Planning to adapt to climate change

Kettering Borough Council
Progress Review as at March 2011

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1. Foreword

Local authorities and other partners within Northamptonshire have developed a Climate Change Strategy for Northamptonshire to tackle the causes and effect of climate change, which has shared targets around reducing CO₂ emissions (NI 186) and planning to adapt to climate change (NI 188). This Strategy and its Action Plan were endorsed by the Northamptonshire Public Service Board in May 2010.

Although we are no longer required to submit a self-assessment matrix to government for NI 188, ‘planning to adapt to climate change’ remains our local priority and indeed is still a high government priority. DEFRA has stressed that “more immediate and thorough action is needed across the public sector – including by local authorities, as well as businesses and individuals, to ensure that the UK is preparing adequately for a changing climate”. It states “All organisations need to move up an “adaptation ladder” of key activities – progressing from building understanding and capacity, to incorporating the impacts of climate change into key decisions, and ultimately taking tangible action to reduce the risks”.

Due to the importance that both ourselves and government places on this issue, as local authorities we will no doubt be required to demonstrate what we are doing to adapt to the threats of more flooding, heat-waves and extreme weather events. The work on ‘climate adaptation’ being undertaken by our Climate Change Project officers (funded to March 2011) using the guidance of NI 188, will place us all in a stronger position to achieve our agreed outcome of tackling the causes and effects of climate change and to respond to any future government requirements regarding this issue.

2. Introduction

The climate of Northamptonshire is already changing, figures from the Adaptation Sub-Committee’s 1st annual report¹ show that temperatures are, on average, 1 ºC higher than in the 1970’s. Insurance costs associated with climate change and weather events already total £1.5 billion/annum in the UK. By ensuring that Northamptonshire plans ahead by taking timely adaptation action it will minimise the risks and financial implication associated with climate change.

Kettering Borough Council (KBC) has already identified and targeted areas and actions which have long term consequences, these have been risk assessed against UKCIP data and adaptive measures have been put into place to ensure that the risks posed to these long term areas and actions are mitigated (see Sections 6 + 7). In identifying and dealing with the risks posed by climate change KBC have taken account of the approach suggested by the Adaptation Sub-Committee’s 1st annual report¹.

The Planning to Adapt project (P2A) has been undertaken in conjunction with Climate East Midlands regional partnership in order to share information on, and identify best practice in areas where adaptation is already taking place and where it can be embedded in the future.

This project has been striving towards the targets of National Indicator 188 (NI188), Planning to Adapt to Climate Change, which was a Local Area Agreement target indicator for Northamptonshire. The aim of P2A was to embed the management of climate risks and opportunities across the local authority and partners services and to take appropriate adaptive actions where required.

Although we no longer have a requirement to report to Central Government on NI 188, Northamptonshire local authorities recognise the importance of climate change adaptation and will continue to work to the targets set by NI 188 and report our achievement through the self assessment matrix. There are five levels of NI 188, summarised below:

- Level 0 Getting started
- Level 1 Public commitment and completed Local Climate Impacts Profile
- Level 2 Comprehensive risk assessment of climate change on services
- Level 3 Comprehensive 'adaptation' action plan
- Level 4 Implementation, monitoring and continuous review of action plan.

The target for the Northamptonshire was to achieve:

- Level ONE in 2008-09 (achieved)
- Level TWO in 2009-10 (achieved)
- Level THREE in 2010-11 (achieved)
- Level FOUR in 2011-12 (achieved)

Building on the success of the regional project which enabled the Northamptonshire Partnership to achieve its Level 2 target, Climate East Midlands regional partnership has again taken a collaborative approach towards reaching Level 3 and 4.

In order to share information on adaptive options and identify best practice in areas where adaptation is already taking place, a common methodology was developed regionally for researching adaptive options for all high risk service areas in local authorities identified by the risk assessment process carried out at Level 2. Meetings were undertaken with Service Heads / managers responsible for the services deemed at high risk from the impacts of climate change, to determine what adaptive options are already being carried out and where adaption could be placed within their service policies, plans and processes. The following report summarises the adaptive options identified during research and actions agreed during meetings with service representatives at KBC.

This report forms part of a set which covers the whole of Northamptonshire, including the County Council, all the districts and boroughs and local strategic partners. By taking a holistic approach to climate adaptation and embedding resilience to climate change in numerous processes, policies and procedures across the county we believe that Northamptonshire has reached Level 4 of NI 188. However, ongoing work will be required to further embed adaptive actions to meet the changes in climate and the risks that this poses.

