decision making.	Review completed and high level of compliance found	DCMS Leisure Sector Team and Visit England	Review in 2012
Embedding climate change into policy and practice	15	To make London 2012 games the first 'public transport' games; aim for 100% of spectators to get to the games by public transport, walking or cycling.	Independent sustainability assurer for the London 2012 Games will review preparations.	GOE with ODA and LOCOG	2012

# Annex B: Arup Risk Register

## 1 RISK REGISTER

### 1.1 Introduction

Risk assessment is a critical component of adaptation planning. Climate change will generate many risks, but it is unlikely that there will be available resources to address all the risks in the immediate future. Risk assessment allows us to prioritise the risks so that we can use our available resources to address the greatest risks. The risk register is a transient document, which requires monitoring and updating over time. A regular annual review should be scheduled, and reviews should take place if an extreme weather event occurs, or if more information becomes available, perhaps from a published report.

The risk register should also be transparent so that stakeholders can inform the ratings of the risks during reviews, and use the information from the risk assessment to inform their own risk management. This is the first risk assessment for DCMS and so provides the first opportunity on which to consult on this register and feed into a cycle for continuous improvement. We live in a world with imperfect information, our knowledge of climate change scenarios, impacts and adaptation planning is imperfect due to unknowns and the complexity of our social, economic and environmental systems. This means that whilst the risk assessment is based on evidence, criteria / and objectives to guide the risk ratings, there will always be a degree of subjectivity to the rating. However, imperfect information should not prevent adaptation or progress to address the risks. In light of this judgement decisions are necessary and valid. The judgements should be outlined for the high risks so that the basis for decision-making is clear.

### 1.2 Risk assessment process

The process for completing the risk assessment is:

- Use the evidence base to identify the broad range of risks;
- Collate the risks if there are obvious repetition;
- Rank the risks;
- Highlight the high risks as those that will be prioritised and include commentary on these (this will be part of the climate change sector briefing notes);
- Identify if there a need for further prioritisation of the risks;
- Consult on the risk register and incorporate the findings from the consultation;
- Make a decision on whether to respond to the high risks by applying the decision-making criteria, and identify actions;
- Revisit risk register and consider whether any of the medium or low risks can be easily integrated into / covered by the actions;
- Develop adaptation pathways and an implementation programme.

### 1.3 Consultation on the risk register

The consultation on the risk register should ask consultees to respond to the following:

- The risk categories;
- The risks included in the register;
- The ratings allocated to the risks.

The first consultation may be an internal workshop, followed next year by an external consultation on the entire adaptation plan. It will be a matter of judgement by DCMS on the degree to which the comments are responded to in this adaptation plan, and in subsequent adaptation plan. Unless there are any very significant issues raised that should halt the adaptation plan, then it should continue this year, integrating the comments where possible. The subsequent risk register can then incorporate more of the comments. It could be that the current risk register is deemed appropriate in its current form.

### 1.4 Decision-making

Once the high level risks have been identified, the following decision-making criteria can be applied to help inform the response. These criteria were identified as part of the scoping report (insert ref):

- The potential risk associated with the climate hazard for DCMS aims and objectives including sector-related objectives;
- Whether DCMS is already significantly vulnerable to the risk;
- The level of direct influence that DCMS has over the risk;
- The potential financial impacts (including capital, maintenance and management);
- The potential sustainability impacts (including legislative, regulatory, social, economic, environmental);
- Comparison against 'doing nothing' to address the risk;
- The available resources (people and financial) to develop adaptation responses;
- The impact on stakeholders.

Based on these criteria a decision will be made on whether:

- an adaptation response is required;
- more information is required;
- a watching brief will be kept; or
- communication of the risk to others for action.

