



**Brighton & Hove
City Council**

**Report of the Overview and Scrutiny Commission
Overview and Scrutiny Panel**

July 2010

**Climate Change Adaptation Scrutiny Panel
Volume 1: Summary of Panel**

'Planning for a changing local climate'

Panel Members

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Councillor Tony Janio
Councillor Vicky Wakefield-Jarrett**

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1. Chair's Introduction

- 1.1 'Climate change' sounds a very abstract idea, and it can seem a long way off. But if we re-cast it as 'extreme weather', it becomes much more immediate and vivid. Climate change is not just the prediction that average temperatures will gradually rise: it also involves expectations of much more extreme weather, including some very cold spells, but also and more commonly long periods of drought, unprecedented heat waves and greater storminess. Some of these extremes are already becoming visible – and they will get worse.
- 1.2 This is why Brighton & Hove City Council decided it was time to set up a Scrutiny Panel with the task of asking how far the city is prepared for these extremes and advising on how it can better develop the capacity to respond when these (individually unpredictable) extreme weather events occur in future. The Panel rightly spent most time on the problems that extreme weather can bring, but it also looked at opportunities that will come as well, for example in tourism.
- 1.3 Asking how we can all adapt to climate change is not at the expense of continuing the very considerable efforts that the city is already making to mitigate climate change, for example by promoting renewable energy and making our buildings more energy efficient. We are already locked in to some degree of climate change, so mitigation and adaptation are complementary to each other, not competitive. The more successfully we mitigate, the less we will have to adapt, so mitigation remains just as important as ever.
- 1.4 Adapting better to climate change is not just an environmental issue, or even just a sustainability issue. It pervades all areas of social and economic life, business continuity being an important and obvious one. It also required us to look at the preparedness of the emergency services and of the city's capacity to manage public health issues that extreme weather makes of vital importance. This pervasiveness meant that we had to call for evidence from an exceptionally wide range of witnesses, and in the end we received evidence, all of it of high quality, from 24 people representing 15 organizations. The pervasiveness of the issue also means that we think it vital that capacity to adapt is an issue for not just the Council but also for the LSP and for a wide range of voluntary organizations. And because the consequences of extreme weather will not always be confined to the city boundaries, and may often have origins outside the city (for example flooding) it is also vital that the city aims to develop co-operative and sometimes common arrangements with neighbouring local authorities.
- 1.5 My thanks go the Panel members [named] who gave a great deal of time and thought to the task, and to the many expert witnesses who were also unfailingly helpful, often including providing post-interview information. Finally, thanks are due to the council officers who gave

their support and especially to Karen Amsden, who has done a first-rate job in the Scrutiny team.

Professor Gordon MacKerron

2. Executive Summary and list of Recommendations

2.1 This section provides a summary of the report and lists the full set of recommendations arising from this scrutiny review.

A. Executive Summary

What is climate change adaptation?

2.2 The breadth of the issue is shown in the following description of adapting to climate change:

*'... the process of building resilience and preparing households, businesses, infrastructure, public services and vulnerable parts of our society to cope with the impacts of climate change, and to take advantage of any new opportunities that result.'*¹

The key focus of this report

2.3 The Panel was established to investigate what work needed to be done to prepare Brighton & Hove (B&H) for the possible effects of a changing local climate.

Why is adaptation important to the city?

2.4 Evidence to the Panel stressed that while this is a vital issue for the whole world, there is a need to develop local solutions.

2.5 Brighton & Hove because of its location by the sea, as well as other characteristics, is vulnerable to wide range of risks which could result from a changing climate and more extreme weather. These include:

- Flooding
- Heat waves
- Coastal erosion

2.6 The city also needs to prepare for the opportunities that can be created by a changing climate, such as:

- Increasing tourism
- Growing business opportunities for environmental industries

¹ Parliament Website, <http://www.parliament.uk/business/committees/committees-archive/environmental-audit-committee/inadaptation/>

The financial consequences of failing to adapt

- 2.7 While preparing to adapt may require significant resources, research has found that the financial consequences of failing to adapt could be significantly higher.
- 2.8 The 'Mini-Stern for Manchester' report by Deloitte concluded that 'a *failure to adapt*' scenario could result in the Manchester region losing an estimated **£20 billion** over the next 12 years to 2020.²

The key findings

- 2.9 The Panel received a substantial amount of evidence on the potential impacts of climate change and how best to adapt to such changes. Examples of the issues that were highlighted, include:
- The city, like the rest of the UK, is finding it challenging to cope with the existing levels of extreme weather, such as the 09/10 winter snow
 - Brighton & Hove City Council (BHCC) could learn from the good practice of other local authorities, such as Kent and Hampshire, who have successfully taken on the 'civic leadership' role in relation to adaptation
 - While some BHCC services are making good preparations for adaptation, a questionnaire sent out to the Council's service heads highlighted the 'variability'³ in how well these services understood adaptation issues and the actions they were taking to prepare
 - The Council is currently not making the expected rate of progress in the national indicator NI188 (which is a process based indicator designed to measure the progress of a local area in assessing and addressing the risks and opportunities of climate change)
 - The potential for harnessing community resources to prepare for a changing climate
 - Preparing to adapt to the possible climate changes is a continual process and currently there is a need to focus on building capacity to prepare for these changes

How can the city best adapt?

- 2.10 The 2006 Climate Change Action Plan for B&H focussed on mitigation and council services. Since then it has been recognised that there needs to be both adaptation and mitigation responses to the changing climate. The most useful focus for the city would be to prepare for the potential effects of such changes. The evidence from this review shows

² Mini-Stern for Manchester, Deloitte (2008) http://www.deloitte.com/assets/Dcom-UnitedKingdom/Local%20Assets/Documents/UK_GPS_MiniStern.pdf

³ Assessment of the returns from the adaptation questionnaire sent out to all service heads in BHCC

that the most effective way is for the city to plan together. Like BHCC, a wide range of partners in the city are planning to adapt, but are making progress at varying levels and would benefit from closer co-working.

2.11 The Panel believe that a city wide approach is needed, facilitated by bodies such as the Brighton & Hove Strategic Partnership and BHCC. This could make it possible to avoid, or minimise, the difficulties that many local authorities are experiencing as they prepare to adapt. According to evidence given to the Panel these include:

- Avoiding duplication
- Sharing resources
- Learning from best practice
- Improving joint working⁴

Conclusion

2.12 Adapting to a changing climate is a complex issue. There are significant levels of uncertainty and not yet known resource implications. Despite increasing awareness of this issue and much positive work on mitigation; the city has not yet progressed, or prioritised, adaptation to the same extent as some other localities.

2.13 The Panel believes that improved partnership working, leadership, and monitoring could help to take this issue forward significantly in B&H. It has developed 13 recommendations aimed at developing the **capacity of the city** to:

- Generate and use knowledge about climate change adaptation
- Use the knowledge of the key threats and opportunities presented by extreme weather to determine how it needs to adapt
- Build sufficient capacity to continually adapt to climate change
- Build and strengthen partnerships to deliver adaptation
- Enable its community to prepare for extreme weather
- Identify the resources needed to adapt
- Commission and deliver services that are adapting to climate change
- Embed and implement climate change adaptation
- Meet the requirements of National Indicator NI188

⁴ Evidence from Panel Meetings

Recommendations of the Climate Change Adaptation Panel

- 1. The Panel recommends that a more prominent role is given to the risk management of climate change adaptation and preparing for extreme weather. To reflect this, a Cabinet Member should be identified as being both responsible for the issue and accountable for the implementation of the Panel's recommendations.**
- 2. The Panel welcomes the identification of resources to undertake a Local Climate Impact Profile (LCLIP). The Panel believes that resources also need to be identified to carry out an analysis of the implications of the UK Climate Projections data (UKCP09) for the city of Brighton & Hove.**
- 3. The Panel welcomes the development of a revised Climate Change Action Plan (CCAP), which addresses both mitigation and adaptation in the city. The Adaptation Section of the Plan should be based on the work of this Scrutiny Panel. The Panel recommends that the Brighton & Hove Strategic Partnership monitors the progress of the outcomes of the CCAP.**
- 4. The Panel recommends that the Climate Change Action Plan is monitored on a biennial basis (every 2 years), including an assessment of where we are and how well the city is adapting. This would include a report back to the Cabinet Member who is responsible for climate change adaptation (see recommendation 1).**
- 5. The Panel believes National Indicator 188 (NI188) is a worthwhile indicator, because it can effectively measure the progress of local areas in assessing and addressing the risks and opportunities of climate change. The Panel recommends continued use of the process outlined in NI188, even if the National Indicators and Local Area Agreements (LAAs) are changed or scrapped, unless a better method of assessing progress replaces it.**

The Panel recommends that NI188 is placed within the LAA, if it continues post 2010/11. This would demonstrate the importance of this issue to the city. It would also provide a focus on the need to set, and meet, a challenging timetable for taking the city through the stages of the indicator as it pro-actively prepares to adapt to climate change.

- 6. The Panel believes that the challenges of adaptation cannot be met by statutory agencies alone. The Panel recognises the importance of existing mechanisms such as Local Area Action Teams and the voluntary sector, to develop the capacity of communities to adapt to increasingly extreme weather in the city. A learning and development programme needs to be produced to assist these champions. This work could be linked to the Climate Connections project.**

7. The Panel recommends that climate change resilience and business continuity needs to be a high level outcome which is built into the new Intelligent Commissioning Model.

8. The Panel recommends that an Adaptation Test⁵ should be developed for publicly commissioned services. These services would be required to use the test to demonstrate how they are planning to face the challenges of adaptation.

This test could contain a set of questions, such as:

*'Have you identified the possible range of impacts of climate change on the activities and responsibilities of your institution or business, and their timescales?'*⁶

The Panel believe it would also be useful to encourage other businesses in the city to use this test.

(Please note: The panel members discussed this recommendation and while three of panel members approved it, Councillor Tony Janio wanted to record his dissent on this particular recommendation).

9. The Panel welcomes Planning proposals to ensure that developments can adapt to future climate changes. This will be achieved by implementing planning policies which require that new developments in the city must demonstrate that they can adapt to climate change through addressing such issues as flooding, overheating, rain events, storm surges and other climate related impacts. Any new planning documents will be fully informed by relevant studies about climate impacts now and in the future.

10. The Panel recommends that BHCC, and the Brighton & Hove Strategic Partnership, approach neighbouring local authorities and other bodies to identify areas of good practice, undertake a peer review and identify potential areas for cross working.

11. The Panel recognises that the universities and colleges in the city could be used as a valuable resource in building up knowledge about adaptation and engaging with the community. The Panel recommends that this be further explored.

12. The Panel welcomes the awarding of funds for BHCC to develop a Surface Water Management Plan (SWMP). It recommends that the work

⁵ The Adaptation test and 10 indicative questions are from The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

⁶ Ibid, page 111

on the SWMP is developed as a matter of urgency and used, where possible, to bid for funding in this vital area.

13. The Panel believes that it is essential that sufficient resources are identified to be able to carry out the work recommended in this report.

On completion of the work recommended by the Panel, if further resources are needed to address adaptation these should be reported in any further revisions of the Climate Change Action Plan or other relevant strategy documents.

Monitoring of these recommendations:

Once the report has been considered by the council's Executive and has been to Full Council for information, the implementation of agreed recommendations will be monitored 6 monthly and 12 monthly for the first year. After the first year, the recommendations will be monitored annually until all the agreed recommendations have been implemented.

3. HOW, AND WHY, THE PANEL WAS SET UP

- 3.1 The Council's Overview and Scrutiny Commission (OSC) resolved to establish a panel to investigate:

'...what work that needs to be done to make good progress in planning for a changing local climate'.⁷

- 3.2 The OSC also determined:

'That the Panel will consider as one outcome whether or not a scrutiny Select Committee is required to ensure good progress in this work continues'.⁸

3.3 The terms of reference for the Panel

- 1) To gain an understanding of the climate change threats and opportunities facing Brighton & Hove and the impact these will have
- 2) To review the current preparedness of Brighton and Hove City Council (BHCC) and its partners to adapt to the foreseeable consequences of a changing local climate
- 3) To identify through a gap analysis risks that need to be addressed through improved adaptation planning
- 4) To develop a timetable for this work to be undertaken
- 5) To consider the best means through which to monitor progress made in reaching level 4 of National Indicator 188 (NI188)⁹

Why did the Panel focus on NI188?

- 3.4 This indicator is designed to measure annual progress on:

'...assessing and managing climate risks and opportunities, and incorporating appropriate action into local authority and partners' strategic planning'.¹⁰

⁷ Agenda Item 99 for OSC on 10.03.09 [http://present.brighton-hove.gov.uk/Published/C00000164/M00001386/AI00006688/\\$Item99AdaptationtoClimateChange.docA.ps.pdf](http://present.brighton-hove.gov.uk/Published/C00000164/M00001386/AI00006688/$Item99AdaptationtoClimateChange.docA.ps.pdf)

⁸ Minutes of the OSC meeting on 10.03.09 <http://present.brighton-hove.gov.uk/ieListDocuments.aspx?CId=164&MId=1386&Ver=4>

⁹ Scoping report for the Panel dated September 09

¹⁰ Audit Commission Website: <http://www.audit-commission.gov.uk/localgov/audit/nis/Pages/NI188planningtoadapttoclimatechange.aspx>

- 3.5 When the scope of this Panel was being decided, it was felt that NI188 was crucial to framing how the review was conducted and the recommendations were developed. This indicator currently has a 3 year life span until March 2011. Although the future of NI188 is unclear, the Panel believes in the indicator's value because it is designed to ensure that;

*'...local authorities assess and address the risks and opportunities presented by a changing climate, as well as provide a tool for measuring preparedness.'*¹¹

- 3.6 It is a process based indicator which measures a local authority's progress through 5 levels from 'getting started' (Level 0) to 'implementation, monitoring and continuous review' (Level 4). In 2008/9, the first year of submission, BHCC assessed that it was at Level 0, the same level as 51% of the respondents (and 63% of those in the South East).¹²

- 3.7 The Government Office for the South-East (GOSE) has advised local authorities that it expects them to progress roughly a level per year for this indicator.¹³ The expectation is also that:

*'Every Local Authority to be at level 2 as a minimum by **the end of 2011**...LSP partners to be on the same journey & support provided.'*¹⁴

- 3.8 It is clear, therefore, that currently BHCC is not making the expected level of progress with this indicator.

How the recommendations of this Panel are designed to improve performance in NI188

- 3.9 Although BHCC has begun a number of significant stages that are expected as part of Level 1, it assessed itself as remaining at Level 0 for 2009/10.

- 3.10 This is primarily because the Council is yet to complete the Local Climate Impact Profile (LCLIP) – (see paragraphs 7.6-7.13 for further information). If the expected rate of progress is now made, including completing the LCLIP, then BHCC would be able to assess itself as reaching level 1 for 2010/11.¹⁵

- 3.11 To assist this progress, each recommendation of the review will include a table showing how its implementation will contribute to satisfying the relevant criteria for each level of NI188.

¹¹ DEFRA website

¹² IHPC report, NI188 Year 1 Review and Analysis, October 2009

¹³ Advice from Anurag Kher, Climate Change Senior Policy Advisor, 06.10.10

¹⁴ DEFRA briefing workshops presentation on 11/03/09

¹⁵ BHCC self assessment return for NI188, 28.05.10

Panel Meetings

3.12 The Panel met six times to hear evidence and the table below shows the witnesses for each meeting.

WITNESSES WHO GAVE EVIDENCE (IN ORDER OF APPEARANCE)

Name	Title	Organisation
Chris West	Director	UK Climate Impacts Programme
Chris Wick	Operational Manager	Environment Agency
Barry Luck	Sewerage Strategy Manager	Southern Water
Jorn Peters	Regional Planner	South East England Partnership Board
Tony Whitbread	Chief Executive	Sussex Wildlife Trust
Graham Tubb	Head of Energy Policy	SEEDA and Climate South East
Justin Butler	Managing Director	Ambiental
Meyrick Gough	Water Planning Strategy Manager	Southern Water
Mark Prior	Head of Sustainable Transport	Brighton & Hove City Council (BHCC)
Martin Eade	Coast Protection Engineer	BHCC
Martin Randall	Assistant Director – City Planner	BHCC
Paula Goncalves	Senior Planning Officer	BHCC
Matthew Lipson	Assistant Scientist	Committee on Climate Change (Adaptation Sub-Committee)
Gary Ferrand	Assistant Chief Fire Officer	East Sussex Fire and Rescue Service (ESFRS)
Keith Ring	Borough Commander	ESFRS
Thurstan Crockett	Head of Sustainability and Environmental Policy	BHCC
Angela Dymott	Assistant Director, Property & Design	BHCC
Robin Humphries	Civil Contingencies Manager	BHCC
Jackie Algar	Risk & Opportunity Manager	BHCC
Paolo Boldrini		Climate Connections Project
Carolyn McKenzie	Head of Sustainability and Climate Change	Kent County Council
Dominic Kniveton		Sussex Centre for Migration, Sussex University

Tom Scanlon	Director of Public Health for Brighton & Hove	
Jane Simmons	Head of Commissioning and Partnerships	BHCC

3.13 The panel also met in private to discuss the evidence and agree the recommendations. Karen Amsden of the Scrutiny Team met with 7 service heads to discuss adaptation issues

3.14 A questionnaire was sent to all BHCC service heads and the analysis of the responses can be found in Volume 2 of this report.

