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[Report]

**[Consideration of
severe weather and
climate risk by partner
organisations in
Worcestershire]**

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1. Introduction

Our climate is changing due to decades of human influence. It is now widely accepted that some change in climate is now unavoidable due to the length of time greenhouse gasses, such as CO₂, reside in the atmosphere. Although efforts are being made to reduce the impact human activity has on the environment, it is important to consider how a changing climate may impact on human activity.

The potential costs and risks of climate change to the economy have been documented by The Stern Report which highlighted that unabated climate change could cost the world at least 5% of global GDP per year and that severe weather events could reduce global GDP by up to 1%.

The passing of the UK Climate Change Act 2008 has further highlighted the importance of assessing the risks posed by climate change and the need to plan adaptive measures through the setting up of the Adaptation Reporting Power for public bodies and statutory undertakers. This requires reporting on progress to the Secretary of State for DEFRA.

National Indicator 188, planning to adapt to climate change, provided a structure for assessing the impacts of severe weather and climate change on Local Authority service provision and developing plans to respond to this challenge. The Worcestershire Partnership included NI188 as one of the 35 priority indicators for 2008-2011. Central Government announced that as of December 2010 there would be no requirement to report on those existing national indicators but voluntary reporting would be accepted by the relevant departments. The Worcestershire Partnership agreed to continue working towards and monitoring performance on a number of priority indicators until April 2011, including NI188.

NI188 was a process rather than outcomes based indicator and comprised 5 levels of actions to work through. These were;

Level 0: Baseline. Assessing the organisation's current position and setting up a project delivery plan.

Level 1: Making a public commitment to identify and manage climate related risk and producing a risk-based assessment of prioritised risks

Level 2: Producing a comprehensive risk-based assessment and prioritised actions (including encouraging the LSP to identify vulnerabilities)

Level 3: Develop a comprehensive adaptation action plan and prioritised action in all priority areas (including providing leadership and support for the LSP to take a risk based approach to managing severe weather/climate vulnerabilities)

Level 4: Implementation, monitoring and continuous review of the action plan (requires the LSP to be implementing a comprehensive adaptation plan and taking appropriate adaptive response).

The Worcestershire Partnership agreed to meet level 3 for Worcestershire County Council and level 2 for district councils by end March 2011 as part of the Local Area Agreement.

Local Authorities are not the only public services needing to consider climate change. Other members of the Worcestershire Partnership need to consider the

risks of severe weather and climate change and plan to adapt to cope with these risks to ensure business continuity. This report provides a base for highlighting current work across the Partnership on considering severe weather and climate risks and will support Worcestershire County Council's progression towards level 3 of this indicator. At a national scale, adaptation to climate change and assessment of severe weather risks is now being taken seriously with the compilation of the UK Climate Change Risk Assessment due for completion January 2012. This will pave the way for a national adaptation programme; both will highlight the key priority areas for action.

The Worcestershire Partnership brings together Local Authorities, public services, voluntary and community organisations and local businesses within Worcestershire to tackle those issues that affect Worcestershire residents' quality of life. This report will focus on a number of key partners and their consideration of severe weather and climate change in their plans and policies. Information was collected from all organisations mentioned below in a variety of ways. Partners included and the source of the information about each organisation is listed below;

Organisation	Source of information
Bromsgrove District Council	NI188 response
Environment Agency	Adaptation reporting power report
Hereford and Worcester Fire and Rescue Service	Direct contact
Highways Agency (not a member of the Worcestershire Partnership but are key in responding via the Local Resilience Forum severe weather group)	Adaptation report power report
Malvern Hills District Council	NI188 response
Redditch Borough Council	NI188 response
Severn Trent Water (not a member of the Worcestershire Partnership but are key in responding via the Local Resilience Forum severe weather group)	Information for Adaptation reporting power report (report not yet published)
West Mercia Police	Direct contact and information via Worcestershire Severe Weather Group
Worcester City Council	NI188 response
Worcestershire County Council	NI188 response
Worcestershire NHS	Direct contact
Wyre Forest District Council	NI188 response
University of Worcester	Direct contact

District and County Council information was contributed via NI188 progress reporting.

This report will highlight the current consideration of severe weather and climate change risk by some of the members of the Worcestershire Partnership and highlight any adaptive measures that have been considered and make recommendations on the next steps for climate change adaptation for the Worcestershire Partnership.

2. Consideration of severe weather/climate risk

2.1 District Councils

Worcestershire district councils have been following the NI188 process set out by DEFRA. All district councils are working towards achieving level 2 of the process. Each district has a Local Climate Impact Profile (LCLIP) specific to their services. The climate change risk assessment completed for Worcestershire County Council was applied to district councils as the same risks apply. The completion of specific service risk assessments and adaptation plans was shared out between each district council to avoid duplication. Each district council could then select the most relevant actions for their organisation to formulate their action plan. District councils are at different stages in this process due to resource issues. The majority of district councils intend to continue with this work.