## 1.5 Risk categories

There are three categories that inform the risk rating. These are consequence, vulnerability and likelihood. These are explained in more detail below:

### 1.5.1 Consequence

This refers to the consequence for DCMS or the sectors for which the department is responsible (as set out in the scoping study insert ref). For example, consequences could include:

- An effect on the ability to deliver the organisation / business / service objectives;
- Damage to reputation or a missed opportunity to develop a good reputation;
- An increase or decrease in costs, profit, cash flow or other financial implications;
- An effect on the ability to undertake, or finance, maintenance;
- An impact on the reliability, security, or effectiveness of operations and logistics;
- Damage to the premise(s), or an opportunity to improve the premise(s) to enhance their ability to fulfil function and purpose;
- An affect on people including their health and safety, and the ability of the organisation to fulfil duty of care for staff and/or visitors;
- An affect on the market size, stability, demands or new opportunities.

### 1.5.2 Vulnerability

Vulnerability is determined by exposure to a hazard, sensitivity to the hazard, and the capacity to respond to the hazard. For instance,

- Number of sectors that are exposed, or potentially exposed to the specific hazard;
- The level of potential exposure across a sector;
- The level of potential sensitivity to a specific hazard across the sectors;
- The level of sensitivity across a sector;
- Whether the sector is adequately prepared or the capacity to deal with the impacts;

The exposure, sensitivity and the capacity to adapt, is affected by aspects such as:

- Location (e.g. floodplain, coastal, drought-affected area, urban heat island);
- Demographics (e.g. elderly, low income, mental health);
- Sector (e.g. tourism sector suffered from 2007 flooding as global press meant tourists from abroad were unsure if the area was fit to visit)
- Dependency on natural resources (e.g. agriculture, fisheries)

- Preparation (e.g. emergency planning procedures for flooding or long term planning for heat waves, such as increasing green space or information campaigns)
- Other (e.g. lack of interest in addressing the climate risks)

### 1.5.3 Likelihood

Likelihood refers to the likelihood of the climate changing and affecting the frequency or intensity of the hazard occurring. It does not refer to the likelihood of the actual hazard – this will depend on local conditions. For instance in the case of drought the local river / aquifer network and local community / business demand for water will affect the likelihood of the hazard occurring. This requires more locally based information. The likelihood is based on the information from the UKCP09 climate change scenarios, which inform us of the potential changes to climate variables.

## 1.6 Evidence bases

There are four evidence bases informing the risk register: the UKCP 09 climate change scenarios; the climate impact profile findings; the literature review; and the stakeholder workshops. Each impact / type of risk has one or more symbols next to it. These symbols indicate the evidence base for this risk. The symbols are as follows:

- ○ = literature review finding
- □ = climate impact profile finding. There are two sources of climate impact profiling – the Arup document and the South West Tourism document. If the risk is supported by information from a climate impact event documented in the Arup report, it is referred to as either H (heat wave), F (flood) or D (drought) and has a number next to it – the letter and the number refer to the relevant report in the Arup document. If the risk is supported by information from a climate impact event documented in the South West Tourism document then it has the letters SWT and then a number; referring to the relevant report in the South West Tourism document.
- ◆ = stakeholder workshop

There is not a symbol for the UKCP09 climate change scenarios as these are only used to inform the likelihood column.

## 1.7 Risk ratings

A four point scale is used to rate the risks. The reason for this is that we wish to make the risk rating as easy to follow as possible for stakeholder engagement. At the very least we need to differentiate between high, medium and low risks. And we also wanted to put a focus on existing risks to climate change. This is because it may be easier to gain the necessary buy in from stakeholders to address risks if they are clearly issues for today as well as tomorrow. And, it is also part of a 'no regrets' adaptation strategy to address existing risks to climate change.