3.15 From all the evidence obtained, 13 recommendations have been produced.

4. CLIMATE CHANGE – AN OVERVIEW

OUR CHANGING CLIMATE

- 4.1 To understand why it is important for the city to adapt to climate change, it is useful to begin by looking at how the climate may change and what could be the effect.

Current UK weather

- 4.2 A recent report by the Royal Commission on Environmental Pollution (RCEP) described the UK climate as:

*'...temperate. It is not too warm, generally with mild winters and neither too wet nor too dry... However, this seemingly benign situation is frequently punctured by extreme weather events.'*¹⁶

- 4.3 The Environment Agency (EA) told the Panel that:

*'... what has most impact is the severe events like serious flooding or very high temperatures.'*¹⁷

- 4.4 Therefore a focus of this review was to look at the potential effects on the city, if extreme weather events become more frequent as the climate changes.

How might the UK climate change?

- 4.5 The updated UK climate projections (UKCP09) set out the best available local projections for how our climate may change in the future. These projections suggest that broadly there will be warmer, drier summers and warmer wetter winters in the UK by the end of the century.

- 4.6 According the Climate Change Adaptation Sub-Committee (ASC):

'... different studies do show some consistent trends in future UK climate. Among these are:

- *sea level rises in coastal areas;*
- *more frequent extremes of flooding, heat waves and drought;*
- *a reduction in frost days and snow cover;*
- *milder, wetter winters...*
- *hotter, drier summers, with potential rainfall decreases in the South East; and*

¹⁶ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁷ Chris Wick, Minutes of the Panel Meeting on 09.09.09

- *greater average warming in the South...*¹⁸

4.7 Climate change projections tend to present a range of scenarios, because:

*'We should not prepare to adapt to just one future, but a range of futures – as it was not possible at present to tell which one would happen.'*¹⁹

The climate in the South East of England

4.8 According to the Met Office's Hadley Centre, the summer average temperature rise in the South East (SE) of England by the end of the century is very likely to be above 2 °C and below 6.4 °C. The central estimate is 4 °C.²⁰

4.9 Their key findings for the SE of England can be found at <http://ukclimateprojections.defra.gov.uk/content/view/2155/528/>. The information is offered at 30 year intervals from 2020 to 2080 and from low to high scenarios. The information focuses on:

- Temperature
- Precipitation
- Sea level rises and storm surges

(See Appendix C for an example of the medium scenario for SE of England in 2050.)

What changes could pose the biggest risks to B&H?

4.10 Evidence provided to the Panel suggested that increasingly extreme weather and a changing climate could pose the following key risks to the city:

- Increased likelihood of flooding (including surface water flooding)
- Heat – heat waves and urban heat island effect
- Managing water resources

4.11 Other vulnerabilities which were highlighted by witnesses, included:

- Coastal erosion
- Cliff protection
- Storm surges

¹⁸ Climate Change Adaptation Sub-Committee website
<http://www.theccc.org.uk/asc-home/climate-impacts>

¹⁹ Chris West, Minutes of the Panel Meeting on 09.09.09

²⁰ Met Office website
<http://www.metoffice.gov.uk/climatechange/guide/quick/impacts.html>

- Snow and the increased impact of extreme weather conditions
- Effects of increasingly extreme weather on vulnerable groups
- Ensuring the resilience of the city's infrastructure
- Insufficient drainage
- Highway drainage
- Sewerage capacity
- Wildlife impacts
- Sea water levels
- Health impacts
- Business continuity

How extreme weather can affect the delivery of council services

4.12 The potential effects of a changing climate will be covered in greater detail in Chapter 5. However, the winter of 09/10 is an example of the impact extreme weather can have on the city. A separate Scrutiny Panel was set up to look at how BHCC and its key partners had been able to respond to the challenges posed by the:

'...extensive disruption caused by the severe snow and ice over the Christmas and New Year period'.²¹

4.13 The review considered the level of resources needed to respond to this weather and concluded:

'...that a balance needs to be struck between being sufficiently prepared to cope with severe winter weather, and the need to be proportionate in allocating resources to cope with eventualities that happen only infrequently'²²

4.14 The Winter Service Panel (WSP) concluded that:

'Key to deciding how much resource to commit is an understanding of the probable frequency of such severe winter weather'.²³

4.15 The WSP welcomed the work of this Adaptation review because it would make:

'... a recommendation of which will be the allocation of resources to help the council and partners better understand future climatic trends, including through the Local Climate Impacts Profile (LCLIP)'.²⁴

²¹ Winter Service Plan Review Scrutiny Panel Report, Volume 1, March 2010.

²² Ibid

²³ Ibid

²⁴ Ibid

CLIMATE CHANGE POLICIES

4.16 This section describes the national, regional and local policy framework which has been established to prepare for a changing climate. This demonstrates both the importance of the issue and the expectation that government at all levels is working to adapt to a changing climate.

Climate Change Act 2008

4.17 This Act introduced new powers and duties on climate change adaptation and mitigation. For adaptation it established:

- A Committee on Climate Change (CCC) to advise on setting carbon budgets and reporting progress on reducing greenhouse gases
- A UK-wide Climate Change Risk Assessment (CCRA) that must take place every 5 years
- A National Adaptation Programme to address the most pressing climate change risks, which must be reviewed every 5 years
- A government power to require 'bodies with function of a public nature' and 'statutory undertakers' (e.g. water utilities) to report on how they have assessed the risk of climate change

Adaptation Sub-Committee (ASC)

4.18 This sub-committee of the CCC was also established under the Climate Change Act. It has the following objectives:

- To advise on the development of a CCRA for the UK
- To assess the preparedness of the UK to meet the risks and opportunities arising from climate change
- To promote effective actions to adapt to climate change by society as a whole²⁵

4.19 Matthew Lipson of the ASC fed back to the Panel, that:

*'...from the information provided to him ... that Brighton & Hove was doing a great deal to reduce the impact of climate change. However much is being done to mitigate against the effects of climate change, we also need to adapt.'*²⁶

The National Adaptation Programme

4.20 This is a cross-government programme coordinated by the Department for Environment, Food & Rural Affairs (Defra), whose projects include:

²⁵ Preparing for Climate Change – Adaptation Sub-Committee work programme, December 2009 <http://hmccc.s3.amazonaws.com/ASC/ASC%20Booklet%20-%20SCREEN.pdf>

²⁶ Matthew Lipson, Minutes of the Panel Meeting on 01.02.10

- UK climate change risk assessment
- Adaptation reporting power
- Government departments' adaptation plans

UK Low Carbon Transition Plan

4.21 This Plan was published in 2009, and outlines the previous Government's five key actions to tackle climate change. It placed a strong emphasis on adaptation and the priorities include:

- Protecting the public from immediate risk – including increased expenditure on flood protection planning and developing NHS heat wave plans
- Preparing for the future – including changing the way homes are built and altering agricultural practices²⁷

The Local and Regional Adaptation Partnership Board

4.22 This was established in 2008 by Defra to assist climate change adaptation at a regional and national level. Their work includes:

- Highlighting best practice
- Enhancing skills
- Encouraging joint working

4.23 Climate change is also part of the local performance framework which includes:

a. The national indicators

This set of indicators includes *NI188: Planning to adapt to climate change* (which is discussed in further detail under Recommendation 5

b. Local Area Agreements

Local Area Agreements (LAAs) span three years and represent an agreement between Local Strategic Partnerships (LSPs) and central government about their priorities for improving performance. Ninety percent of LAAs include one or more climate change indicators among their agreed targets, and more than a third included NI188.²⁸ At the time of writing this report it was not clear whether LAAs would continue post 2010/11.

²⁷ UK Low Carbon Transition Plan (2009), http://www.decc.gov.uk/assets/decc/white%20papers/uk%20low%20carbon%20transition%20plan%20wp09/1_20090724153238_e_@@_lowcarbontransitionplan.pdf

²⁸ IDEA website

A revised Climate Change Action Plan for the city

- 4.24 The evidence and recommendations from this Scrutiny Panel will inform the Adaptation section of the Climate Change Action Plan, which is due to be published later in 2010.

ADAPTING TO CLIMATE CHANGE

4.25 Evidence to the Panel stressed how important it was for the city to prepare effectively for the possible effects of climate change. Actions to respond to climate change can be described as either adaptation or mitigation measures.

What is adaptation and mitigation?

4.26 Although definitions can vary significantly, according to the International Panel on Climate Change (IPCC), adaptation refers to the:

'Initiatives and measures to reduce the vulnerability of natural and human systems against actual or expected climate change effects'²⁹

4.27 Whereas, mitigation is described as:

'...implementing policies to reduce GHG³⁰ emissions and enhance sinks [which is any process, activity or mechanism which removes a greenhouse gas or aerosol]'³¹

4.28 The difference between them can be summed up as:

*'While mitigation tackles the **causes** of climate change, adaptation tackles the **effects** of the phenomenon.'³²*

Fitting them together

4.29 While these forms of response to climate change are often looked separately, The Director of the UK Climate Impacts Programme (UKCIP) stressed to the Panel the importance of:

'...fitting adaptation and mitigation [because]... even if it is possible to stop future climate change, change has already happened – so need to do both things at the same time.'³³

What is the purpose of adaptation?

4.30 The IPCC defines adaptation as having 3 possible objectives:

- To reduce exposure to the risk of damage
- To develop the capacity to cope with unavoidable damages
- To take advantage of new opportunities³⁴

²⁹ IPCC, <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-annex1.pdf>

³⁰ Green House Gas

³¹ IPCC, <http://www.ipcc.ch/pdf/assessment-report/ar4/wg3/ar4-wg3-annex1.pdf>

³² My emphasis, Global Greenhouse Warming website <http://www.global-greenhouse-warming.com/climate-mitigation-and-adaptation.html>

³³ Chris West, Minutes of the Panel Meeting on 09.09.09

4.31 The IPCC have concluded that:

*'Adaptation will be necessary to address impacts resulting from the warming which is already unavoidable due to past emissions.'*³⁵

Why this panel focussed on scrutinising adaptation in the city

4.32 The Panel strongly supported the Director of UKCIP's view that mitigation and adaptation need to be undertaken at the same time because we are already locked in to significant climate change. The focus on adaptation for this report is because there had been relatively much less work done in the city on adaptation than mitigation. In addition, there is the need to develop the Adaptation section of the Climate Change Action Plan for the city and improve our performance in National Indicator 188 (NI188).

4.33 The scoping report emphasised the need for the Panel to consider the possible impacts of climate change on the city and use this information to build adaptation into:

*'...the Council's everyday planning and risk management processes. Resilience needs to be built into the services, plans and strategies of the Council and its partners.'*³⁶

Business continuity

4.34 The Panel were also keen to focus on how the city could adapt to a changing climate, in order to secure business continuity.

Different kinds of adaptation

4.35 The guidance on NI188 distinguishes between Building Adaptive Capacity and Delivering Adaptation Actions:

1. Building Adaptive Capacity

This covers many of the adaptation responses that will be taken, especially in the first instance. These include:

- Undertaking research, institutional change, education and training,
- Creating standards and legislation, management, and resources
- Developing policies, plans, strategies³⁷

³⁴ Cited in 'Adapting Institutions to Climate Change, summary report, Royal Commission on Environmental Pollution' (2010)

³⁵ IPCC, Fourth Assessment Report: climate change (2007)

http://www.ipcc.ch/publications_and_data/ar4/wg2/en/spmssp-d.html

³⁶ Scoping report of Panel

2. Delivering Actual Adaptation

This is a combination of physical and non-physical actions, examples of which include:

- Building flood defences or managing retreat
- Putting more nails in a roof tile, increasing the diameter of a drain
- Creating 'siesta' times in a business or locality³⁸

The focus of this report

4.36 In this report, the focus of the findings and recommendations are primarily on Building Adaptive Capacity. Once this capacity has been built, then the city will be better placed to deliver the actual adaptation.

4.37 This approach is also adopted in the recent report by the Royal Commission on Environmental Pollution (RCEP). Their diagram on the following page sets out the stages an organisation would need to go through to build their adaptive capacity:

- **Framing** – includes considering the key missions of the organisation, competing with other priorities
- **Learning** – includes generating and sharing knowledge, innovation
- **Implementation** – includes considering how to co-ordinate resources and distribute costs³⁹

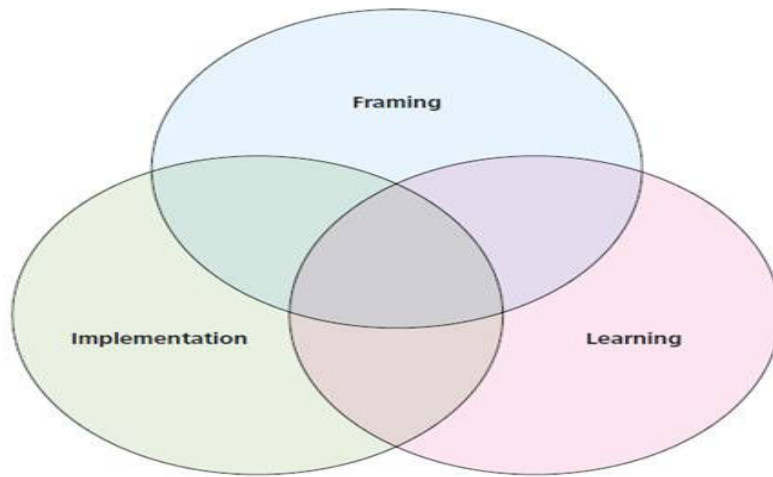
³⁷ UKCIP report, Getting to level 2 of NI188, (2010) <http://www.gos.gov.uk/497648/docs/169206/638522/808099/NI188gettingtolevel2>

³⁸ UKCIP report, Getting to level 2 of NI188, (2010) <http://www.gos.gov.uk/497648/docs/169206/638522/808099/NI188gettingtolevel2>

³⁹ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

Schematic illustrating framing, implementing and learning

Framing, implementing and learning are components of a flexible, iterative, non-linear framework. Organisations will typically start by framing the problem. The components will often overlap, for example organisations will learn throughout their framing and implementing. Public engagement should support all three components.



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⁴⁰ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

5. ADAPTING BRIGHTON & HOVE

How could the city benefit from adapting?

5.1 It is important to recognise that a city that is adapting well to a changing climate can achieve many local benefits. According to the Improvement and Development Agency (IDEA), these include opportunities to:

- *Reduce household and business costs by improving buildings so that they can withstand severe weather*
- *Reduce disruption of households, local services, businesses and agriculture by preparing them for the impacts of climate change*
- *Create local jobs – the Local Government Association (LGA) estimate that 150,000 new jobs can be created from climate change measures including building resilience to climate change*
- *Save the council money by reducing damage to council property from severe weather*
- *Access new resources – there is a range of support and funds for councils for work on climate change⁴¹*

5.2 This was confirmed in the recent Environmental Industries Inquiry conducted by the Scrutiny team, which concluded that this sector provided:

*‘...an important enterprise opportunity for the city’.*⁴²

Why does the city need an adaptation strategy?

5.3 The RCEP anticipates that:

*‘... actions that we take to improve our capacity to cope ... are likely to be **local and specific to particular circumstances** – there is not a one size fits all solution. Nor is there an adaptation ‘end point’; the need for adaptation is ongoing.’*⁴³

5.4 In a briefing paper for the Panel, The Environment Agency (EA) made an assessment of what more BHCC and the Brighton & Hove Strategic Partnership could do to adapt. The paper highlighted the need to build adaptive capacity, because:

⁴¹ IDEA website guidance on Adaptation

<http://www.idea.gov.uk/idk/core/page.do?pagelid=9377463>

⁴² Environmental Industries Inquiry, BHCC, (2009) <http://present.brighton-hove.gov.uk/mgConvert2PDF.aspx?ID=14313>

⁴³ My emphasis, ‘Adapting Institutions to Climate Change, summary report, Royal Commission on Environmental Pollution’ (2010)

*'...a lot of climate change activities and plans have been undertaken but [there was] no clear overarching plan or monitoring.'*⁴⁴

- 5.5 The Council's Assistant Director for Property and Design agreed that there was the need for:

*'... a structured plan which brings all the adaptation issues together.'*⁴⁵

- 5.6 The production of a revised Climate Change Action Plan for the city, with an Adaptation Section, is addressed in **Recommendation 3**.

