

Adapting to Climate Change

The climate is changing and rising global temperatures are expected to bring changes in local weather patterns.

To avoid making the problem worse BCC is investing £2.2 million in energy efficiency improvements across its property portfolio and reducing the number of miles travelled, to help reduce carbon emissions. Climate change mitigation and resource efficiency are a corporate priority.

However, due to inertia in the climate system, past emissions mean that some climate change is inevitable whatever we do to reduce emissions.



We need to better understand how our climate might change so that we can prepare. The UKCIP 09 climate change projections suggest that in the future Buckinghamshire will experience warmer and wetter winters, hotter dryer summers and an increased frequency and intensity of extreme weather.



The 10 hottest years on record have all been since 1997. In 2007 UK flood damage cost an estimated £3 billion

The first step is to acknowledge that some form of climate change is happening then to assess the risks and develop action plans to reduce the vulnerability to these risks.

It is vital that BCC plans and prepares for these changes, taking simple steps now will reduce the costs and discomfort in the future. Having a sound understanding of vulnerability to our climate now and in the future is the key to ensuring a resilient organisation and community.

Although individual weather events cannot be directly attributed to climate change, we know the kinds of impacts that we may face because we have some experience of them already.

The role of Local Authorities

In recognition of the leadership role that local authorities should be taking in tackling climate change the Government introduced four indicators on climate change in the Local Government Performance Framework including NI 188 Adapting to climate change.

These climate change indicators now form a key element of the Comprehensive Area Assessment KLOE 3.1 'Use of Resources' and our progress will be an important part of the improvement plan.

NI 188 allows authorities and partners to measure **progress** in adapting to climate change over **five levels**. The levels range from level 0, identifying the priority areas for adaptation through to level 4, developing and maintaining an adaptation action plan.

Adaptation to climate change is all about ensuring services, assets, and infrastructure are *resilient* to the realities of a changing climate.

Local authorities are now expected to understand the risks presented by climate change in terms of the likely impacts upon, and the vulnerabilities of, the services that they deliver and to develop action plans to ensure resilience.

Last year, the first year of reporting, BCC completed the governments NI 188 self evaluation matrix and scored Level 0 in the submission. Since then further work has been undertaken to progress this area and hopefully achieve Level 1 in this year's evaluation. Principally this included:

- developing a public commitment to identify and manage climate risk, see chapter 3 of the Sustainability Strategy. ...

...The Council is committed to acting on climate change and will:

Establish, monitor and reduce the Council's own carbon footprint; Achieve a sustainable level of resource use to mitigate climatic effects; and Minimise the impact of climate change and adapt to these changes

http://www.buckscc.gov.uk/assets/content/bcc/docs/sustainability_fund/Sustainability_Strategy_Sept_2009.pdf

- examining the UKCIP 09 data to determine the likely future climate of Buckinghamshire,
- undertaking a risk based assessment of significant vulnerabilities and opportunities to weather and climate now and in the future

Progress to date

A cross service working group, chaired by the Deputy Leader and supported by The Cabinet Member for Resources already exists. This group which includes representatives from each Service Area was established with the primary responsibility for climate change mitigation by implementing the NI 185 (cutting carbon emissions from BCC operations) programme. It seemed logical to extend the remit of this existing group and it subsequently agreed to also take on responsibility for the delivery and implementation of the climate change 'Adaptation' programme (NI 188).

In order to adapt effectively BCC needed to assess the risks posed by climate change and to develop an action plan to address potential threats.

Stage 1

Consultants AEA were commissioned to identify future climate patterns, likely impacts and a risk assessment to help support the progression of NI 188.

Using UKCIP (09) the future climate of Buckinghamshire was considered using the latest scenarios. The climate projections focus on discrete variables to identify a number of events which are categorised as:

- Warmer, drier summers
- Milder, wetter winters
- More very hot days and nights
- More intense downpours of rain
- Possible increase in storms (highwinds)

Climate risks were considered across three time frames: the 2020s, 2050s and 2080s.

Creating an information base

Building knowledge through historical evidence is important in order to understand the issues, such as damage caused by past storms and flooding, therefore helping to show where resilience needs to be built in.