The majority of actions councils have so far taken relate to flood risk. This was seen as the main risk to district services across Worcestershire prior to the introduction of NI188 and is still considered a major risk after using this process. All district councils now have multi-agency flood plans developed as part of the Local Resilience Forum response to flooding. These multi-agency plans allow a diverse range of organisations involved in flood response to work together more effectively. The Flood and Water Management Act 2010 saw district councils given increased responsibility for ordinary water courses.

2.2 Environment Agency

The Environment Agency's core responsibility is to protect and enhance the environment of England and Wales for people and wildlife and contribute to sustainable development. A key area of work is to respond to flooding of major rivers, monitor river levels and provide flood warnings for areas at risk. This includes an automated service to warn individual home owners in flood risk areas.

Nationally, the Environment Agency is required to report on climate change risk and adaptation through the Adaptation Reporting Power brought in by the Climate Change Act 2008. The Environment Agency was directed to report in the first wave of reports from the 90 organisations contacted. These were published in January 2011. Weather conditions already had a central consideration for the Environment Agency as heavy rainfall influences pollution incidents through chemicals washing into water courses, as well as raising flood risk. The priorities are to address the risks climate change poses to flooding, water resources, water quality, wildlife and habitats, with the main concerns being for the impact of climate change on rainfall, sea levels and temperatures. The Environment Agency has assessed the risks climate change poses to their key objectives, highlighting the best and worst case scenarios, providing a strategic risk assessment. Adaptation options also provide an indication of scale of costs.

2.3 Hereford and Worcester Fire and Rescue Service

As a category 1 responder, the Fire Service has a duty to respond to emergencies to reduce, control or ease the effects of an emergency (e.g. flooding). This is detailed by the Civil Contingencies Act 2004.

Climate Change is detailed as an environmental risk under the strategic risks for the Fire Service. The Fire Service are members of the Local Resilience Forum (LRF) and contribute to the LRF Severe Weather Group, which looks at the response to severe weather as a partnership in Worcestershire. Climate Change is also considered in all departmental, project and partnership risk registers. Fire Service service plans have a number of supplements to support as their resilience plans. Severe weather is a supplement as part of this set.

The Fire Service now has a responsibility to respond to flood water rescues as well as responding to fire risk. They have produced research into climate change and the influence higher temperatures have on the numbers of secondary fires they are required to respond to. High temperatures also influence the number of watercourse rescues they attend.

2.4 Highways Agency

This information is taken from the Adaptation Reporting Power report produced by the Highways Agency as a national organisation.

The Highways Agency has responsibility for 7500km of road network which is valued at over £87billion. In Worcestershire the Highways Agency has responsibility for the motorway network. They have reported voluntarily via the Adaptation Reporting Power to contribute to the UK Climate Change Risk Assessment and the National Adaptation Programme. Their Severe Weather Plan states

"It is the Highways Agency's policy to ensure, so far as is reasonably practicable, that safe passage along the highway is not endangered by snow or ice, and alert procedures and actions are taken in the case of floods, severe gales, fog and heat waves." (Severe Weather Plan, AMM 127, July 2010) ([The Highways Agency Interim Climate Change Risk Assessment](#), December 2010)

The Highways Agency [Climate Change Adaptation Strategy and Framework](#) defines a process for identifying activities that may be affected by a changing climate. The strategy also outlines the associated risks and preferred options for mitigating these risks using a risk appraisal method.

2.5 Severn Trent Water

This information is taken from the information collated for the Adaptation Reporting Power response presented to the West Midlands Adaptation Partnership. Severn Trent will report to DEFRA by the end of 2011.

Severn Trent is a member of the Worcestershire Severe Weather Group (sub group of the LRF) which coordinates a multi-agency response to severe weather risks for Worcestershire. For Severn Trent some of the main areas of concern are drought leading to issues around water extraction, and flooding affecting waste water causing pollution. [Drought management plans](#) are available for nine drought management areas. The Severn Drought zone which covers Worcestershire is supplied by a range of sources including pumped water reservoirs, river abstraction and ground water sources. The UKCP09 projections have been used to help the organisation respond to risks posed by climate change, this will form their response to the adaptation reporting power later in 2011.

2.6 West Mercia Police

The Police have responsibilities under the Civil Contingencies Act 2004 as a category 1 responder to respond to emergencies such as flooding.

West Mercia Police respond to severe weather as part of the LRF Severe Weather Group with other members of the partnership. The Police contribute to the development of plans, procedures and arrangements for a multi-agency response to severe weather events identified in the LRF community risk register. West Mercia Police do not have any bespoke risk assessments for severe weather or climate change. They focus on a partnership response with other organisations. The Worcestershire Severe Weather Group has a requirement to align with climate change adaptation work where appropriate.