⁴⁴ Briefing Note from the Environment Agency for the Panel, for the meeting on 09.09.09

⁴⁵ Angela Dymott, Minutes of the Panel Meeting on 01.02.10

WHAT RISKS COULD CLIMATE CHANGE BRING TO THE CITY?

5.7 This section summarises the evidence which the Panel heard about the potential risks that the city could face, as the climate changes.

How vulnerable is the city?

‘Fundamentally adaptation is about understanding the vulnerability (open to risk or damage) of Brighton and Hove to the consequences of climate change. Local characteristics such as natural features, the built environment and socio-economic factors will have an important role in the degree of vulnerability faced.’⁴⁶

5.8 Evidence provided to the Panel highlighted that the weather could become increasingly extreme or severe. This could pose a range of risks to the city, including:

- Flooding
- Heat – heat waves and urban heat island effect
- Managing the water supply
- Coastal erosion
- Storm surges
- Snow/increased impact of adverse weather conditions
- Population changes
- Drainage
- Highway drainage
- Sea water levels

Flooding

5.9 The East Sussex Fire and Rescue Service (ESFRS) told the Panel that key risks for the city, related to flooding, were:

- *Tidal and fluvial flooding*
- *Coastal erosion*
- *Ground water flooding (the most significant risk for the city)⁴⁷*

5.10 The Service’s area of responsibility covers both Brighton & Hove and East Sussex. Around 63,000 people in this area (8.4% of the population) live in flood risk zones.⁴⁸ ESFRS have carried out a significant amount of modelling work to look how the changing climate could impact on their service:

‘...which has shown that London Road and Lewes Road are the most vulnerable roads in the city...These 2 roads are built on riverbeds and populated with old Victorian buildings, often with basements. In the

⁴⁶ Scoping report for the Panel, September 09

⁴⁷ Gary Ferrand & Keith Ring, Minutes from the Panel Meeting on 01.02.10

⁴⁸ Ibid

*event of any flooding, these buildings would present a significant demand on EFRS resources.*⁴⁹

5.11 This modelling work is carried out by the EFRS because:

*'The speed of response is important to the service, because one could expect higher levels of fatalities if they have a lower response time. This could make the difference between life and death.'*⁵⁰

5.12 The financial consequences of flooding were also emphasised in a presentation from Ambiental, a consultancy firm specialising in high resolution flooding risk assessments, which stressed that:

*'In 2007, £3bn had been lost to pluvial flooding. Climate change meant that flooding was becoming more intense and lasting longer and bringing greater rainfall in winter.'*⁵¹

5.13 A representative from Southern Water told the Panel that:

*'For the water industry there was no real good news as all the changes would make the matter worse [including the possibility of] ... increased flooding.'*⁵²

5.14 He also highlighted the need to take measures to increase resistance to flooding (e.g. placing boards against doors) and to increase resilience (e.g. not placing carpets on ground floors).

Who is responsible for flooding in the city?

5.15 The Flood and Water Management Bill received Royal Assent on 8th April 2010. Its key aim is to:

*'...provide better, more comprehensive management of flood risk for people, homes and business.'*⁵³

5.16 This will be achieved by giving:

*'The Environment Agency an overview of all flood and coastal erosion risk management and unitary and county councils the lead in managing the risk of all local floods.'*⁵⁴

5.17 Southern Water told the Panel that this represented:

⁴⁹ Gary Ferrand & Keith Ring, Minutes from the Panel Meeting on 01.02.10

⁵⁰ Ibid

⁵¹ Justin Butler, Minutes from the Panel Meeting on 02.12.09

⁵² Barry Luck, Minutes of the Panel Meeting on 09.09.11

⁵³ DEFRA website <http://www.defra.gov.uk/environment/flooding/policy/fwmb/>

⁵⁴ Ibid

*'...a better clarification of responsibilities and greater local authority responsibilities.'*⁵⁵

- 5.18 This issue was raised in evidence given by the ESFRS, who highlighted that:

*'In the event of potentially catastrophic flooding, e.g. in 2007, the local authority would now have to take responsibility.'*⁵⁶

- 5.19 The Fire Service also reminded the Panel that they were not:

*'...statutorily legislated to respond to flooding and it is not funded for this activity.'*⁵⁷

- 5.20 However, the Fire Service was able to draw on the resources of West Sussex Fire and Rescue Service (WSFRS), due to:

*'...good reciprocal arrangements [with WSFRS] as a result of the 'mutual assistance' arrangements specified by the Fire & Rescue Services Act.'*⁵⁸

- 5.21 Southern Water (SW) felt that:

*'All partners need to get together and understand floods, who was responsible for them and who dealt with them.'*⁵⁹

Drainage

- 5.22 A representative of SW told the Panel that:

*'The drainage system for B&H was very old and new sewerage systems should be able to deal with the 1 in 30 year event'*⁶⁰

- 5.23 According to the Council's Head of Sustainable Transport:

*'In 2000 the historic nature of the infrastructure meant that after the rainfall, the drainage did not work. There was insufficient capacity to deal with flooding through the current highway drainage.'*⁶¹

- 5.24 He suggested that the money awarded for Surface Water Management Plan (SWMP) could be used to look at this issue. This issue will be addressed further under **Recommendation 12** regarding the SWMP.

⁵⁵ Barry Luck, Minutes from the Panel Meeting on 09.09.09

⁵⁶ Ibid

⁵⁷ Gary Ferrand & Keith Ring, Minutes from the Panel Meeting on 01.02.10

⁵⁸ Ibid

⁵⁹ Barry Luck, Minutes from the Panel meeting on 09.09.09

⁶⁰ Ibid

⁶¹ Mark Prior, Minutes from the Panel Meeting on 11.01.10

Sewerage

5.25 Southern Water identified as an *'increasing risk'*⁶² to the city, that:

*'The sewerage system in B&H is quite resilient but cannot absorb much above the 1 in 50 year event.'*⁶³

5.26 Therefore concern focussed on the possible increases in frequency and intensity of storms and the capacity of the sewers to deal with them.

Reducing water use

5.27 According to the EA, the South East of England is a *'water stressed region'*. There is a need to reduce water use in the city because:

*'The average water use in B&H is 169 litres, which was above the 150 litres national average.'*⁶⁴

5.28 Southern Water told the Panel that climate change had a fourfold effect on water management:

- Reducing river flows and groundwater availability
- Increases the frequency of hot dry summers, which then has an impact on demand
- Influence the future resource schemes they will be implementing over the next 25 years
- The need to reduce their carbon footprint and future footprint⁶⁵

5.29 The conclusions from their modelling work:

*'...indicated that the issue of ground water supply was not as great, but there could be a stark reduction in surface water.'*⁶⁶

5.30 To reduce water use, SW:

*'...would be applying for 100% water meter penetration for domestic use.'*⁶⁷

5.31 A member of the Panel expressed their concern that:

'...there would be a large group of people in this city who just miss out on qualifying for the social tariff. There is also the problem for private

⁶² Barry Luck, Minutes from the Panel Meeting on 09.09.09

⁶³ Ibid

⁶⁴ Chris Wick, Minutes from the Panel Meeting on 09.09.09

⁶⁵ Meyrick Gough, Minutes from the Panel Meeting on 11.01.10

⁶⁶ Ibid

⁶⁷ Barry Luck, Minutes from the Panel meeting on 09.09.09

*sector tenants, where the landlord has not carried out repairs but the tenant is blamed and/or landed with the bill.*⁶⁸

5.32 Southern Water assured the Panel that this was a *'consideration'*⁶⁹ which has been included in the tariff scheme and confirmed that they favour a *'soft landing approach'*.^{70 71}

5.33 The EA told the Panel that it is carrying out research on whether climate change will increase the likelihood of severe drought events like the drought of 2005/6:

*'Brighton and Hove has high quality drinking water, but it is all allocated. It was not believed that there was any more large scale water resource that could be made available...The Environment Agency believed that we must reduce the per capita use of water...which would also increase drought resilience.'*⁷²

Coastal erosion

5.34 The city's emerging Core Strategy⁷³ recognises the importance of monitoring the cliffs to:

*'...understand more fully how [they] ...will react to changing climate in the next 50 years.'*⁷⁴

5.35 It also:

*'...adopts a risk-based approach to all new cliff development and will ensure proposals are examined rigorously in respect of cliff stability.'*⁷⁵

5.36 The Panel heard that cliff protection in relation to the A259:

*'...is a critical issue, since there was a significant collapses in 2001 that resulted in two stabilisation exercises.'*⁷⁶

⁶⁸ Minutes of the Panel Meeting on 11.01.10

⁶⁹ Meryick Gough, Minutes from the Panel Meeting on 11.01.10

⁷⁰ The Soft Landing Approach means that over the first 18 months of metering customers would be sent 3 bills, each setting out how much they would normally charged and how much the charge would be by use according to the meter. The customer will be charged the lesser amount, and receive a credit if they reduce their consumption. Alongside this the customer will be offered water efficiency advice.

⁷¹ Meryick Gough, Minutes from the Panel meeting on 11.01.10

⁷² Chris Wick, Minutes from the Panel meeting on 09.09.10

⁷³ The purpose of the emerging Core Strategy is to provide an overarching strategic plan for the future of Brighton & Hove looking forward to 2026. When it is formally adopted it would set out the planning policies to guide future development and land use to address the key issues facing the city.

⁷⁴ Briefing from Assistant Director, City Planning for Panel meeting on 11.01.10

⁷⁵ Ibid

⁷⁶ Martin Eade, Minutes from the Panel Meeting on 11.01.10

5.37 Climate change was accelerating the problem because:

*'...the weather is worsening the damage and the increasing intensity of weather is likely to have an impact on the cliffs.'*⁷⁷

5.38 The Council's Coast Protection Engineer also highlighted the importance of preserving the attractiveness of the coast, to maintain Brighton & Hove's role as a resort and amenity.⁷⁸

Storm surges

5.39 Southern Water gave evidence about the impact severe storms in the last 10 year have had on drainage and flooding:

*'There may be greater awareness of storms, but there are also higher numbers of catastrophic events.'*⁷⁹

5.40 The following example was also given as one of *'the increasing risks to B&H'*.⁸⁰

*'In 2000 the big storm water tunnel between King Alfred and Black Rock was pretty full throughout the area. A big single event could have led to very substantial flooding.'*⁸¹

Increased snow

5.41 The Winter Service Panel (WSP) was convened to look at the:

*'High levels of snowfall during the Christmas period [2009/10] caused severe disruption across both Brighton & Hove... [and] suggest improved working practices for the council and its partners to consider as part of the Winter Service Plan.'*⁸²

5.42 The preparedness of the city to respond to this extreme weather incident was in the minds of this Scrutiny Panel while conducting their review.

Heat

5.43 The ESFRS highlighted that the projected drier summers would result in 'vulnerabilities' related to their service because:

⁷⁷ Martin Eade, Minutes from the Panel Meeting on 11.01.10

⁷⁸ Ibid

⁷⁹ Barry Luck, Minute from the Panel Meeting on 09.09.09

⁸⁰ Barry Luck, Minutes from the Panel Meeting on 09.09.09

⁸¹ Ibid

⁸² Winter Service Plan Review Scrutiny Panel Report, Volume 1, March 2010

*'...the heat leads to an increase in secondary fires e.g. refuse and grassland fires.'*⁸³

Health impacts

5.44 The Panel heard that there were a significant number of health related issues which were linked to climate change and increasingly extreme weather. These included:

- A rise in skin cancers due to increased exposure to sunlight
- Increased alcohol related admissions
- Heat wave related fatalities
- Potential malaria issues such as larger outbreaks and the emergence of more harmful strains of mosquitoes
- Resurgence of tropical infectious diseases
- Tick-borne diseases such as Lyme disease
- Increasing leisure-related medical problems
- Excess mortality from heat waves including cardiovascular, cerebrovascular and respiratory diseases
- Physical injuries, increases in diarrhoeal diseases and increased incidences of respiratory infections in floods and droughts⁸⁴

5.45 The Director of Public Health for Brighton & Hove told the Panel that:

*'We do anticipate a significant rise in some infections diseases during times of unusually hot weather'*⁸⁵

5.46 The NHS has produced a draft Heat Wave Plan for Brighton & Hove 2010. This plan begins by highlighting how heat waves can present such a health risk:

*'In 2003 Northern France suffered a heat-wave, which claimed an estimated 15,000 excess deaths and an estimated 2,000 excess deaths in England and Wales.'*⁸⁶

Vulnerable groups

5.47 The following vulnerable groups were identified in the city's draft Heat Wave Plan:

- Older people, especially those over 75 and/or living on their own home or in a care home
- Those affected by environmental factors and exposure e.g. homeless or jobs in hot places

⁸³ Gary Ferrand & Keith Ring, Minutes from the Panel Meeting on 01.02.10

⁸⁴ Briefing Paper for the Panel on climate change and health, Dr Olu Elegbe, April 2010

⁸⁵ Tom Scanlon, Minutes of the Panel Meeting on 21.04.10

⁸⁶ Draft Heat Wave Plan for Brighton and Hove, March 2010, version 7

- People suffering chronic and severe illness
- Those who have the inability to adapt behaviour to keep cool e.g. babies
- People taking certain types of medication⁸⁷

5.48 Biodiversity

*'A strategy for climate change must ... present the best course of action to conserve nature against an unknown and unpredictable future.'*⁸⁸

5.49 The Chief Executive of the Sussex Wildlife Trust told the Panel, there were 4 principles to improving the adaptability of nature:

- *Conserve what you have and save the best e.g. nature reserves and sites of nature conservation interest*
- *Don't damage it any more*
- *Create a robust and varied landscape. A lot can be done to make an area adaptable to change. An area with a varied vegetation structure will provide varied conditions for different species so, for example a heat-sensitive species can simply move from a sunny spot to a shady one, rather than have to migrate north. Varied local landscapes are important*
- *These first 3 are most important, but establishing ecological networks would also allow larger scale movement and migration, so allowing the continued functioning of nature in the long term. Overall the key need is to allow space for nature so it can move, migrate and adapt.*⁸⁹

5.50 The Panel heard that Professor John Lawton (Chair of an independent commission on ecological networks) had recently given a talk where he emphasised that the environment is going to change as a result of climate change. Therefore the above principles needed to be used to develop Biodiversity action plans and environmental adaptation strategies. Nature conservation was important in its own right, but these four principles would help adaptation and the continual provision of ecosystem services on which everyone depended.⁹⁰

Impact on Tourism

5.51 The Council's Head of Tourism briefed the Panel on the key risks of climate change to tourism:

⁸⁷ Draft Heat Wave Plan for Brighton and Hove, NHS Brighton and Hove, March 2010, Version 7

⁸⁸ Weathering the Changes by Dr Tony Whitbread, Chief Executive, Sussex Wildlife Trust

⁸⁹ Tony Whitbread, Minutes of the Panel Meeting on 02.12.09

⁹⁰ Ibid

- A further increase in seasonality - the main challenge for destinations is achieving a balance of business over the year with smaller peaks and troughs
- Severe weather and more extreme weather requiring remedial works to fabric and structure of tourism businesses – for example to doors, windows, ventilation and air supply
- Impact on water quality and perceived water quality – such as algae blooms
- Absence of shade in warmer conditions
- Extent of wet weather increasing
- Health impacts of changing conditions on visitors, including food health and safety
- More demand for outdoor space and environmental impacts including noise⁹¹

⁹¹ Briefing paper from Adam Bates to Panel dated 20.04.10

POSSIBLE OPPORTUNITIES FOR THE CITY

5.53 This section considers the possible opportunities for the city which could arise from a changing climate.

Climate Change and Environmental industries

5.54 According to the Stern Report

'Action on climate change will also create significant business opportunities, as new markets are created in low-carbon energy technologies and other low-carbon goods and services. These markets could grow to be worth hundreds of billions of dollars each year, and employment in these sectors will expand accordingly. The world does not need to choose between averting climate change and promoting growth and development. Changes in energy technologies and in the structure of economies have created opportunities to decouple growth from greenhouse gas emissions. Indeed, ignoring climate change will eventually damage economic growth.'

Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries.⁹²

5.55 A Scrutiny Inquiry conducted last year into the potential for developing environmental industries in the city concluded that:

'This growing sector provides an important enterprise and employment opportunity for the city. There are a significant number of potential major projects in the pipeline...⁹³

Parks and open spaces

5.56 The demand for parks and open spaces in the city was likely to increase with warmer winters and hotter drier summers. There could be a number of social, health and environmental benefits in acting now to create well shaded green spaces and community woodland areas.⁹⁴

Tourism

5.57 The Head of Tourism highlighted the need to research, support, encourage and invest in domestic tourism facilities and strategies as

⁹² Executive Summary of the Stern Report

http://webarchive.nationalarchives.gov.uk/+http://www.hm-treasury.gov.uk/media/9/9/CLOSED_SHORT_executive_summary.pdf

⁹³ Environmental Industries Inquiry report <http://present.brighton-hove.gov.uk/mgConvert2PDF.aspx?ID=14222> October 2009

⁹⁴ Briefing report from Adam Bates to the Panel dated 20.04.10

hotter, drier summers and warmer winters could boost local tourism and demand for outdoor leisure facilities.⁹⁵

5.58 The Panel were briefed on the potential opportunities for the city as the climate changes, which included:

- *Warmer weather improving demand for domestic holidays and short breaks and resulting in improved economic impact and employment*
- *Greater demand for the cooling effects of sea water and swimming.*⁹⁶

⁹⁵ Briefing report from Adam Bates to the Panel dated 20.04.10

⁹⁶ Ibid

HOW IS THE CITY PLANNING TO ADAPT?

5.59 According to the Director of the UK Climates Impacts Programme (UKCIP), a local authority has 3 responsibilities in relation to adaptation:

- Leader of the community
- Provider of services
- Big corporate organisation⁹⁷

5.60 In addition, the Improvement and Development Agency (IDEA) highlights the role of Councils as:

'...estate managers - ensuring that council property is resilient to the impacts of climate change'.⁹⁸

5.61 The IDEA believes that local authorities have a 'critical role'⁹⁹ in relation to adaptation, namely:

'... strengthening the resilience of local services and local communities to extreme weather'.¹⁰⁰

5.62 These roles are all reflected in the recommendations produced by the Panel. The remainder of this chapter highlights a few examples of the adaptation work currently being done in the city.

The city's preparations for adaptation

5.63 The city is fortunate to benefit from a range of partnerships which are facilitating the adaptation work currently being carried out.

Brighton & Hove Strategic Partnership

5.64 This Partnership was formed in 2002 and meets 4 times a year. The Brighton & Hove Strategic Partnership (BHSP) is responsible for preparing and implementing a Sustainable Community Strategy for the city. It is a statutory requirement to produce this strategy; which should contain a set of goals and actions which the Partnership, in representing the residential, business, statutory and voluntary interests of an area, wishes to promote.

Sustainable Community Strategy

5.65 The first edition of the BHSP Sustainable Community Strategy (SCS) called 'Creating the City of Opportunities' was published in 2006 and

⁹⁷ Minutes of the meeting on

⁹⁸ IDEA website guidance on Adaptation

<http://www.idea.gov.uk/idk/core/page.do?pagelid=9377463>

⁹⁹ Ibid

¹⁰⁰ Ibid

was followed by an interim update in 2007. The third edition was published in May 2010 to reflect the current position of the BHSP and set out the refreshed vision for the City for the next 20 years.

- 5.66 One of the eight key themes identified in the 2010 version of the SCS is:

'...living within environmental limits and enhancing the environment'.¹⁰¹

- 5.67 In the Strategy, the BHSP commits itself to:

'...respond to.... [the] council scrutiny inquiry into the city's preparedness and planning for climate change'.¹⁰²

How council services are planning for adaptation

Climate Change Action Plan

- 5.68 In 2006 the Council produced a Climate Change Action Plan (CCAP) for B&H. This provided:

'...a framework for actions committing us to addressing climate change within all the Councils' key services ... [and] raise awareness of climate change right across Brighton & Hove.'¹⁰³

- 5.69 The intention was:

'...for the plan to become a basis of action for the city, across all sectors: the public sector, business, and the community and voluntary sector; and, most importantly, for individuals. The plan illustrates the council's long term commitment, as a signatory of the Nottingham Declaration on Climate Change, to working for a sustainable future for the local (and global) community.'¹⁰⁴

- 5.70 A new version of the CCAP will be made available later in 2010. The adaptation section of the Plan will be shaped by the findings of this Scrutiny Panel.

- 5.71 The revised CCAP will include the city in its vision; and so consultation has been ongoing with our partners in the BHSP to gather information on their climate change actions for the city.

¹⁰¹ 2nd draft of the Sustainable Community Strategy [http://present.brighton-hove.gov.uk/Published/C00000117/M00002087/AI00013908/\\$Item66Appendix2.docA.ps.pdf](http://present.brighton-hove.gov.uk/Published/C00000117/M00002087/AI00013908/$Item66Appendix2.docA.ps.pdf)

¹⁰² 3rd version of SCS

¹⁰³ Climate Change Action Plan 2006 [Climate Change Action Plan \[PDF 238kb\]](#)

¹⁰⁴ *ibid*

Nottingham Declaration

5.72 The [Nottingham Declaration on Climate Change](#) was signed by the Leader and Chief Executive of BHCC in 2004. The declaration commits the council to contributing to the delivery of the national climate change programme, preparing a plan with the local community to address the causes and effects of climate change, reduce its own emissions, encourage all sectors of the local community to reduce their own emissions, work with key providers to adapt to changes, and provide opportunities for renewable energy generation within the area.

Providing services that are preparing to adapt

5.73 As part of this review, a number of relevant service heads met with the Scrutiny Officer to discuss how adaptation related to their area of work and a questionnaire was sent to all service heads (see case study 1).

5.74 The Panel then heard evidence from 9 relevant services across the Council and found many positive examples of how services were preparing to adapt to the possible changes to the climate.

5.75 Examples to highlight include the Sustainability Team who have already secured the external, additional resources for, and begun, the Local Climate Impact Profile (LCLIP) work - on the recommendation of the head of UKCIP rather than wait for recommendations of this scrutiny panel report to come out. This Team have also secured the involvement of the EA in supporting the work on climate change adaptation which will be included in the revised CCAP.

5.76 Another example was the Planning Service who described the development of a Sustainability Checklist, using joined up working with other services such as Sustainability, which was:

'...intended as an exemplar which other authorities have started to use'.¹⁰⁵

5.77 The recommendations of this Panel are designed to establish a framework to help services in the city adapt to the possible changes to the climate.

¹⁰⁵ Martin Randall, Minutes of the Panel Meeting on 11.01.10

Case study 1: Climate Change Adaptation Survey for service heads in BHCC

A questionnaire was sent to all the service heads to find out if adaptation issues were forming part of their business planning process. 71% of the responding services said that they had already undertaken actions to adapt their service to climate change.

Good News Example**Housing Management:**

'Adapting for future climate change is key if we are to be able to provide comfortable homes that are easy to heat and cool as required. To this end thermal insulation values have been improved across the stock, aiding both with reducing fuel requirements and limiting unwanted heat in summertime. Projects to continue this work are now moving towards areas such as insulated overcladding of high rise blocks, and the installation of off-grid services, such as solar systems, where practicable.

Wherever appropriate, measures to reduce the flood risk are incorporated into projects. This is done through the use of Sustainable Urban Drainage systems, or other measures, to reduce run-off. For example, the use of reinforced gravel car parks is encouraged where possible, and gardens are not hard surfaced wherever possible.'

6. RECOMMENDATIONS AND KEY FINDINGS

6.1 In this chapter each recommendation is described, alongside the key evidence which was used to determine the recommendation.

Recommendation 1. The Panel recommends that a more prominent role is given to the risk management of climate change adaptation and preparing for extreme weather. To reflect this, a Cabinet Member should be identified as being both responsible for the issue and accountable for the implementation of the Panel's recommendations.

How prominent is the issue now?

6.2 Evidence to the Panel highlighted that a significant number of partners in the city are preparing, at different rates, to adapt to changing weather.

6.3 However at the moment it is not always easy to identify who is accountable for an issue, or who shares accountability. An example being: who in the city is responsible for flooding?

The need for a senior leader

6.4 Information gathered by this review emphasised both the importance of adaptation to the city and the consequences of failing to adapt. The recent RCEP report stressed the importance of locating the responsibility for this issue at a sufficiently senior level:

*'Leadership is particularly important in addressing climate change, because of the endemic uncertainty and complexity. In addition, leadership may be necessary to ensure the right level of support, resources and acceptance for current policy changes or investment now to deal with future problems. The need to consider adaptation must be embedded throughout organisations, and **this can only be achieved through appropriate leadership.**'¹⁰⁶*

6.5 The Director of UKCIP, when assessing the authority's adaptation plan, asked:

*'Has a champion/owner been identified?'*¹⁰⁷

¹⁰⁶ Emphasis my own, The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁰⁷ Chris West, Minutes of meeting on 09.09.09

A senior council officer

- 6.6 The Panel believed that it was important to have a senior Council officer to own the issue of adaptation. A suitable post for this could be the newly created one of 'Director of Place' who has as a 'role focus' to:

*'Ensure a sustainable urban and coastal environment that works well and is attractive to all residents.'*¹⁰⁸

- 6.7 This Director is also expected to take on a city leadership role in relation to partners, the third sector and business sector.

- 6.8 The importance of having twin champions of adaptation, a senior council officer and a member, was confirmed by the RCEP report which:

*'...has observed that adaptive capacity has been built in organisations where there are climate change champions and ... supportive politicians.'*¹⁰⁹

Cabinet Member responsibility

- 6.9 The guidance for NI 188, (in section 1.1 on requiring local authorities to demonstrate that they are 'making a commitment'), also asks:

*'Are there 'adaptation champions' that can be identified amongst our local members?'*¹¹⁰

- 6.10 Kent County Council (KCC) who gave evidence to the Panel, had produced a Select Committee Report on Climate Change in 2006. A key recommendation was to 'clarify political and managerial leadership and accountability on climate'¹¹¹ in KCC by identifying:

*'...a leading member of the Administration to be responsible for climate change policy.'*¹¹²

- 6.11 Therefore the Panel believe that a Cabinet Member here should be identified as responsible for climate change adaptation, including monitoring the progress of the recommendations of this Panel.

¹⁰⁸ Application Pack <http://www.saynotostatusquo.co.uk/>

¹⁰⁹ Ibid

¹¹⁰ Guidance notes for NI 188 (March 2010)
<http://www.defra.gov.uk/corporate/about/with/localgov/indicators/documents/ni188-guidance.pdf>

¹¹¹ Kent County Council report on Climate Change (2006)
<https://shareweb.kent.gov.uk/Documents/environment-and-planning/environment-and-climate-change/select-committee-report-on-climate-change-october-2006/climate-change-report.pdf>

¹¹² Ibid

6.12 This can be an important way to ensure that there is political buy-in for adaptation. As the Panel have found, adaptation is an issue that has implications across the whole city. Gaining someone who is at the top of the political hub to own adaptation, would ensure that this issue has sufficient visibility.

6.13 A focus of this report has been on improved partnership working to prepare for the possible effects of climate change. One of the expected roles of a cabinet member is:

'...to encourage and participate in working with partners and other organisations involved in the provision of services which link with those provided by the Council or which have an interest in or contribute to the well-being of Brighton & Hove or communities within it'.¹¹³

A Select Committee on climate change?

6.14 When the OSC resolved to establish a panel on climate change adaptation, an issue they wanted it to consider was:

'...whether or not a scrutiny Select Committee is required to ensure good progress in this issue continues'.¹¹⁴

6.15 While the Panel considered this as an option, they felt that the normal process for monitoring the recommendations of this report would be sufficient.

6.16 How recommendation 1 will contribute to NI188

Identifying a Cabinet Member responsible for climate change adaptation and extreme weather	Level 1	1.1 making a public commitment
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¹¹³ Brighton & Hove City Council Website <http://www.brighton-hove.gov.uk/index.cfm?request=c1186954>

¹¹⁴ Scoping report for the Panel September 09

7.1

2. The Panel welcomes the identification of resources to undertake a Local Climate Impact Profile (LCLIP). The Panel believes that resources also need to be identified to carry out an analysis of the implications of the UK Climate Projections data (UKCP09) for the city of Brighton & Hove.

Why do we need local information about climate change?

7.2 A number of the Council's service heads told the Panel how useful it would be to access locally relevant climate change projection data. The Head of Tourism highlighted the need for:

*'...more accurate predictions and forecasts to allow businesses to plan.'*¹¹⁵

7.3 The Council's City Planner agreed that:

*'It would be very useful to be able to draw on research into the specific effects of climate change on Brighton & Hove, rather than regional figures alone.'*¹¹⁶

7.4 His written evidence also highlighted that such data could also be used to:

*'...understand whether the heat island effect is potentially ameliorated by being in a coastal location with sea breezes. What could be useful would be an underlying Climate Change Impact Assessment for the city. This would offer an assessment and profile of local severe weather events, probability/ likelihood of occurring, where their chief impacts occur (health, economic, environmental) and thus draw up a risk assessment with a ranking order of priority.'*¹¹⁷

Providing evidence for Intelligent Commissioning

7.5 The collection of locally specific data on climate change fits into the 'evidence based approach' of intelligent commissioning, where:

*'Needs, outcomes and the activities for delivering outcomes are based on the robust use of data and evaluation.'*¹¹⁸

What is a Local Climate Impact Profile (LCLIP)?

¹¹⁵ Briefing report from Adam Bates for the Panel dated 20.04.10

¹¹⁶ Martin Randall Minutes of the Panel Meeting on

¹¹⁷ Written evidence from Martin Randall dated 11.01.10

¹¹⁸ Report to Cabinet on 22nd April 2010 'Creating a Council the City Deserves ... a transformation programme for Brighton & Hove City Council [http://present.brighton-hove.gov.uk/Published/C00000120/M00001996/\\$\\$Supp8256dDocPackPublic.pdf](http://present.brighton-hove.gov.uk/Published/C00000120/M00001996/$$Supp8256dDocPackPublic.pdf)

7.6 A key component of reaching level 1 of NI188 is to undertake:

*'...a local risk based assessment of significant vulnerabilities and opportunities to weather and climate, both now and in the future.'*¹¹⁹

7.7 The LCLIP is a tool which was designed by the UK Climate Impacts Programme (UKCIP) and is regarded as an effective way of assessing an area's susceptibility to severe weather. The Panel were told by UKCIP that carrying out an LCLIP could involve:

- *Looking up the archives of newspaper reports on major weather events;*
- *Going to service providers and asking them what impact each major weather event had on them e.g. what were the costs and impacts of a storm last November?;*
- *Asking the service whether a similar weather event would involve a large % of their deployment of reserves;*
- *Starting to identify vulnerabilities;*
- *Starting to identify thresholds when things are important e.g. if a storm once every 10 years turns into one every 2 years;*
- *Interrogating the UKCP 09 Projections to see the probability of these thresholds being passed in the years ahead;*
- *Plotting these against the impacts in order to assess risk;*
- *Beginning to prioritise actions.*¹²⁰

An LCLIP for Brighton and Hove

7.8 An LCLIP for the city is currently being undertaken. The research stage began in June 2010 and the whole project is expected to take approximately 6 months to complete. Its purpose is to record the past impact of severe weather in B&H.

7.9 The initial research shows that about 40 severe weather incidents have reported in the city over the past ten years. These incidents range from:

- *Storms and high winds;*
- *Heavy rainfall and flooding;*
- *Drought, high temperatures and heat waves; to*
- *Frost, ice and snow.*¹²¹

7.10 These results now need to be analysed and correlated potentially with other information sources; then explored with service users for their actual impact. The work on assessing the potential impacts on the city of severe weather in the future can then begin.

¹¹⁹ NI188 guidance

¹²⁰ Chris West, UKCIP, Minutes of the meeting on 09.09.10

¹²¹ Update from the Head of Sustainability on 07.07.10

Why will this LCLIP be useful for the city?

- 7.11 Evidence from the EA, highlighted 5 key actions they believed that the Council and BHSP should carry out. This included undertaking an LCLIP:

*'...to assess areas of vulnerability. This tool could be used to develop a better understanding of how the future impacts of climate change into decision-making and influence behavioural change by highlighting the excessive costs of doing nothing, both currently and into the future. Many local authorities have undertaken this work as a requirement of NI188...'*¹²²

- 7.12 This work should improve the city's understanding of a range of climate change impact risks, including heavy snowfall and freezing temperatures, and help it to plan more effectively for them, thus improving local resilience. For example, feeding into the Council's Winter Service Plan.