The work has been undertaken by two Northamptonshire Climate Adaptation Project Officers (CAPOs) mainly funded by EMREIP with a contribution from the County Council.

Having completed both a Local Climate Impacts Profile (LCLIP) report, comprehensive risk assessment, embedded adaptive responses across council decision making and continuously monitoring and reviewing these implemented actions KBC has now not only achieved Level 3 of NI188 but also Level 4.

Climate change projections released in 2009 by the United Kingdom Climate Impacts Programme (UKCIP) have been used to inform the risk assessment and embedding decisions for Northamptonshire. They fall under three broad climate change impacts:

- Warmer drier summers
- Milder wetter winters
- Increasing extreme weather events and indirect impacts of climate change.
Examples of the projections used to inform the project are presented in the table below:

<table>
<thead>
<tr>
<th></th>
<th>2020</th>
<th>2050</th>
<th>2080</th>
</tr>
</thead>
<tbody>
<tr>
<td>Summer mean temperature</td>
<td>+1.4°C</td>
<td>+2.5°C</td>
<td>+3.5°C</td>
</tr>
<tr>
<td>Summer mean rainfall</td>
<td>-5%</td>
<td>-15%</td>
<td>-19%</td>
</tr>
<tr>
<td>Winter mean rainfall</td>
<td>+6%</td>
<td>+14%</td>
<td>+18%</td>
</tr>
</tbody>
</table>

There are more detailed projections for the East Midlands in 2020, 2050 and 2080, available from the UKCP09 website: [http://ukclimateprojections.defra.gov.uk/content/view/2146/680/](http://ukclimateprojections.defra.gov.uk/content/view/2146/680/)

### 3. Summary of findings at Level 1 of NI188

A Local Climate Impacts Profile (LCLIP) was completed for KBC in 2008 to demonstrate achievement Level 1 of NI188. In order to complete the LCLIP, local newspaper articles were used to identify major weather events that occurred between 1998 and 2008 and their impact on local communities. The most significant of these were highlighted and included in interviews with both council workers and members in order to obtain extra information on the specific impacts to the council and the delivery of its key services.

A total of 10 comprehensive interviews were undertaken, all of which were with council officers in departments including: Environmental Care, Emergency Planning, Properties Services, Insurance, Customer Services, Planning and Facilities.

The media trawl identified just 22 major weather events that occurred between 1998 and 2008. These resulted in a total of 60 weather related incidents that impacted Kettering borough during that time. There were a range of weather types attributed to different incidents, most common being damage and disruption caused by strong mid-latitude depressions, heavy thunderstorms and lightning strikes.

For a full version of the LCLIP report for KBC, please contact the Development Officer.

### 4. Summary of findings at Level 2 of NI188

A comprehensive risk assessment of climate change on council services was carried out for KBC in 2009/2010 which enabled the council to reach level 2 of NI 188. In order to complete the risk assessments every function of the council was assessed for its vulnerability to climate change. Criteria such as the service being directly concerned with road networks or dealing with vulnerable people signified higher risk for that particular service. The high risk services identified were summarized into the following 9 titles:

1. Emergency Planning
2. Corporate Property
3. Arboriculture, Landscapes and Biodiversity & Conservation
4. Planning
5. Environmental Health (Inc. Air Quality, Contaminated Land, Health and Safety, Infectious Diseases, and Pest Control)
6. Street Cleansing
7. Council / Social housing (n/a in certain districts)
8. Sports
9. Waste Collection, Recycling and Commercial Waste

A comprehensive risk assessment was undertaken for each of the 9 high risk services listed above, using UKCP09 projections. This was undertaken on a regional basis by Climate Change Project Officers in order to avoid work being duplicated across the region. These risk assessment were then verified by appropriate heads of service.

Information obtained within the Climate East Midlands partnership was shared and distributed to Climate Adaptation Project Officers to use at interviews with service representatives at district and borough councils of Northamptonshire. Interviews served to identify differing levels of risk according to location and degree of preparedness therefore risk scores changed accordingly (e.g. Daventry District Council scored flood risk lower than Northampton Borough Council due to the presence of the River Nene in Northampton). In addition to obtaining risk scores, control measures currently in place within the authority were established as well as potential future adaptation measures.

The risk assessment was completed using a 5x5 matrix - multiplying the severity of consequences by the likelihood to achieve a risk colour and category, as shown below.