To help identify local vulnerability to severe weather events a pilot '**Local Climate Impacts Profile**' (**LCLIP**) was carried out in partnership with AVDC for the Aylesbury area. The study was compiled using information sources such as local newspaper archives, to identify when extreme events had occurred and enable better understanding of the exposure to weather and climate impacts. It provided evidence of the vulnerability to severe weather events and in particular how these events affected a local community as well as the authority's assets and capacity to deliver services.

[http://www.buckscc.gov.uk/assets/content/bcc/docs/sustainability_fund/LCLIP_Report%20 Final.pdf](http://www.buckscc.gov.uk/assets/content/bcc/docs/sustainability_fund/LCLIP_Report%20Final.pdf)

Stage 2

The second stage was to identify whether the future climate events represent a threat or an opportunity to the County Council for particular service areas and functions. For example a predicted increase in winter rainfall and also extreme down pours may lead to increased flash flooding causing damage to properties and disruption to service provision.

The study identified threats, opportunities and mixed threats and opportunities for County Council Services.

Stage 3

Following on from the identification of threats and opportunities the likelihood and magnitude were determined using BCC's risk management process. Likelihood was distinguished in terms of occurrence of the threat and magnitude as the severity of the consequence on a particular service area. Scores for likelihood and magnitude were then multiplied to give an overall risk rating.

For example: Event (hot dry summer) - consequence (heatwave/ drought) – impact on objectives (health and safety implications).

A BACLIAT (Business Areas Climate Impact Assessment Tool) assessment was undertaken of the risk climate change poses to services provided by the County Council to identify potential impacts from climate change in terms of Threats and opportunities to:

Demand: changing demand for services

Finance: implications for investment, insurance and reputation

Logistics: vulnerability of supply chain, utilities and transport arrangements

Premises: impacts on building design, construction, maintenance and facilities management

People: implications for workforce and users of the council

Process: impacts on management processes and service delivery

Stage 4

The fourth stage was to identify how the identified risk might change over the future time periods:

- 2020's
- 2050's
- 2080's

Stage 5

The final stage assessed the current level of adaptation planning and preparation within the council using a number of service plans to determine whether:

- The service plan makes any reference to the consequences of extreme weather events
- The extent to which the risks identified in the analysis were covered by the service plan
- The extent to which the relevant plans and strategies contribute positively to the Council's response.

Findings

The findings of the BACLIAT assessment were used to identify the priority risks to the authority. Analysis found that a number of specific services were at risk from climate change.

However, all services and the community more generally are likely to be affected indirectly. In the short-term (2020s) many of the risks from climate change are considered manageable or low. In many cases existing contingency planning and risk management will help the Council to cope with the consequences of extreme weather events. There will also be opportunities for the Council in the short-term, although realising these may be difficult and any cost savings indirect.

In the longer term (2050s and 2080s) the risks increase substantially both in terms of likelihood and magnitude. The UKCP09 projections suggest that Buckinghamshire's climate will be very different in the future and change considerably from what residents, local businesses and the Council are used to. This might include summers that are warmer and drier, winters that are milder and wetter, with more very hot days and nights, more intense downpours of rain and possible increases in storms. This means that the Council will find it increasingly difficult to cope with impacts of climate change. Opportunities will increasingly be outweighed by negative costs.

The assessment is based on the assumption that the Council will do nothing to respond to the risks identified – hence over time as the degree of climate change increases so too will the risks. Therefore today's decisions must account for how long their effects will be felt.

The full assessment (contact the Sustainability Team for more information) provides the Council with a risk-based assessment of significant vulnerabilities and opportunities to weather and climate now and in the future.

Next steps

The work to date has focussed on the vulnerabilities and threats to BCC services however, it is also essential to consider the impacts on the wider community. A number of activities are underway to help achieve this:

- The Environment Task Group of the Bucks Strategic Partnership have developed a draft 'Climate Change Action Plan' which identifies specific adaptation actions and

- A Climate Change Risk Register has been developed by the Resilience Team to reflect the likely risks posed by a changing climate.

Actions

The findings of the assessments need to be disseminated to and understood by Service Heads and Leadership Team.

A workshop is to be arranged in order to agree the next steps in taking action to address the vulnerabilities identified.