What is UKCP09?

- 7.13 The UK Climate Projections (UKCP09) were commissioned by Defra and the Department of Energy and Climate Change (DECC). The projections are the 5th generation of climate change information and give data for the UK up to the end of this century. They are able to set out a range of climate change options using seven overlapping 30 year time periods.

- 7.14 These projections of future changes to our climate are based on simulations from climate models, and are regarded as:

*'.... new cutting-edge science in the development of local climate change projections. These are designed to inform policy-makers and decision-makers about the possible changes to the climate But the inevitable uncertainties that surround the projections in UKCP09 pose considerable challenges for institutions intending to use them to guide policies and decisions about adaptation.'*¹²³

- 7.15 According to the RCEP, the:

'Results ... suggest a broad trend of warmer, drier summers and warmer wetter winters throughout the UK by the end of this century ... [and] also suggest that local variations in climate will see average

¹²² Ibid

¹²³ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

*summer temperatures in the least affected areas of the UK rise by 2.5 C and by about 4.5 C in those areas most affected.*¹²⁴

*'The projected long-term trend for the UK winters to be warmer will not mean that cold winters will be a phenomenon of the past. Instead, cold winters such as that of 2009-10 will just become less frequent.'*¹²⁵

7.17 These projections are seen as:

*'...the major information resource for adaptation in the UK.'*¹²⁶

How can we use UKCP09 for Brighton and Hove?

7.18 Currently BHCC can only use climate change projection scenarios that have been produced for the South East of England (see Appendix A for an example). However the UKCP09 projections could be downscaled to examine the impacts of changing weather on B&H specifically. The projections can be viewed down to the level of 25km, although this needs a trained person to obtain data at this level.

7.19 Matthew Lipson of the Adaptation Sub-Committee told the Panel that the projections:

'are designed to help Local Authorities build capacity by exploring and planning for likely changes. The goal is to embed climate change into thinking adopting an approach of:

- **Flexibility** (e.g. the TE2100 project which looked at flood protection for London to enable expensive decisions to be delayed until needed)
- **Resilience**
- **Least regrets** e.g. urban tree planning¹²⁷

7.20 An example of the practical application of UKCP09, was their use when developing the heat wave plan for the city to:

*'...predict the future likelihood of heat waves. This has led to the channelling of more resources to this area.'*¹²⁸

7.21 According to UKCIP, the 'South East of England will continue to be most affected in the UK.'¹²⁹ As a result:

¹²⁴ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹²⁵ Ibid

¹²⁶ Ibid

¹²⁷ My emphasis, Matthew Lipson, Minutes of the Panel Meeting on 01.02.10

¹²⁸ Tom Scanlon, Minutes of the Panel Meeting on 21.04.10

¹²⁹ From briefing paper by Thurstan Crockett for the Panel for the Panel Meeting on 01.02.10

*'... we need a better and sophisticated shared understanding across the city of the risks (and some opportunities) of climate change to our infrastructure and economy, our communities and our wildlife and habitats.'*¹³⁰

7.22 The Council's Coast Protection Engineer told the Panel that:

'The latest climate change projections were crucial in planning, especially;

- *Sea level rises*
- *Increased storminess'*¹³¹

Using the LCLIP to inform climate change projections data

7.23 Once the LCLIP has been completed, the intention is to use its findings to look at UKCP09 in terms of the severe weather that could present the greatest possible threats to the city.

7.24 The intention will then be to use LCLIP, with UKCP09, to *'...develop a detailed risk assessment and mitigation programme'*¹³²

7.25 The Panel heard from Kent County Council (KCC) that:

*'...the LCLIP this enabled us to take the UKCP09 projections for the South East and make them meaningful.'*¹³³

7.26 KCC had also used the data to set up:

*'KentView ...where UKCP09 projections were plotted out onto a view of Kent ... This enables them to test out high, medium and low risk scenarios in a very visual manner.'*¹³⁴

How will this locally relevant information assist?

7.27 According to the Council's Head of Sustainability, the information gathered for B&H will enable us to carry out a thorough risk assessment:

*'Because the climate projections give probabilities and an extreme weather map, then it can lead to risk and opportunity scores. While it will not give us solutions, it can provide a **clear sense of risk**.'*¹³⁵

¹³⁰ Briefing paper by Thurstan Crockett for the Panel for the Panel Meeting on 01.02.10

¹³¹ Martin Eade, Minutes of the Panel Meeting on 11.01.10

¹³² Briefing paper by Thurstan Crockett for the Panel for the Panel Meeting on 01.02.10

¹³³ Carolyn McKenzie, Minutes of the Panel Meeting on 26.02.10

¹³⁴ Ibid

¹³⁵ My emphasis, Thurstan Crockett, Minutes of the Panel Meeting on 01.02.10

7.28 How recommendation 2 will contribute to NI188

LCLIP	Level 1	1.2 understanding current vulnerability	1.5 Monitoring future impacts	
UKCP09	Level 1	1.2 understanding current vulnerability	1.3 identifying significant potential impacts	1.6 Establishing a database

8.1

3. The Panel welcomes the development of a revised Climate Change Action Plan (CCAP), which addresses both mitigation and adaptation in the city. The Adaptation Section of the Plan should be based on the work of this Scrutiny Panel. The Panel recommends that the Brighton & Hove Strategic Partnership monitors the progress of the outcomes of the CCAP.

8.2 The first version of the CCAP for Brighton & Hove was published in 2006 to provide:

'...a framework for actions committing us to addressing climate change within all the Councils' key services'¹³⁶

8.3 An updated version of this Plan will be produced later in 2010.

What is needed in the revised plan?

8.4 The Director of UKCIP asked the Panel a set of questions about the 2006 version of the CCAP:

- *Is it a once and for all plan, or is it responsive to future events?*
- *Has a champion/owner been identified?*
- *Is there a process for reviewing the plan and looking why it was created?*
- *What are the measures of success? Outcomes can be different, so there should be some process measures*
- *Did it offer assurance to either the public, managers and central government that this is a good adaptation plan?*
- *Was there a link with stakeholders? They were mentioned in the BHCC plan, but there did not seem to be a link with the knock on effects for stakeholders.*
- *Some sections appeared to be missing. It was weighted to the natural environment and included business, tourism, health and crime – but the built-environment was not well treated.*
- *It was marked as being a draft plan from '06, but had it been updated?*
- *It was all about sustainability, but it needed to link with economic and social impacts.*

8.5 These issues have been fed into the production of the updated version of the CCAP.

¹³⁶ Climate Change Action Plan for Brighton & Hove, (2006) http://www.brighton-hove.gov.uk/downloads/bhcc/sustainability/CCAP_workingversion_Dec06.pdf

A changing focus of the Plan

Adaptation

8.6 The Head of Sustainability told the Panel that our city's stakeholders:

'...have historically viewed mitigation as the top priority and adaptation has been seen as:

*'almost an admission of defeat.'*¹³⁷

8.7 The historical focus on mitigation was reflected in the 2006 version of the CCAP. The revised Plan will contain a chapter on Adaptation, drawn largely from the findings and recommendations of this Scrutiny Panel.

Partnership

8.8 While council services were the focus of the original CCAP, a key aim was also to:

*'...raise awareness of climate change right across Brighton & Hove and for the plan to become a basis of action for the city, across all sectors: the public sector, business, and the community and voluntary sector; and, most importantly, for individual.'*¹³⁸

8.9 It was suggested by the EA that the revised Plan:

*'...should co-ordinate and monitor all climate change activity by the city council and the Local Strategic Partnership.'*¹³⁹

8.10 The council's Head of Sustainability agreed that there was 'a significant role' for both the Brighton & Hove Strategic Partnership (BHSP) and the City Sustainability Partnership. He was able to confirm that the BHSP:

*'...has undertaken to respond to the recommendations produced by the panel and participate in the process and likewise with the Climate Change Action Plan.'*¹⁴⁰

¹³⁷ Thurstan Crockett, Minutes of the Panel Meeting on 01.02.10

¹³⁸ ¹³⁸ Climate Change Action Plan for Brighton & Hove, (2006) http://www.brighton-hove.gov.uk/downloads/bhcc/sustainability/CCAP_workingversion_Dec06.pdf

¹³⁹ Briefing report from the Environment Agency

¹⁴⁰ Thurstan Crockett, Minutes of the Panel Meeting on 01.02.10

The key role of the BHSP

8.11 Research was commissioned by The South East England Partnership Board to identify barriers to overcome in the delivery of climate change adaptation.

8.12 One of the key actions they identified was for organisations to:

'...improve partnership working - using existing networks and partnership initiatives to promote the delivery of adaptation measures'.¹⁴¹

8.13 The NI188 guidance details how it expects local authorities to work with their Local Strategic Partnership (LSP)¹⁴²:

'By Level 2, whatever the starting point has been, you should now expect to be involving LSP partners.'¹⁴³

8.14 To meet this level, local authorities should be asking:

*'-How can we keep LSP partners informed of progress on the overall project?
-Have we demonstrated the approach and methods that we have adopted with a view to partners adopting similar approaches?'¹⁴⁴*

8.15 By Level 4 of NI188 it is expected that:

'The Authority and LSP are implementing the comprehensive adaptation action plan across the local authority area, and there is a robust process for regular and continual monitoring and review to ensure progress with each measure and updating of objectives'.¹⁴⁵

8.16 How recommendation 3 will contribute to NI188

Climate Change Action Plan	Level 1	1.1 making a public commitment	1.2 understanding current vulnerability
LSP monitoring the outcomes of the Plan	Level 2	2.5 Integrating LSP partners	

¹⁴¹ My emphasis, Briefing paper for the Panel by Jorn Peters of the South East England P

¹⁴² BHSP is the LSP for Brighton & Hove

¹⁴³ LRAP Guidance on National Indicator NI188, (2010)

<http://www.defra.gov.uk/corporate/about/with/localgov/indicators/documents/ni188-guidance.pdf>

¹⁴⁴ Ibid

¹⁴⁵ Ibid

9.1

4. The Panel recommends that the Climate Change Action Plan is monitored on a biennial basis (every 2 years), including an assessment of where we are and how well the city is adapting. This would include a report back to the Cabinet Member who is responsible for climate change adaptation (see recommendation 1).

Why does the plan need to be regularly reviewed?

9.2 Prior to giving evidence, The Director of UKCIP looked at our CCAP produced in 2006 and asked the Panel the following relevant questions:

- *Is it a once and for all plan, or is it responsive to future events?*
- *Is there a process for reviewing the plan and looking at why it was created?*¹⁴⁶

9.3 The Council's Head of Sustainability and Environmental Policy emphasised that:

*'...if at the end of the process the Panel had significant concerns about the planning or preparedness for climate change, then they should recommend a monitoring process that would address this.'*¹⁴⁷

Who will review it?

9.4 The Council's Head of Sustainability and Environmental Policy also stressed the important role that both BHSP and the City Sustainability Partnership could play in reviewing the CCAP. Then the monitoring of the CCAP could be carried out:

*'...through the Overview & Scrutiny Commission or a Panel/Select Committee.'*¹⁴⁸

Why on biennial basis?

9.5 This would seem an appropriate time frame, given the time it will take to carry out the recommendations suggested by this review and the resources available to monitor their progress.

¹⁴⁶ Chris West, Minutes from the Panel Meeting on 09.09.09

¹⁴⁷ Thurstan Crockett, Minutes from the Panel Meeting on 01.02.10

¹⁴⁸ Ibid

9.6 **How recommendation 4 will contribute to NI188**

Monitoring the Action Plan	Level 4	4.a There is a robust process for regular and continual monitoring and review of the action plan
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10.1

5. The Panel believes National Indicator 188 (NI188) is a worthwhile indicator, because it can effectively measure the progress of local areas in assessing and addressing the risks and opportunities of climate change. The Panel recommends continued use of the process outlined in NI188, even if the National Indicators and Local Area Agreements (LAAs) are changed or scrapped, unless a better method of assessing progress replaces it.

The Panel recommends that NI188 is placed within the LAA, if it continues post 2010/11. This would demonstrate the importance of this issue to the city. It would also provide a focus on the need to set, and meet, a challenging timetable for taking the city through the stages of the indicator as it pro-actively prepares to adapt to climate change.

What is NI188?

10.2 National Indicator 188 (NI188) is designed to measure progress on:

*'...assessing and managing climate risks and opportunities, and incorporating appropriate action into local authority and partners' strategic planning.'*¹⁴⁹

10.3 It is a process based indicator which requires the local authority to assess its progress through the following stages:

- **Level 0** Getting started
- **Level 1** Public commitment and impacts assessment
- **Level 2** Comprehensive risk assessment
- **Level 3** Comprehensive action plan
- **Level 4** Implementation, monitoring and continuous review¹⁵⁰

Is it a useful indicator?

10.4 The indicator is in place until at least 2011. However the recent political changes mean that the indicator may be removed after 2011 and could throw into doubt the future of Local Area Agreements (LAAs).

10.5 However, according to the Council's Head of Sustainability and Environmental Policy:

'NI188 as a process indicator shows clearly what steps should be taken. What we need to do is follow that process. Behind that will be areas that we need to focus on. It is a good indicator. There is some

¹⁴⁹ Audit Commission Website: <http://www.audit-commission.gov.uk/localgov/audit/nis/Pages/NI188planningtoadapttoclimatechange.aspx>

¹⁵⁰ Ibid

*doubt about what will happen to the indicator after the election [but] the authority should still use the indicator as a strong guidance.*¹⁵¹

What progress has been made with NI188?

- 10.6 In May 2010, the Council submitted its NI188 return for 2009/10. While BHCC still measured itself at being at Level 0 (baseline); it was able to describe the actions it had begun, and would be undertaking, to reach levels 1-4 of the Indicator.
- 10.7 The key actions which an authority is expected to be undertaking at level 0 are:
- a. *the Authority has begun the process of assessing the potential threats and opportunities across its estates and services*
 - b. *the Authority has identified and agreed the next steps to build on that assessment in a systematic and coordinated way*¹⁵²
- 10.8 The key reason that BHCC was not able to assess itself as having progressed to level 1, was that it had only just begun to undertake the 'prioritised risk based assessment' required in the form of the LCLIP.

Is this the expected rate of progress in this indicator?

- 10.9 Anurag Kher, a Climate Change Senior Policy Advisor from the Government Office for the South East (GOSE), confirmed that BHCC would be expected to progress to level 1 by the submission of NI188 in May 2010. This ties up with the expectation of Defra that:

*'Every Local Authority to be at level 2 as a minimum by the end of 2011...LSP partners to be on the same journey & support provided.'*¹⁵³

How could BHCC improve its performance in this indicator?

- 10.10 Research has found that progress in reaching the 5 levels of NI188:

'...requires action involving:

- *Organisational change and leadership*
- *Assessing current and future risks*
- *LSP and community engagement*
- *Early implementation of adaptation actions*
- *Strategy and action plan development, and*
- *Monitoring, review and evaluation*¹⁵⁴

¹⁵¹ Thurstan Crockett, Minutes of the Panel Meeting on 01.02.10

¹⁵² NI188 Self Assessment form

¹⁵³ DEFRA briefing workshops presentation on 11/03/09

¹⁵⁴ Adapting to climate change: Local areas actions, CAG consultants (June 2009)
<http://www.communities.idea.gov.uk/c/125742/doclib/get-file.do?id=1690787>

10.11 The recommendations of this Panel seek to address the issues described above.

10.12 According to an online survey of local authority officers, the biggest challenges they faced in relation to NI188 were:

*'...lack of resources, lack of skills, lack of time of service heads, lack of understanding adaptation issues generally, and difficulty in quantifying and communicating risks involved in adaptation.'*¹⁵⁵

10.13 This also appears to be true in BHCC, where the ability to progress to the final level (4) were seen to be:

*'... a question of both resources levels and conflicting priorities... [what we need most is] people with skills.'*¹⁵⁶

10.14 An example of these skills is the necessary training to be able to analyse the UKCP09 data at a local level. See Appendix B for a proposed timetable for BHCC to reach level 3 of NI188.

What is a LAA?

10.15 A Local Area Agreement (LAA):

*"...sets out the 'deal' between central government and local authorities and their partners to improve the quality of life for local people...it is also a shorter-term delivery mechanism for the Sustainable Community Strategy (SCS)."*¹⁵⁷

10.16 The future of LAAs is unclear under the new Coalition Government.

What could be the benefits of placing this indicator in the LAA?