<table>
<thead>
<tr>
<th>Likelihood of Occurrence</th>
<th>Almost Certain</th>
<th>Highly Likely</th>
<th>Even Chance</th>
<th>Likely</th>
<th>Rare</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>15</td>
<td>12</td>
<td>9</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>20</td>
<td>16</td>
<td>12</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>25</td>
<td>25</td>
<td>20</td>
<td>15</td>
<td>10</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Severity of Consequences</th>
<th>Insignificant</th>
<th>Minor</th>
<th>Moderate</th>
<th>Major</th>
<th>Catastrophic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

The final scores achieved represent the following categories of risk:

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>COLOUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOW RISK</td>
<td>GREEN</td>
</tr>
<tr>
<td>MEDIUM RISK</td>
<td>YELLOW</td>
</tr>
<tr>
<td>HIGH RISK</td>
<td>AMBER</td>
</tr>
<tr>
<td>VERY HIGH RISK</td>
<td>RED</td>
</tr>
</tbody>
</table>
According to the risk assessments there are a number of generic impacts that affect every service within the council such as overheating in the workplace during higher summer temperatures and disruption to service delivery due to flooding. Adaptation to risks such as these is therefore of critical importance in order to ensure business continuity in the future.

Level 2 also began to identify adaptive options in order to reduce levels of risk. In order to examine adaptive options in more detail, more comprehensive research and interviews were done into adaptive options to achieve Level 3 of P2A

5. Methodology of Level 3

The requirements to achieve Level 3 are as follows:

A) **Embedded climate impacts and risks across council decision making.**

To meet this requirement initial research was carried out regionally into adaptive options for services highlighted as high risk during level 2 risk assessments (listed above). This information was used to inform meetings held with the environmental improvement officer regarding where adaptation could be embed into policies processes and procedures.

A top down approach was taken with high level corporate documents and documents relating to infrastructure or long term contracts being highlighted as key areas to embed, if this was not possible other documents were considered. Along side this, areas that currently consider sustainability, the environment or climate change issues were targeted. Evidence was also collected on where adaptation is already taking place. The results and subsequent actions from these meetings are listed in section 6 and 7.

B) **Developed a comprehensive adaptation action plan**

As part of the implementation of the Northamptonshire Climate Change Strategy, a first year Action Plan has been developed which identifies five key areas that KBC and LSP partners wish to address regards planning to adapt to climate change. This provides a comprehensive high level framework for undertaking adaptation actions by KBC. Alongside this, the strategic approach taken by Northamptonshire local authorities towards embedding ‘adapting to climate change actions’ is to ensure that our decision making processes take full account of the likely impacts of climate change – so that our decisions made today do not close off options and make it harder to adapt in the future. Our focus is therefore on ensuring that the following take account of the likely impact of climate change:

- Decision-making regarding **long-lived assets** for example council buildings and infrastructure (e.g. roads);
- Decision-making regarding the **long-term commissioning/ procurement** of services;
- **Business continuity** / council service **risk management** and **emergency planning activities**; and
- **Shorter term adaptation** embedding.

C) **Implementing appropriate adaptive responses in all priority areas**

During meetings held with the environmental improvement officer evidence was collected on where adaptation is currently being implemented and where future adaptation is planned or has been suggested.
### 6. Table of Results for Corporate Level Actions

The table below details actions that are currently being undertaken at Kettering at a strategic policy level. There was a clear need to get high level buy in at Kettering, during Level 3 meeting key documents were identified and adaptation was embedded within these. This will ensure that adaptive actions are passed through the council from a corporate level through to individual services.

<table>
<thead>
<tr>
<th>Measures Already in Place</th>
<th>Document</th>
<th>Action</th>
</tr>
</thead>
</table>
|                          | Kettering Town Centre Area Action Plan | ● Sustainability Appraisal includes a section on protecting people form the effects of climate change. Includes increases in tree cover and adaptability of environments and buildings to natural hazards.  
● Section 17.1.4 references the importance of mitigating the risks of flooding etc that is associated with climate change. Notes that plan and animal migratory routes must be maintained so that species can move and adapt to climate change.  
● A section on adaptation embedded in Policy 2 (Urban quarters, Urban codes and development principles)  
● 2 sections on climate adaptation embedded under the "Key Objectives" section |

For copies of the documents mentioned above please contact the Development Officer (environment) at KBC.
7. Table of Results for Service Level Actions:

The table below details actions that are already in place at KBC at an individual service level. The table also includes future adaptive measures, these are actions which have been identified at KBC as important and are planned to be undertaken in the future. The service levels listed below are drawn from the high risks services highlighted during the Level 2 risk assessment.