Indicator of the urgency to which to address the issues and the allocated points	Consequence (includes missing opportunities)	Vulnerability	Likelihood	Risk calculation
 4 points	Existing severe impacts and / or widespread impact on DCMS sectors (including damaging to reputation)  A designation of 'existing' is based on documented cases including the media or stakeholder advice.	Existing vulnerability widespread across DCMS sectors  A designation of 'existing' is based on documented cases including the media or stakeholder advice.	Already occurs frequently  Existing is either based on documented cases including the media or stakeholder advice.	Consequence x vulnerability x likelihood
 3 points	Potentially severe impacts and / or widespread impact on DCMS sectors	Potential vulnerability widespread across DCMS sectors  And / or low capacity to adapt	Very likely to occur very frequently or already occurs periodically	
 2 points	Notable impacts and / or local impact on DCMS sectors	Potential local vulnerability across DCMS sectors  And / or limited capacity to adapt	Likely to occur frequently	
 1 point	Low impact / limited extent of impact on DCMS sectors	Limited vulnerability across DCMS sectors and / or reasonable (or rapid) capacity to adapt	Very unlikely to occur frequently	

**DRAFT: EXAMPLES OF ADAPTATION KEY RISKS FOR DCMS (FROM ARUP RESEARCH)**

F1 = Flood risk LCIP

D2 = Drought LCIP

HW3 = Heatwave LCIP

SWT4 = South West Tourism LCP

Risk	Points score
High	10-12
Medium	5-9
Low	3-4



Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Property and Assets</b>					
<p>Damage to property and assets from creeping changes to climate e.g.</p> <ul style="list-style-type: none"> <li>• an Increased rate of chemical reactions, accelerated biodeterioration of materials and contents ○</li> <li>• a change in annual number of freeze/thaw cycles, particular pressure on outdoor built structures ○</li> <li>• changes to soil moisture levels / water table height leads to ground movement and subsidence threat to the stability of buildings and ruins, cracking of render ○ ◆</li> <li>• increase water penetration through roofs and (exterior) walls affecting the integrity of the building surface. ○</li> <li>• damage to buried archaeology, wall paintings, frescos and other decorated surfaces, including rock art. ○</li> </ul>	●	●	●	11	<p>All sectors (particularly museums, galleries and heritage)</p> <p>English Heritage (all sectors when planning building design and construction projects)</p>








Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Property and Assets (cont.)</b>					
<p>Flooding of destination, attractions, accommodation, and all types of buildings. Flooding includes flash flooding, and</p> <p>Erosion of buildings. Inundation and contamination from 'dirty' water (sewerage), or run-off from agricultural land which can be highly corrosive ○</p> <p>Damage to essential infrastructure serving buildings</p> <p>Damage also from heat waves and higher wind speeds ○</p> <p>F1, F2, F3, F6, F7, F9, F10, F12, F13</p> <p>SWT 1, SWT 2, SWT 3, SWT 4, SWT 7, SWT 8, SWT 9, SWT 10, SWT 11, SWT 17, SWT 19, SWT 22, SWT 24-28, 40-45, SWT 47-49, SWT 51-56</p>	●	●	●	12	All sectors
<p>Post-flood drying, risk of subsidence of buildings and excavated archaeology ○</p>	● Death from LCIP – Gloucester floods	●	●	12	Heritage
<p>Damage to archives from changes to temperature and humidity post heat wave</p>	●	●	●	8	Heritage

Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Staff and Visitors</b>					
Cancelled events ♦ or tourist / visitors / staff, suffer death, illness from flooding or heat stress, respiratory problems, lethargy or feel uncomfortable during heat wave / flood □ Flooding of staff / visitor homes prevent them visiting destinations H9; H11; H12; H13; H19 SWT 1, SWT 2, SWT 3, SWT 4, SWT 7, SWT 8, SWT 9, SWT 10, SWT 11, SWT 17, SWT 19, SWT 22, SWT 24-28, 40-45, SWT 47-49, SWT 51-56	●	●	●	10	All sectors Department of Health interdependency)
Increase in tourist numbers due to a warmer climate in the UK and destinations abroad becoming less appealing if they become too hot or suffer from invasions of pests or animals such as jelly fish ○ □ Longer season ♦ More visitors to sea side as leaving cities. Is this good for the sea side? ♦ H5, SWT 5, SWT 29, SWT 31, SWT 32, SWT 37, SWT 38 SWT 44	●	●	●	10	All sectors particularly Tourism sector

Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Staff and Visitors (continued)</b>					
Venues with air conditioning will be more desirable ♦	●	●	●	10	All sectors
<b>Critical services (e.g. energy, water and transport)</b>					
Flooding (including urban flooding) damage to essential infrastructure (transport, energy supply, water supply, sewerage and urban drainage systems). ○ loss of water supplies as flooding of water treatment works □ F2, F6, F9 ♦	●	●	●	12	All sectors
Transport routes become unusable during heat wave and / or floods □ Transport problems (e.g. rail buckling, roads melting) – cause problems for staff, visitors, loans (?), building work ♦ Tube red hot ♦ H18	●	●	●	11	All sectors Department for Transport interdependency
Energy and water infrastructure fails during heat (also during drought water could be cut) □ H1, H2, H3, H19, H26	●	●	●	12	All sectors Business need – estate management

Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Critical services (e.g. energy, water and transport) (cont.)</b>					
Damage to basic food supplies e.g. bakers <input type="checkbox"/> (SWT 4) and loss of supply chain <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10	All sectors
Overstretching of emergency services <input type="checkbox"/> F11 <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	11	All sectors
<b>Finance and Insurance</b>					
Energy costs rise as demand greater (e.g. air conditioning during heat waves increases demand) <input type="checkbox"/> , increasing overheads and greenhouse gas emissions <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10	All sectors Business need – estate management
Flood costs increase insurance premiums, <input type="checkbox"/> F4, F12 <input checked="" type="checkbox"/> , or insurance may become unobtainable, long term rising costs to mitigate risk <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10	All sectors
Damage to all sectors from climate change impacts makes funding for DCMS sectors harder to obtain, and pressure for DCMS funding (e.g. could be diverted to repairing damage) <input checked="" type="checkbox"/> It could be tricky to forecast / gain investment when unsure of the Impact of climate change on tourism figures <input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	9	All sectors

Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Finance and Insurance (cont)</b>					
Creation of new / better assets e.g. greener buildings ♦ to cope with heat	●	●	●	10	All sectors
<b>Outdoor Space</b>					
Water shortages leading to restrictions on water uses (e.g. hosepipe ban) or supplies (e.g. stand pipes). Difficulties in maintaining parks, gardens, historic landscapes, golf courses, natural turf playing fields – drought, plant management ○ □ D1, D2, D3, D4, D7, D10, D11, D12, D13	●	●	●	10	All sectors (particularly Royal Parks, Heritage, sports grounds)
Increased demand for public space, opportunity for outdoor events ○ and media attention ♦, and café culture ○ □ SWT 13	●	●	●	8	All sectors (policy decisions)
More intense winter rainfall leads to erosion of upland footpaths ○, greater risk of landslip, erosion of soil silts up lakes and tarns ○ Potentially, the loss of some beaches through sea level rise and loss of access to others due to tide cut-off ○	●	●	●	8	Tourism

Impact	Consequence (includes missing opportunities)	Vulnerabilities	Likelihood of climate hazard occurring (rather than impact)	Risk Score	Sectors affected – note for high risks whether all sectors are affected or particular sectors.
<b>Communications</b>					
The role for DCMS in helping society to adapt to climate change through their communication remit. ♦				10	All sectors
Cancellation / postponement of events ♦ Post-disaster tourism / PR				10	All sectors
London 2012 Olympic and Paralympic Games				10	Government Olympics Executive (and Royal Parks, cultural and tourism sectors)







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Roof of The Winter Garden, Sheffield  
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department for  
culture, media  
and sport

2-4 Cockspur Street  
London SW1Y 5DH  
[www.culture.gov.uk](http://www.culture.gov.uk)