10.17 While NI188 is not currently in the LAA for Brighton & Hove, the Panel believe that it should be placed there to demonstrate its importance to the city. Research has shown that of the 56 authorities who included NI188 in their Local Area Agreement; over 80% have met or exceeded their stated target, and 75% of are already at Level 1 or higher.¹⁵⁸

10.18 The EA, in their briefing note to the Panel, recommended that this indicator was selected as a designated target in the next round of LAA negotiations, if this framework continues under the Coalition Government.

¹⁵⁵ <http://www.gos.gov.uk/497648/docs/169206/638522/808099/NI188defrareviewNIset>

¹⁵⁶ Thurstan Crockett, Minutes of the Panel Meeting on 01.02.10

¹⁵⁷ IDEA website <http://www.idea.gov.uk/idk/core/page.do?pagelId=15421917>

¹⁵⁸ DEFRA website

<http://www.defra.gov.uk/corporate/about/with/localgov/indicators/ni188.htm>

How the Panel’s recommendations would enable BHCC to improve its performance in NI188

10.19 As already explained, each recommendation of the Panel has been assessed to see how it will contribute to the Council’s progress through the levels of the indicator. If the Panel’s recommendations were to be implemented they would mean that the authority could reach level 1 and make substantial inroads into reaching the remaining levels. See Appendix B for a suggested timetable for progress through NI188.

10.20 How recommendation 5 will contribute to NI188

Put NI188 in the LAA	Level 1	1.1 making a public commitment
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11.1

6. The Panel believes that the challenges of adaptation cannot be met by statutory agencies alone. The Panel recognises the importance of existing mechanisms such as Local Area Action Teams and the voluntary sector, to develop the capacity of communities to adapt to increasingly extreme weather in the city. A learning and development programme needs to be produced to assist these champions. This work could be linked to the Climate Connections project.

Why do we need to build the capacity of communities?

11.2 One of the key aims of the UK Low Carbon Transition Plan is:

‘Supporting individuals, communities and businesses to play their part... [because] everyone has a role to play in tackling climate change’¹⁵⁹

Engaging stakeholders

11.3 The Director of UKCIP, when assessing whether BHCC had a good adaptation plan, asked ‘...was there a link with stakeholders?’¹⁶⁰

11.4 A briefing note for the Panel from the EA offered examples of desirable engagement with local residents. These included:

- *Raising flood awareness*
- *Promoting water efficiency*¹⁶¹

11.5 One of the key aims of gathering local data about possible changes to the climate is to make the implications of such changes ‘real’ for people.

11.6 The report by RCEP emphasised the importance of engaging public support when implementing adaptation because:

‘... public engagement in areas such as coastal erosion, flood protection and nature conservation is very important. This is because (in part) a decision-making process which is perceived to be open and fair by those potentially affected can go a long way to enhancing tolerance, and even acceptance, of outcomes. Further, the input of local knowledge and understanding can contribute to the problem of taking decisions under conditions of uncertainty and complexity.’¹⁶²

¹⁵⁹ UK Low Carbon Transition Plan (2009)

¹⁶⁰ Chris West, minutes from meeting on 09.09.09

¹⁶¹ Environment Agency Briefing Note for the Panel meeting on 09.09.09

¹⁶²RCEP, Adapting Institutions to Climate Change, Summary Report (2010)

http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_summary.pdf

11.7 According to the Council's Head of Sustainability, one of the achievements of the 2006 CCAP for the city was that it:

'...contained a hundred actions and kick-started a wide range of projects and programmes' intention was 'preparing a plan with our local communities to address the causes and effects of climate change and to secure maximum benefit for our communities'.¹⁶³

NI188 and community engagement

11.8 The importance of community engagement is recognised in NI188. The self assessment to reach Level 1 asks:

'To what extent are other members of the wider local community aware of the commitment and are involved in our adaptation? Are they formally involved through the LSP? If not, are there ways in which we can involve them specifically in this agenda?'¹⁶⁴

How can we achieve this?

11.9 The Panel heard that one of the roles of a local authority needs to take on in relation to climate change is as the *'leader of the community'*.¹⁶⁵

11.10 The Panel were pleased to hear about the Climate Connections project which aimed to:

'...highlight 10 global stories and 9 local stories...[which] will provide a human face of why people need to adapt to climate change and... highlight global to local issues.'¹⁶⁶

11.11 This was felt to be important because:

'...a lot of people are sceptical, therefore using examples of people who have had to adapt, can make people realise they need to embrace this cause.'¹⁶⁷

11.12 The project aimed to get community buy-in, by *'using positive messages'* such as:

'It's not too late to do something.'¹⁶⁸

¹⁶³ Thurstan Crockett

¹⁶⁴ LRAP Guidance on National Indicator NI188, (2010)
<http://www.defra.gov.uk/corporate/about/with/localgov/indicators/documents/ni188-guidance.pdf>

¹⁶⁵ Chris West, Minutes of the Panel Meeting on 09.09.10

¹⁶⁶ Paolo Boldrini, Minutes of the Panel Meeting on 26.02.10

¹⁶⁷ Ibid

¹⁶⁸ Ibid

11.13 Paolo Boldrini, of the Climate Connections Project, offered to provide BHCC with regular feedback on the reactions of the community to the Climate Connections project. The Panel believe that this would be useful way of finding out the key concerns of the community regarding adapting to climate changes.

11.14 Local Action Teams in Brighton & Hove - an existing mechanism which could be drawn on?

*'A Local Action Team (LAT) is a group of people who live in a neighbourhood and who come together on a regular basis to help resolve crime, disorder, anti-social behaviour and safety problems that are of mutual concern [and] Sometimes the group deals with a wider range of shared concerns as well as crime and disorder matters.'*¹⁶⁹

11.15 There are currently 39 LATs in Brighton and Hove. Their roles in relation to community safety are seen as including:

- Ensuring that the concerns of local people are reported
- Receiving feedback from the Council about action that has been taken
- Responding to local consultation on city wide issues
- Contributing local information¹⁷⁰

11.16 One can see from this list, the valuable contribution that LATS could make in building the capacity of the community to adapt to climate change and prepare for extreme weather.

Drawing on community resources during extreme weather events

11.17 The Panel heard that vulnerable members of the community in extreme weather, used to be aided by neighbours. However this care has now been professionalised.

11.18 According to the Council's Head of Commissioning for Adult Social Care:

*'There is a need for community/neighbourhood cohesion and for people to ask if their neighbours are OK.'*¹⁷¹

11.19 The Director of Public Health for Brighton & Hove agreed that:

*'We could make big strides if it was possible to harness neighbourliness and collective feeling.'*¹⁷²

¹⁶⁹ Brighton and Hove Safe in the City Partnership, LATS guidance, (2009)
<http://www.safeinthecity.info/files/Microsoft%20Word%20-%20LAT%20Guidance%20folder%20091020-%20website.pdf>

¹⁷⁰ ibid

¹⁷¹ Jane Simmons, Minutes of the Panel Meeting on 21.04.10

Why the need for a learning and development programme?

11.20 According to the Council's Community Engagement Framework:

'...the success of any engagement activity is related to the level of information, support and training that individuals and the community can access' and refers to the importance of 'the provision of high quality, accessible and relevant information'¹⁷³

11.21 Providing such information and support is seen as key to developing the ability of the community to:

- Engage with services
- Engage in local decision-making
- Understand and engage with democratic processes
- Come together to take action for themselves¹⁷⁴

¹⁷² Tom Scanlon, Minutes of the Panel Meeting on 21.04.10

¹⁷³ Community Engagement Framework, (2009) inserts
http://www.2020community.org/downloads/site2020/community_engagement_framework/2052_CEF_Inserts_V2_3.pdf

¹⁷⁴ Community Engagement Framework,
http://www.2020community.org/downloads/site2020/community_engagement_framework/CEF_final_02_12_08.pdf

Case study 2 – the Climate Connections project

This project was officially launched on 28th March 2010. It is a partnership project between Brighton Peace and Environment Centre (BPEC), BHCC and Oxfam GB.

The project's aims include:

- Raising awareness on the impacts of climate change from a global to local level
- Link the stories of climate change from around the world, with those in Brighton & Hove
- Promote local community projects, initiatives and businesses which support local residents to make informed choices about how they impact on the world around them

To achieve this, the project has established:

- A large outdoor photographic exhibition showing the stories of people in developing countries alongside those living in Brighton & Hove. The aim is to show how *'individuals in different parts of the world are intrinsically linked through the challenge of climate change'*
- An interactive website to act as an information portal to follow the stories of those people participating in the exhibition
- A programme of workshops for community groups and organisations

11.23 How recommendation 6 will contribute to NI188

Identifying community and service users concerns and priorities for adaptation	Level 0	0.2 Engagement of Community, Service users and Key LSP Partners
Using LCLIP to raise awareness of significant issues in the wider community	Level 1	1.2 Understanding current vulnerability

12.1

7. The Panel recommends that climate change resilience and business continuity needs to be a high level outcome which is built into the new Intelligent Commissioning Model.

12.2 According to the Local Government Association:

*'Reducing emissions and planning to adapt must be the most important priority for councils.'*¹⁷⁵

Why does climate change need to be a top priority for BHCC?

12.3 The RCEP have:

*'...observed that where climate change is not a defined part of the mission of an institution, the capacity to respond can be hampered.'*¹⁷⁶

12.4 This was also a conclusion of the Kent County Council (KCC) Select Committee into climate change, which emphasised the need to:

*'Ensure climate change is included in corporate risk planning, business continuity and all directorate plans and policies.'*¹⁷⁷

What is the Intelligent Commissioning Model?

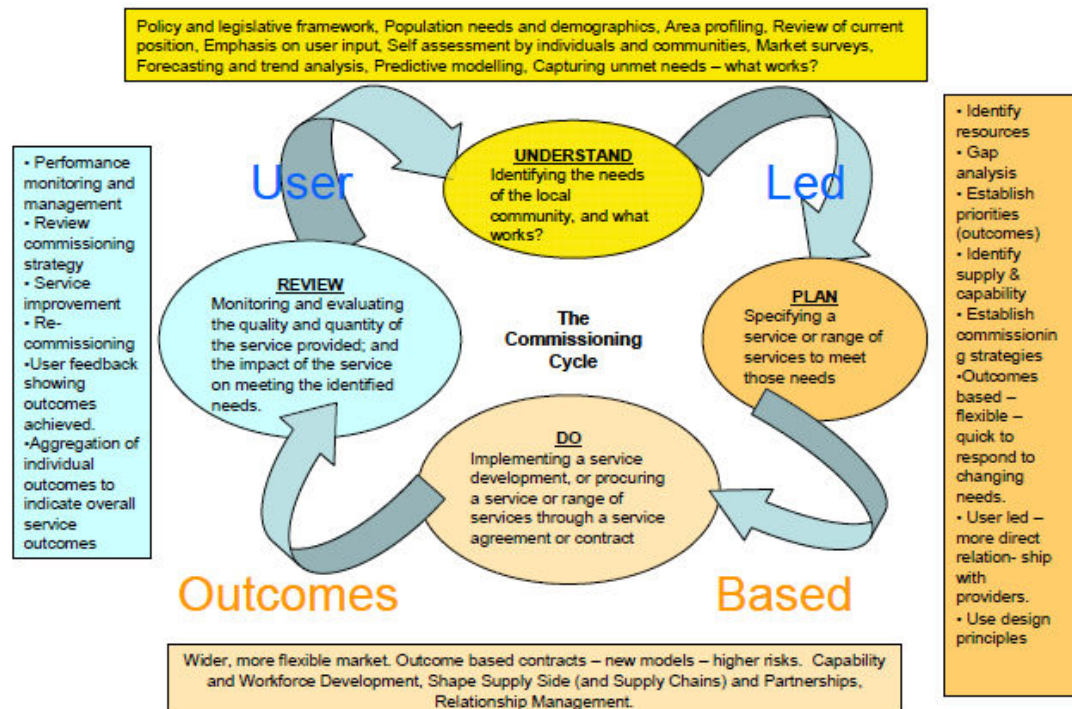
12.5 The Council is currently developing a new 'Intelligent Commissioning' process. This process intends to change the way that the Council, and other partners, deliver services to the city. The diagram at 12.6 illustrates the proposed process.

¹⁷⁵ Local Government Agency, The economy or the environment, do I need to choose? (2010)

¹⁷⁶ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁷⁷ KCC, Select Committee on climate change report, 2006
<https://shareweb.kent.gov.uk/Documents/environment-and-planning/environment-and-climate-change/select-committee-report-on-climate-change-october-2006/climate-change-report.pdf>

12.6



12.7 How the recommendations of this review fit with the Intelligent Commissioning Model

*'The 'intelligent' part of the process refers to a commissioning approach based on strong evidence and understanding of need, the joining up of activities behind the **key outcomes** or themes that matter most and harnessing the knowledge and experience of citizens, communities, staff and partners in the design production and delivery of services and solutions.'*¹⁷⁸

12.8 This model emphasises the need to include:

- A thorough and evidence based understanding of need
- The harnessing of the intelligence and understanding of individuals and communities in co-design and co-production
- An understanding of the 'big picture' needs for the city¹⁷⁹

¹⁷⁸ My emphasis, Report to Cabinet on 22nd April 2010 'Creating a Council the City Deserves ... a transformation programme for Brighton & Hove City Council [http://present.brighton-hove.gov.uk/Published/C00000120/M00001996/\\$\\$Supp8256dDocPackPublic.pdf](http://present.brighton-hove.gov.uk/Published/C00000120/M00001996/$$Supp8256dDocPackPublic.pdf)

¹⁷⁹ Adapted from Intelligent Commissioning (A social and Economic Case), March 2010 <http://present.brighton-hove.gov.uk/mgConvert2Pdf.aspx?ID=8256&T=9>

12.9 The recommendations of this Panel, and the means of implementing them, can be seen as fitting into the 4 stages of the Intelligent Commissioning cycle as follows:

1. Understand

Recommendation 2 - LCLIP and UKCP09

2. Plan

- Rec 3 - Climate Change Action Plan
- Rec 8 – Adaptation test
- Rec 10 – Cross Working
- Rec 11 – Working with universities and Colleges
- Rec 12 – Surface Water Management Plan
- Rec 13 - Resources

3. Do

- Rec 6 – Building community capacity
- Rec 9 – Planning

4. Review

- Rec 4 – Biennial review of the Climate Change Action Plan
- Rec 5 – National Indicator NI188

Although the recommendations are skewed towards planning stage; as information becomes available, further work is undertaken on adaptation and structures established this will facilitate the ‘do’ and ‘review’ stages of the Intelligent Commissioning cycle.

12.10 How recommendation 7 will contribute to NI188

High level outcome in the intelligent commissioning	Level 1	1.1 making a public commitment	1.4 Sharing the load and ongoing project planning – managers responsible for service areas aware of the vulnerabilities and opportunities	
	Level 3	3.1 Embedded climate impacts and risks across council decision making	3.2 Developed a comprehensive adaptation action plan	3.3 Implementing appropriate adaptive responses in all priority areas

13.1

8. The Panel recommends that an Adaptation Test¹⁸⁰ should be developed for publicly commissioned services. These services would be required to use the test to demonstrate how they are planning to face the challenges of adaptation.

This test could contain a set of questions, such as:

‘Have you identified the possible range of impacts of climate change on the activities and responsibilities of your institution or business, and their timescales?’¹⁸¹

The Panel believe it would also be useful to encourage other businesses in the city to use this test.

Please note: The panel members discussed this recommendation and while three of the panel members approved it, Councillor Tony Janio wanted to record his dissent on this particular recommendation.

What is an adaptation test?