<table>
<thead>
<tr>
<th>Service Level</th>
<th>Measures Already in Place</th>
<th>Future Adaptive Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sports</td>
<td>Sports services provide water and shading for participants and spectators of events</td>
<td></td>
</tr>
<tr>
<td>Arboriculture, Landscapes and Biodiversity &amp; Conservation</td>
<td>Alternative indoor sports available if outdoor weather conditions signify a health and safety risk</td>
<td>Change type of clothing worn in hotter conditions for outdoor workers: e.g. T-shirts / hats / lighter trousers</td>
</tr>
<tr>
<td></td>
<td>Air conditioning units are checked every six months for Legionella</td>
<td>Seasonal bedding with drought tolerant species.</td>
</tr>
<tr>
<td>Waste/Street Cleaning</td>
<td>Waste management team have changed collection times</td>
<td>Change type of clothing worn in hotter conditions for outdoor workers: e.g. T-shirts / hats / lighter trousers</td>
</tr>
<tr>
<td></td>
<td>Waste collection vehicles have fridges</td>
<td>Change method of collection of green waste to reduce risk of combustion in heat</td>
</tr>
<tr>
<td>Planning</td>
<td>Parks and schools have shaded areas</td>
<td>Site new developments on extensions and urban areas</td>
</tr>
<tr>
<td></td>
<td>Waste collection services are suspended in severe weather</td>
<td>Buildings to be sited and designed to minimise solar gain during summer</td>
</tr>
<tr>
<td></td>
<td>Ensure foundations are resilient to subsidence</td>
<td>Consider supply and demand of water when choosing location of new developments. Minimise water consumption in buildings by measures such as rainwater harvesting / recycling.</td>
</tr>
<tr>
<td></td>
<td>Provide recreational areas / green spaces</td>
<td></td>
</tr>
<tr>
<td>Corporate Property</td>
<td>Improve building design</td>
<td>Ensure foundations are resilient to subsidence</td>
</tr>
</tbody>
</table>
8. Summary of Level 3

This report provides a summary of the evidence base for current and future adaptation work undertaken by KBC to achieve NI 188 Level 3 and Level 4. It is clear from sections 6 and 7 that extensive work has been carried out by KBC to ensure that adaptive responses to the threats posed by climate change have been tackled at both a strategic and practical level. This can only be reaffirmed when the planned future adaptation actions are completed. The fact that many of the above practices and policies have been implemented and are continually monitored and reviewed show that KBC have not only reached NI 188 Level 3 but they have also attained the requirements of NI 188 Level 4.

9. Level 4

The requirements for Level 4 are as follows:

a) **The authority and LSP are implementing the comprehensive adaptation action plan across the local authority area.**

The partnership Northamptonshire Climate Change strategy 2010-14 sets out a framework for action by partners to:

- Raise awareness of the issue of Climate Change and its impact on Northamptonshire
- Reduce greenhouse gas emissions across the County
- Plan for and adapt to the predicted impacts of Climate Change

An agreed annual action plan 2010-11 sets out those actions partners are to undertake to help implement the strategy.

It is clear from the section 6 and 7 that KBC has started implementing the adaptive actions as outlined within Northamptonshire Climate Change Strategy.

b) **There is a robust process for regular and continual monitoring and review of the action plan.**

This is facilitated through the Northamptonshire Climate Change Officers Group (NCCOG) which comprises all local authorities in Northamptonshire, along with other key public sector partners, business and third sector representatives. NCCOG meets at least quarterly and monitors progress with the agreed annual action plan using a RAG rating. Quarterly updates are reported to all partners. NCCOG also reports to the Chief Executives / the Public Service Board annually to report overall progress.

c) **The Authority and LSP are taking appropriate adaptive responses.**

It is clear from the section 6 and 7 that KBC has started implementing adaptive actions and plans to continue to implement adaptive actions in the future.

Due to the above evidence it can be seen that according to the criteria, KBC has successfully reached Level 4 of former NI 188 – Planning to adapt to climate change.
10. Conclusion

KBC has embedded climate change adaptation into numerous policies, processes and procedures. Examples of this range from climate change being considered within the Kettering Town Centre Action Plan and the provision of sun protective equipment to staff working outdoors, to the monitoring of air condition units and the wide adoption of shaded areas in schools and parks.

Through quarterly meetings at Northamptonshire Climate Change Officers Group (NCCOG) and the Northamptonshire Climate Change Strategy, KBC also monitor and continuously review the implementation of their adaptive responses. Due to this it is clear that KBC have surpassed the criteria of Level 3 and have reached Level 4 of NI 188.

It is clear from the above that significant progress has been made by KBC and that adaptation has been embedded within specific key council services. However, there remain numerous service areas and policies in which consideration to the risks posed by future changes in climate would ensure that KBC is more resilient to climate change.

For more information on Planning to Adapt to Climate Change please contact:

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