13.2 This kind of test is proposed in the recent RCEP report:

‘...to reduce exposure to the risk of damage through climate change; to develop the capacity to cope with unavoidable damages; and to encourage organisations to take advantage of new opportunities’¹⁸²

Examples of the questions that could be used for a test

13.3 The following potential questions are identified in the RCEP report:

1. *Have you identified the possible range of impacts of climate change on the activities and responsibilities of your institution or business, and their timescales?*
2. *Do you understand the nature of, and limitations in, the climate projections in UKCP09?*
3. *Do you understand that adaptation to climate change is an open-ended process, not a single action that will solve your problems or reduce your risks?*
4. *Have you framed the questions and issues to be addressed adequately, so as to avoid tackling the wrong problem, or making matters worse? Do you understand how the risks posed by climate*

¹⁸⁰ The Adaptation test and 10 indicative questions are from The Royal Commission on Environmental Pollution’s report ‘Adapting Institutions to Climate Change’ (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁸¹ Ibid

¹⁸² Ibid

- change interact with, and might change, the other risks your organisation has to respond to?*
5. *Have you identified options for adaptation, and devised flexible plans and strategies that can deal with uncertainty?*
 6. *Are you embedding consideration of adaptation into your core business? Is there the right accountability for actions at the most senior levels of your organisation?*
 7. *Are the objectives and aims of your institution fit for purpose in a changing world? Are you aware of the powers and duties affecting your institution?*
 8. *Who are the significant other stakeholders (including members of the public) with whom you need to interact to deliver adaptation? Are there barriers (perceived or real) that might make collaboration difficult? How do you plan to negotiate these barriers?*
 9. *Do you have mechanisms in place to listen and respond to alternative views on the ways of dealing with climate change, new ways of thinking, and ways of evaluating the success of past actions in relation to climate change?*
 10. *Do your organisation's planning and investment cycles allow for new insights and information about climate change to be taken into account?*¹⁸³

Why would such a test be useful for commissioned services?

- 13.4 The results of the questionnaire about the progress of adaptation in services across BHCC, while highlighting many areas of good practice, did also show:

*'A variability in the returns from services in terms of how they understood adaptation issues and the actions they have carried out in this area. Sometimes this was due to a lack of understanding what adaptation meant or a confusion between adaptation and mitigation – which suggests the need to build capacity in this area.'*¹⁸⁴

- 13.5 Therefore it would be useful to have a test which was able to both encourage and incentivise services to continue to adapt to climate change. The other vital role of this test would be to remind those who were commissioning services of the importance of adaptation issues. Introducing such a test would enable adaptation to be embedded in Intelligent Commissioning.

How could other businesses or partners be encouraged to use this Test?

¹⁸³ The Adaptation test and 10 indicative questions are from The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁸⁴ Assessment of the returns from the adaptation questionnaire sent out to all service heads

13.6 The Panel heard from Graham Tubb (of SEEDA and Climate South East) that in his experience:

*'...there was not a high understanding of the business benefits of adaptation work...They tend to see it as planning to deal with bad weather...However, businesses need to see it as an issue which extends beyond the horizon of normal risk management.'*¹⁸⁵

13.7 They had managed to engage businesses in adaptation issues by asking questions such as *'was your business affected by bad weather?'*¹⁸⁶

13.8 Graham Tubb identified the potential climate change related concerns of a company such as Amex:

*'They have lots of staff, so transport will be a key issue. They are a multi-national organisation, so rely on the good storage of records.'*¹⁸⁷

13.9 An adaptation test could encourage businesses to consider more fully the range of potential impacts of a changing climate on their organisation and plan ahead for responding to these changes.

13.10 Councillor Tony Janio wished to record his dissent on this particular recommendation. During the Panel's discussion, Cllr Janio spoke of his concerns about potentially adding to the bureaucracy faced by businesses, in particular small businesses, and not wishing to add to this burden by suggesting such a test.

13.11 How recommendation 8 will contribute to NI188

Requiring commissioned services to use an Adaptation Test	Level 1	1.4 Sharing the load and ongoing project planning – managers responsible for service areas aware of the vulnerabilities and opportunities
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¹⁸⁵ Graham Tubb, Minutes of the Panel Meeting on 02.12.09

¹⁸⁶ Graham Tubb, Minutes of the Panel Meeting on 02.12.09

¹⁸⁷ Ibid

9. The Panel welcomes Planning proposals to ensure that developments can adapt to future climate changes. This will be achieved by implementing planning policies which require that new developments in the city must demonstrate that they can adapt to climate change through addressing such issues as flooding, overheating, rain events, storm surges and other climate related impacts. Any new planning documents will be fully informed by relevant studies about climate impacts now and in the future.

The importance of Planning

14.2 According to the RCEP report:

*'Given the local characteristics of climate change, the most important policy tool is the planning system, which typically considers change and impacts over 20-30 year periods'*¹⁸⁸

14.3 The Climate Change Supplement (PPS1) has set out how government expects that planning services will tackle climate change. This included:

- Securing new developments and shaping places that minimise vulnerability and provide resilience
- Conserving and enhancing biodiversity

Core Strategy

14.4 The Local Development Framework (LDF) is the new plan making system introduced by the Town and Country Planning and Compulsory Purchase Act 2004). The Core Strategy is the main planning policy document in the LDF. Its role is to provide an overall strategic vision and policy framework for the city to 2026. When Brighton & Hove's emerging Core Strategy is formally adopted it will replace the Brighton & Hove Local Plan (adopted in 2005). At the time of writing, the council's Core Strategy is at the 'submission document' stage and includes the following:

- Information on future developments and supporting infrastructure, including their location
- Local priorities to improve the provision of services and quality of life¹⁸⁹

¹⁸⁸ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

¹⁸⁹ Briefing note from Assistant Director of City Planning dated 11.01.10

Sustainable Buildings

14.5 One of the key policies in the Core Strategy that is relevant to adaptation is the citywide policy CP1 Sustainable Buildings which sets out:

- The minimum standards of building design for all new developments
- The need for all new developments to demonstrate how they are working to address adaptation related issues such as water neutrality, reducing the heat island effect and reducing surface water run off.¹⁹⁰

14.6 The Council also has a Sustainable Design Supplementary Planning Document (SPD) 08 which is regarded by the service as an:

'...excellent framework for delivering sustainable design such as water neutrality and the Heat Island effect'.¹⁹¹

14.7 According to the Council's City Planner:

'The standards the council is setting are ambitious and are sometimes ahead of the national timetable for the delivery of sustainable buildings.'¹⁹²

Minimising vulnerability in a future climate

14.8 The citywide Policy CP10 (Managing Flood Risk) in the Core Strategy is aimed at making proposals for new developments take into account the findings of the Brighton & Hove Strategic Flood Risk Assessment with regard to all types of flood risk. This includes surface water flooding and coastal erosion.

14.9 The Planning service felt it was better prepared for some climate change impacts than others, including:

- The risk of flooding
- The risk of sea level rises

14.10 Planning was also able to describe a wide range of policies, incorporating both adaptation and mitigation issues, including:

- CP5 Biodiversity
- SA1 The Seafront

¹⁹⁰ Response from Planning to written questions from the Panel

¹⁹¹ Martin Randall and Paula Goncalves, Minutes of the Panel Meeting on 11.01.10

¹⁹² Briefing note from Assistant Director of City Planning dated 11.01.10

Monitoring the outcomes of these policies

14.11 The service confirmed that it was monitoring each policy in the Core Strategy and the next step was to:

‘...find out what difference our policies have made.’¹⁹³

14.12 This process would be made easier if Planning could:

‘...draw on research into the specific effects of climate change on B&H, rather than regional figures alone’.¹⁹⁴

New developments and conversions

14.13 The Panel were briefed that:

‘Whilst new development has a reasonable level of attention given to it by national and local planning policy, improving the existing stock has received less scrutiny.’¹⁹⁵

14.14 This differential has been confirmed in the evidence gathered from the Sustainability checklist, which has:

‘...shown that new buildings are performing satisfactorily, but conversions less so. The need to focus on conversions has informed the Core Strategy.’¹⁹⁶

14.15 Given this greater difficulty in ensuring that adaptation considerations are built into retrofitting, the service acknowledged that

‘...this may need a specific adaptation Supplementary Planning Document’.¹⁹⁷

14.16 How recommendation 9 will contribute to NI188

Working to ensure that developments can adapt to future climate changes	Level 1	1.4 Sharing the load and ongoing project planning – managers responsible for service areas aware of the vulnerabilities and opportunities
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¹⁹³ Martin Randall, Minutes of the Panel Meeting on 11.01.10

¹⁹⁴ Martin Randall, Minutes of the Panel Meeting on 11.01.10

¹⁹⁵ Martin Randall, written responses to questions from the Panel,

¹⁹⁶ Paula Goncalves, Minutes of the Panel Meeting on 11.01.10

¹⁹⁷ Martin Randall, Minutes of the Panel Meeting on 11.01.10

15.1

10. The Panel recommends that BHCC, or the Brighton & Hove Strategic Partnership, approach neighbouring local authorities and other bodies to research areas of good practice, undertake a peer review and identify potential areas for cross working.

Learning from good practice authorities

15.2 A number of witnesses highlighted the need to find out how other councils were approaching particular adaptation issues.

15.3 One example was the suggestion that BHCC *'look at best practice from comparable areas'*¹⁹⁸ to further understand issues relating to the urban heat island effect.

15.4 This was echoed in relation to climate change and risk planning, where the Council's Risk and Opportunity Manager suggested that::

'There is some best practice, one would need to look at Local Area Agreement achievers'.¹⁹⁹

Cross boundary working

15.5 The RCEP report highlighted that:

*'The opportunity to share this kind of information is a valuable part of the learning process. The local government associations have recognised the need for a more integrated approach and have disseminated guidance and initiated pilot projects linking local authorities and national agencies...'*²⁰⁰

15.6 The Panel heard that about the benefits of cross border working, an example being to:

*'...encourage Local Authorities to work co-operatively to address flood risk, in particular where river catchments go across boundaries.'*²⁰¹

15.7 This was also true in planning for health services and extreme weather, where:

*'...there was sharing of good practice across the local authorities in Sussex e.g. flood resilience.'*²⁰²

¹⁹⁸ Martin Randall, Written response to Scrutiny Panel questions

¹⁹⁹ Jackie Algar, Minutes of the Panel Meeting on 26.02.10

²⁰⁰ The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

²⁰¹ Jorn Peters, Minutes of the Panel Meeting on 02.12.09

²⁰² Tom Scanlon, Minutes of the Panel Meeting on 21.04.10

15.8 This was also true of the Council's Planning service who spoke of their '*close working relationship*' with Adur regarding flood risk planning.²⁰³ The Council is also a member of a Coastal Group, stretching from Selsey to the Thames Estuary which looks strategically at issues such as how local schemes impact on adjacent areas.²⁰⁴

15.9 How recommendation 10 will contribute to NI188

Researching examples of adaptation responses	Level 2	2.3 Identifying adaptation options
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²⁰³ Martin Randall and Paula Goncalves, Minutes of the Panel Meeting on 11.01.10

²⁰⁴ Martin Eade, Minutes of the Panel Meeting on 11.01.10

16.1

11. The Panel recognises that the universities and colleges in the city could be used as a valuable resource in building up knowledge about adaptation and engaging with the community. The Panel recommends that this be further explored.

16.2 A previous Scrutiny Inquiry into Environmental Industries was able to conclude that universities were playing a central role in the growth of this sector. The Inquiry also recommended that the Council further developed its already strong links with the universities and colleges in the city.

16.3 The Panel believed that the strengthening of these links would also be beneficial in preparing the city to adapt to the possible changes in the climate. A few examples of the benefits are described below.

Using an Intern to carry out the LCLIP

16.4 The Council has recently begun to carry out the LCLIP for the city and is using an intern from the University of Sussex to carry out the research stage of this project. Kumar Das approached BHCC to gain both practical work experience and an understanding of local climate change impacts. This free Internship has been provided by the University and facilitated by Wired Sussex.

Other examples of working with the Universities

16.5 Following chalk cliff falls above the Marina, BHCC has developed close links with the University of Brighton who is carrying out research work on monitoring the cliffs, including its impact on the A259²⁰⁵.

*'Through this work the council will gain a better understanding of the impact of climate change on the cliff erosion east of the Marina.'*²⁰⁶

16.6 Officers are currently working with both Professor Mortimore who is an emeritus professor at this University and one of his former PhD students Dr. James Lawrence who is now a lecturer at Leeds. In June 2010, BHCC invited down 4 of his MSc students who are doing their dissertations on various aspects of the cliff geology. Some of this research will be very useful for the Authority

16.7 Another example is the recent acceptance of a Pro-Vice Chancellor of the University of Sussex to act as a chair of the new West Sussex Environment and Climate Change Board. Finally, this Scrutiny Panel was chaired by Professor Gordon MacKerron of the University of Sussex.

²⁰⁵ The INFORM project, a joint research and monitoring project to increase the knowledge of the chalk cliffs that run from Black Rock to Saltdean.

²⁰⁶ Written response from Martin Randall to questions from the Scrutiny Panel

16.8 How recommendation 11 will contribute to NI188

Working with Universities and Colleges to build up adaptation knowledge and engage with the community	Level 1	1.2 Understanding current vulnerability
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17.1

12. The Panel welcomes the awarding of funds for BHCC to develop a Surface Water Management Plan (SWMP). It recommends that the work on the SWMP is developed as a matter of urgency and used, where possible, to bid for funding in this vital area.

What is surface water flooding?

17.2 *'Surface water flooding occurs where high rainfall events exceed the drainage capacity in an area. Such events can also lead to serious flooding of property and possessions where surface water flows and collects.'*²⁰⁷

17.3 The increased likelihood of surface water flooding has been identified, by organisations such as the EA, as a key threat to the city as the climate changes.²⁰⁸

Does this kind of flooding pose a risk for the city?

17.4 The East Sussex Fire & Rescue Service (ESFR) has assessed how possible changes to the weather could impact on their response times. They believe that surface water flooding posed *'the most significant risk for the city.'*²⁰⁹

17.5 They are concerned about response times are because:

*'...one could expect higher levels of fatalities if they have a lower response time. This could make the difference between life and death.'*²¹⁰

17.6 The Service's modelling work had found out that:

*'...London Road and Lewes Road are the most vulnerable roads in the city.'*²¹¹

17.7 These findings were echoed by Ambiental who identified:

'...pockets of risk for Shoreham, Portslade and Hove There was a channel which included

- *Wellsbourne – an intermittent river that used to flow down what is now the London Road*
- *London Road*
- *Saltdean.'*²¹²

²⁰⁷ <http://www.defra.gov.uk/environment/flooding/manage/surfacewater/index.htm>

²⁰⁸ Briefing note to the Panel from the Environment Agency, dated 09.09.09

²⁰⁹ Gary Ferrand & Keith Ring, Minutes of the Panel meeting on 01.02.10

²¹⁰ Ibid

²¹¹ Ibid

17.8 Southern Water (SW) also told the Panel of potential flooding related problems that could pose *‘increasing risks’*²¹³ to the city:

- Tidal flooding (SW expressed concern over what effect a sea level rise of 6m could have on the city)
- Ground water flooding (e.g. the autumn 2000 flooding in Patcham).
- The sewerage system (SW felt that the city was quite resilient but could not absorb much above the 1 in 30 year event)
- In 2000 the big storm water tunnel between King Alfred and Black Rock was pretty full throughout the area. (A big single event could have led to very substantial flooding).
- Urban creep e.g. the Carden Avenue area. (SW highlighted that there were concerns over malconnections on chalk and that surface water could be caused by building up over front gardens.)
- Protecting natural flood routes²¹⁴

Who is responsible for surface water management in the city?

17.9 The Pitt review which was set up after the summer floods of 2007, identified that different authorities were currently responsible for varying parts of the drainage network; including water and sewerage companies, highway authorities, local authorities, householders and the EA. To address this, local authorities have been given the responsibility for surface water management, which includes developing a Surface Water Management Plan (SWMP). According to the Environment Agency, the pilot process has shown that this approach has:

*‘...worked to provide a better understanding of where and how surface water flooding happens and the local responses needed to address these risks.’*²¹⁵

What is a Surface Water Management Plan?

17.10 A SWMP is:

*‘...a plan which outlines the preferred surface water management strategy in a given location ...[and] ...describes flooding from sewers, drains, groundwater, and runoff from land, small water courses and ditches that occurs as a result of heavy rainfall.’*²¹⁶

²¹² Justin Butler, Minutes of the Panel meeting on 02.12.09

²¹³ Barry Luck, Minutes of the Panel meeting on 09.09.09

²¹⁴ ibid

²¹⁵ Environment Agency Briefing note prepared for the Panel Meeting on 09.09.09

²¹⁶ Surface Water Management Plan Technical Guidance, DEFRA, (March 2010)
<http://www.defra.gov.uk/environment/flooding/documents/manage/surfacewater/swmp-guidance.pdf>

17.11 This Plan is developed in consultation with key local partners who are responsible for surface water management and drainage in their area. It is a partnership based approach led by BHCC as the Lead Local Flood Authority. The purpose is to:

'...influence future capital investment, drainage maintenance, public engagement and understanding, land-use planning, emergency planning and future developments'.²¹⁷

Funding for an SWMP for the city

17.12 In 2009, BHCC was awarded £275,000 to undertake a SWMP. This was the second highest amount allocated to any of the 77 local authorities.²¹⁸ The amount of money awarded relates to:

'...the estimated number of properties that could be affected by severe weather and the expected average cost of developing a ... plan for their area.'²¹⁹

17.13 The Council's Head of Sustainable Transport explained that the SWMP:

'...will define the shape the extent of Brighton & Hove's problem. It will result in a costed out action plan e.g. for dealing with the problems with the Downs. This can be used to build a business case for requesting grants.'²²⁰

17.14 The major partners for this process will be the Environment Agency (EA) and Southern Water (SW). Other partners may include Shoreham Port, the Emergency Services and other key local stakeholders.

Progress with the SWMP

17.15 The discussions have begun with the EA and SW and further discussions are planned. The EA has recently issued National Guidance giving advice and support to Local Authorities for assessing the risk of flooding in their area.

17.16 The next stage of this process is to establish a partnership Board and to complete the Preliminary Flood Risk Assessment by June 2011, so that the Environment Agency can then review and then publish the reports for England and Wales by 22.12.11.²²¹

²¹⁷ Ibid

²¹⁸ Briefing note to the Panel from the Environment Agency, dated 09.09.09

²¹⁹ Ibid

²²⁰ Mark Prior, Minutes of the Panel Meeting on 11.01.10

²²¹ Email from Ian Furnell, Head of Highway Engineering and Projects, 09.07.10

17.17 How recommendation 12 will contribute to NI188

Develop the Surface Water Management Plan	Level 2	2.4 Implementing priority actions
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18.1

13. The Panel believes that it is essential that sufficient resources are identified to be able to carry out the work recommended in this report.

On completion of the work recommended by the Panel, if further resources are needed to address adaptation these should be reported in any further versions of the Climate Change Action Plan or other relevant strategy documents.

What kind of resources do we need?

18.2 According to the RCEP report:

*'Adaptation requires the right number of people, with the right skills and training, and sufficient financial resources.'*²²²

18.3 Evidence from Kent County Council (KCC) emphasised that preparing for climate change:

*'... is very resource hungry and has taken a lot work ...[but] as a result KCC has been able to identify its climate change priorities...'*²²³

18.4 An example of the resources needed is for training of people in BHCC to be able to use UKCP09 data to produce information at city level.

Help for local authorities to find the resources they need

18.5 There are a number of web based tools and consultancy services that exist to help local authorities to find resources for adaptation.

Local improvement advisors

18.6 There are 10 LIAs nationwide which:

*'...specialise in climate change and environmental sustainability. They can help with advice, coaching, training and mentoring to support and improve delivery through the new performance frameworks for local area agreements...'*²²⁴

UK Climate Impacts Programme

18.7 The aim of UKCIP is to help organisations adapt to climate change. An example of the resources they offer is the LCLIP which will help you to

²²² The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

²²³ Carolyn McKenzie, Minutes of the Panel Meeting on 26.02.10

²²⁴ IDEA website <http://www.idea.gov.uk/idk/core/page.do?pagelId=9509780>

understand and cost climate impacts and adaptation measures. See **Recommendation 2** (paragraphs 7.1 – 7.12)

Are resources currently a barrier to adaptation?

18.8 A survey on adaptation by the Institute of Environmental Management and Assessment (IEMA) found, amongst its members, that 90% of local authorities were adapting. However lack of resources was seen as a 'significant barrier' for 67% of local authority respondents.²²⁵

18.9 Defra had reviewed the first year of reporting for NI188, which also identified as one of the key barriers:

*'A lack of resources ... that was significantly hindering them moving from Level 0 to Level 1'*²²⁶

Spending to save

18.10 This point is emphasised by the Association of British Insurers which:

*'...has promoted adaptation for some time. We believe the predicted changes in the climate pose a threat to the economy and to our way of life. In 2007 the summer floods alone caused more than £3bn of insured damage and the total disruption to the economy was far greater. The Stern Review shows that taking action now will be more cost-effective than taking action later. Our own research shows that adaptation investment can be very cost effective: for example flood defence expenditure in the UK has a **cost-benefit ratio of 7:1**, much higher than for other public sector capital investments.'*²²⁷

What could be the financial consequences of failing to adapt?

18.11 A report by the Local Government Association (LGA) emphasises the importance of tackling climate change, despite the current recession – because:

*'...if we don't act now to ...adapt, it will prove more expensive to ensure that we can cope in the long-term.'*²²⁸

18.12 In 2008, a report conducted by Deloitte – titled a 'Mini-Stern for Manchester', assessed the potential economic impact of climate change legislation on the region. It concluded that:

²²⁵ IEMA, Special Report – Adapting to Climate Change Survey, (2009) <http://www.iema.net/news/envnews?aid=19237>

²²⁶ Matthew Lipson, Minutes of the Panel Meeting on 01.02.10

²²⁷ ABI, Adaptation Strategy

²²⁸ Cutting through the green tape III: the economy or the environment, do I need to choose, LGA, 2010, <http://www.lga.gov.uk/lga/aio/2340010>

*'... a 'failure to adapt' scenario suggests that the City Region could lose an estimated **£20 billion** in GVA over the next 12 years (by 2020), whilst the North West ... could lose an estimated **£70 billion**...*²²⁹

The benefits of being able to calculate the cost of unplanned weather events to the council or the city

18.13 Oxfordshire County Council used an LCLIP to identify, from 1996-2006:

*'...over **260 weather related incidents**, ranging from the effects of flooding on our road networks and properties, to 'standing crop' fires exacerbated by high summer temperatures.*

*The estimated cost of these incidents stands at over **£16.4 million** ... (this does not include the cost of an estimated 20,000 man hours spent responding to these incidents).*

*Some £6.4 million of this has been claimed back via government and emergency funds, however these funds may not always be available. These figures... emphasise the importance of assessing our vulnerabilities to weather today and using these **to plan ahead in order to minimise the expense and damage of future climate change**.*²³⁰

18.14 The ability to identify such costs is a key reason for the Panel recommending that BHCC undertakes an LCLIP (see recommendation 2). The EA emphasised that an LCLIP can:

*'...influence behavioural change by highlighting the excessive costs of doing nothing, both currently and into the future.'*²³¹

Mapping funding opportunities

18.15 An important aspect of gaining resources would be to identify the full range of potential funding areas which were available (subject to political and financial considerations). One of the examples of this is the SWMP, which could be used to *'build a business case for requesting grants'*.²³²

²²⁹ My emphasis, Mini-Stern for Manchester, Deloitte (2008)

http://www.deloitte.com/assets/Dcom-UnitedKingdom/Local%20Assets/Documents/UK_GPS_MiniStern.pdf

²³⁰ My emphasis, Report on the Oxfordshire LCLIP,

http://www.ukcip.org.uk/images/stories/LCLIP/Oxon_LCLIP.pdf

²³¹ Briefing note to the Panel from the Environment Agency, dated 09.09.09

²³² Mark Prior, Minutes of the Panel Meeting on 11.01.10

18.16 Although the future availability of such funding must be seen in the context of significant savings currently being sought in public expenditure.

Obtaining extra resources

18.17 The Council's Civil Contingencies Manager observed that if one is seeking funding to deal with extreme weather:

*'...when events such as floodings happen or are threatened, then it becomes easier to get resources'*²³³

Pooling resources with partners

18.18 Recent guidance for local authorities on NI188 asks:

*'Have we considered pooling resources across the LSP and that of other partnerships particularly on common issues.'*²³⁴

18.19 An example of the benefits of partnership working is Kent County Council, who undertook their climate change prioritisation work with 12 councils and key partners. This resulted in all the partners identifying the:

*'...same barriers and discovered that they are all in the same boat. They were able to get the partners to agree to each give 20-25 days of man power in order to take this project forward project forward.'*²³⁵

18.20 How recommendation 13 will contribute to NI188

Identify resources to implement priority actions	Level 2	Level 2.4 Implement priority actions
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²³³ Robin Humphries, Minutes of the Panel Meeting on 26.02.10

²³⁴ LRAP Guidance on NI188

<http://www.defra.gov.uk/corporate/about/with/localgov/indicators/documents/ni188-guidance.pdf>

²³⁵ Carolyn McKenzie, Minutes of the Panel Meeting on 26.02.10

6. Monitoring the recommendations

*'A key aspect of building adaptive capacity is learning what does and does not work, and feeding this back into the process of framing and implement the next steps in what will be a **continuous journey** without a defined end-point.'*²³⁶

19.1 There are a number of ways that the progress of these recommendations will be monitored:

Cabinet Member monitoring

19.2 If Recommendation 1 of this report is accepted, then a Cabinet Member would be identified as being responsible for climate change adaptation and receive information on the progress of the recommendations which are agreed.

Biennial review of the Climate Change Action Plan

19.3 If Recommendation 2 of this report is accepted, then every two years there would be a review of the city's progress in relation to the CCAP.

Overview and Scrutiny Commission

19.4 Should the recommendations of the Panel be approved by the Overview and Scrutiny Commission, they will then be sent to both partners and to the Executive to respond. The report of the Panel will also be sent to the relevant service heads.

19.5 Once the report has been accepted by the Executive, it will then be sent onto Council for information. The Executive would now be responsible for providing a regular updates to the Overview and Scrutiny Commission (OSC) on the progress of the implementation of the recommendations which were agreed by the Executive. These updates are expected to be at the following intervals; 6 months from the Panel report going to Council, 12 months on and then annually until the recommendations have been implemented.

Annual report back to Overview and Scrutiny Report on adaptation

19.6 As the city develops its adaptation capacity and greater information is gathered on this subject, the OSC may wish to see the data that has

²³⁶ The bold = my emphasis, The Royal Commission on Environmental Pollution's report 'Adapting Institutions to Climate Change' (2010) http://www.rcep.org.uk/reports/28-adaptation/documents/adaptation_final_report.pdf

been gathered on a wider range of concerns than has been addressed in the recommendations of this report.

- 19.7 If there are sufficient new areas of concern, they could be reported to the OSC in the form of an annual report back to the Committee. This could be scheduled for June/July, which would follow the annual self-assessment return for NI188. The other alternative could be to take the biennial update of the Climate Change Action Plan to the OSC.

Brighton & Hove Strategic Partnership

- 19.8 The BHSP would be another vital forum to receive the information gathered on adaptation, outlined above.

National Indicator 188

- 19.9 While NI188 remains, then each Local Authority is expected to complete an annual return on its progress, and self-assess which level it has reached. Appendix B of this Report outlines the expected timetable for progression through the levels of the indicator.

GLOSSARY

Ambiental - a consultancy firm specialising in high resolution flooding risk assessments

ASC – Adaptation Sub-Committee, which is a sub-committee of the Committee on Climate Change

BHCC – Brighton & Hove City Council

CCC - Committee on Climate Change

CCRA – Climate Change Risk Assessment

DECC – Department of Energy and Climate Change

Defra – Department of Environment, Food and Rural Affairs

EA – Environment Agency

ESFRS – East Sussex Fire & Rescue Service

IDEA – Improvement and Development Agency

IEMA – Institute of Environmental Management Assessment

IPCC – Intergovernmental Panel on Climate Change

KCC- Kent County Council

LAA – Local Area Agreement

LAT – Local Action Team

LCLIP – Local Climate Impact Profile

LDF – Local Development Framework

LGA – Local Government Association

LSP – Local Strategic Partnership

NI188 – National Indicator 188

RCEP – Royal Commission on Environmental Pollution

SCS – Sustainable Community Strategy

SW - Southern Water

UKCIP – UK Climate Impacts Programme

UKCP09 – UK Climate Projections

APPENDICES

Appendix A Guidance on NI188

<p>Level 0: Baseline</p>	<p>The Authority has begun the process of assessing the potential threats and opportunities across its estate and services (for example, flood and coastal resilience plans, emergency planning, community risk registers/strategies etc) and has identified and agreed the next steps to build on that assessment in a systematic and coordinated way.</p>
<p>Level 1: Public commitment and prioritised risk-based assessment</p>	<p>The Authority has made a public commitment to identify and manage climate related risk. It has undertaken a local risk-based assessment of significant vulnerabilities and opportunities to weather and climate, both now and in the future. It can demonstrate a sound understanding of those not yet addressed in existing strategies and actions (e.g. in land use planning documents, service delivery plans, flood and coastal resilience plans, emergency planning, community risk registers/strategies etc). It has communicated these potential vulnerabilities and opportunities to department/service heads and other local partners and has set out the next steps in addressing them.</p>
<p>Level 2: Comprehensive risk-based assessment and prioritised action in some areas</p>	<p>The Authority has undertaken a comprehensive risk based assessment of vulnerabilities to weather and climate, both now and in the future, and has identified priority risks for its services. It has identified the most effective adaptive responses and has started incorporating these in council strategies, plans, partnerships and operations (such as planning, flood management, economic development, social care, services for children, transport etc). It has begun implementing appropriate adaptive responses in some priority areas. In its role as a community leader the council has started working with its LSP encouraging identification of major weather and climate vulnerabilities and opportunities that affect the delivery of the LSP's objectives.</p>
<p>Level 3: Comprehensive action plan and prioritised action in all priority areas</p>	<p>The Authority has embedded climate impacts and risks across council decision making. It has developed a comprehensive adaptation action plan to deliver the necessary steps to achieve the existing objectives set out in council strategies, plans, investment decisions and partnership arrangements in light of projected climate change and is implementing appropriate adaptive responses in all priority areas. This includes leadership and support for LSPs in taking a risk based approach to managing major weather and climate vulnerabilities/opportunities across the wider local authority area.</p>
<p>Level 4: Implementation, monitoring and continuous review</p>	<p>Authority and LSP are implementing the comprehensive adaptation action plan across the local authority area, and there is a robust process for regular and continual monitoring and review to ensure progress with each measure and updating of objectives. The Authority and LSP are taking appropriate adaptive responses.</p>

Appendix B

Brighton & Hove's Three year proposed framework to deliver improvement to Level 3 of NI188 – Adapting to climate change

LEVEL 1	2010-11	2011-2012	2012-2013
Public Commitment made.			
Council leaders & senior management aware of developing adaptation programme.			
Vulnerabilities & Opportunities identified – including Local Climate Impacts Profile (LCLIP).			
Impact assessments carried out.			
Service Heads aware of all vulnerabilities through prioritised assessments.			
LEVEL 2			
Partnership working to develop adaptation action plan.			
Action plan drawn up based on previously identified vulnerabilities & opportunities.			
Implementation of action plan started regarding key priority areas.			
Risk management plans drawn up for other vulnerabilities.			
LEVEL 3			
Action plan drawn together with the LSP and other relevant partners.			
Adaptation embedded in decision making processes and across all its service areas.			
Action to be taken for all priority areas either on the ground or by risk management.			

Appendix C

Example of regional information provided by UKCP09²³⁷

Key findings for South East England, 2050s

Medium emissions scenario

The wider range is defined as the range from the lowest to highest value of change for all emissions scenarios and all three (10, 50, and 90%) probability levels for each 30-year time period.

Under medium emissions, the central estimate of increase in **winter mean temperature** is 2.2°C; it is very unlikely to be less than 1.1°C and is very unlikely to be more than 3.4°C. A wider range of uncertainty is from 0.9°C to 3.8°C.

Under medium emissions, the central estimate of increase in **summer mean temperature** is 2.8°C; it is very unlikely to be less than 1.3°C and is very unlikely to be more than 4.6°C. A wider range of uncertainty is from 1.1°C to 5.2°C.

Under medium emissions, the central estimate of increase in **summer mean daily maximum temperature** is 3.7°C; it is very unlikely to be less than 1.4°C and is very unlikely to be more than 6.6°C. A wider range of uncertainty is from 1.2°C to 7.4°C.

Under medium emissions, the central estimate of increase in **summer mean daily minimum temperature** is 3°C; it is very unlikely to be less than 1.3°C and is very unlikely to be more than 5.1°C. A wider range of uncertainty is from 1.2°C to 5.7°C.

Under medium emissions, the central estimate of change in **annual mean precipitation** is 0%; it is very unlikely to be less than –5% and is very unlikely to be more than 6%. A wider range of uncertainty is from –6% to 6%.

Under medium emissions, the central estimate of change in **winter mean precipitation** is 16%; it is very unlikely to be less than 2% and is very unlikely to be more than 36%. A wider range of uncertainty is from 1% to 40%.

Under medium emissions, the central estimate of change in **summer mean precipitation** is –19%; it is very unlikely to be less than –41% and is very unlikely to be more than 7%. A wider range of uncertainty is from –43% to 16%.

²³⁷ <http://ukclimateprojections.defra.gov.uk/content/view/2262/528>