2.7 Worcestershire County Council

Since 2008 Worcestershire County Council have been following the process for planning to adapt to climate change set out by NI188. Adaptation to climate change had been considered in a variety of activities across the authority for a number of years prior to this. A Local Climate Impacts Profile (LCLIP) for County Council services was completed in 2007, (this is continually updated as weather events disrupt service delivery). The LCLIP also included the impacts on Hereford and Worcester Fire and Rescue Service, Worcestershire NHS and the Environment Agency. Following from this, a climate risk assessment was developed for the Council. This is revised annually to take account of new science and evidence on risk to services and is approved by the Corporate Risk Management Group. The risk assessment is used to accompany the business continuity planning process. The risk assessment has been used to inform the development of an adaptation action plan, which comprises contributions from a range of services. Some directorates have included the actions or reference to their actions in their business improvement plans.

The adaptation plan and risk assessments are informed by the severe weather events highlighted by the LCLIP. The LCLIP does not feature drought as a current key risk to Worcestershire, however, when considering changes in future climate, drought becomes important. It has therefore been recommended that consideration to drought be included within risk assessment revisions as a separate risk to high temperatures, as a drought can occur without prolonged increased temperatures.

A climate change impact assessment is now a requirement in the project planning framework for Worcestershire County Council. This accompanies the equality impact assessment for all major projects.

The Flood and Water Management Act 2010 saw Worcestershire County Council named as a Lead Local Flood Authority with responsibility for coordinating response to flood risk for the local area. This should strengthen work on assessing the risks posed by flooding and enable further partnership working. The next step for Worcestershire County Council would be to embed adaptation across all business planning.

Worcestershire County Council chair the Local Resilience Forum Severe Weather Group for the County. The severe weather response in Worcestershire

is also supported by the voluntary sector, who assist public services in a variety of ways.

2.8 Worcestershire NHS

The NHS has responsibilities under the Civil Contingencies Act 2004 as a category 1 responder to respond to emergencies such as flooding. The climate change risk has been recognised and climate change plans have been integrated into existing plans to ensure consistency.

The following plans address required responses to extreme events at a national and local level:

- NHS Heat wave plan (national)
- Major Incident Plan: a generic plan that sets out NHS roles and responsibilities in responding to a major incident, including inclement weather events (flooding, snow, heat wave).
- Worcestershire Heatwave Plan, (only valid between May & September)
- Lickhill Manor Nursing Home Contingency Plan: Flood related, for the PCT only.
- Facilities Contingency planning: CP08 Inclement Weather and CP027 Heat Wave

The PCT and MHPT contribute to the LRF severe weather planning process to deliver a partnership response.

2.9 University of Worcester

The University of Worcester are members of the Worcestershire Partnership Climate Change Task Group which is addressing climate change adaptation. They have emergency procedures for flooding and severe weather and a snow and ice policy. Climate Change risks are not yet considered in University policy/plans, but this is something that will be addressed.

3. Summary and Recommendations

1. Worcestershire local authorities have been following the National Indicator 188 process for planning to adapt to Climate Change. This covers aspects of severe weather and climate risk as well as plans to adapt. Following this process has provided a good starting point for assessing risk but this work needs to continue to ensure adaptation to climate change is considered across the organisations. This may be difficult for some local authorities in the absence of a formal requirement to report. **It is therefore recommended that climate/severe weather risk is embedded in risk assessment processes so climate is considered alongside standard risk assessments in future.**

2. Emergency services respond to severe weather via the Local Resilience Forum (LRF) Severe Weather Group. The most appropriate response is seen as a partnership approach. The severe weather group aim to align their work to support adaptation to climate change where possible. The Partnership response is to deal with the current risk and respond to events as and when they occur. The NHS and Fire Service have considered climate change in their plans.

Organisations such as the Environment Agency, Highways Agency and Severn Trent Water are all required to assess the risks of climate change and plan to adapt through the Adaptation Reporting Power. Their progress is reported to the Secretary of State for DEFRA. Those organisations with a requirement to report on progress towards assessing risks and adapting to climate change have progressed further when looking at the impacts of climate change.

It would be helpful if all critical services and public service providers were required to report on progress on adapting to climate change through a standard method to ensure the same standard of preparedness for service providers.

3. The main gap in consideration of climate change adaptation by partnership organisations is forward planning for future climate change. **Although severe weather is and always will be an issue of concern, plans should also take into account projected changes in severe weather frequency and intensity, as well as the more gradual shifts in climate, to ensure future business continuity, reduce the risk of severe weather related emergencies and cost and disruption caused by infrastructure damage.**

4. It is important that all organisations consider the longer term impacts of climate change, particularly when considering critical infrastructure development. Structured planning and policy development for climate adaptation now, will enable essential infrastructure changes to be made in a measured and cheaper way than reacting to severe weather events as and when they occur. **It is recommended that future climate projections are considered in all major and critical infrastructure development.**

5. This report does not consider the preparedness of the business sector. This will in part be addressed through a seminar for local businesses focussing on severe weather risk and business continuity planning in Worcestershire. It is important that the business sector addresses the risks posed by severe weather and changes in climate in order to allow Worcestershire to remain open for business what ever the weather.

Recommended Process for Worcestershire Partnership Organisations

- a. **Risk assessment** - embed climate and severe weather risk into the standard risk process for each organisation or partnership
- b. **Business continuity planning** - this is perhaps the most appropriate method for considering climate impacts for a whole organisation to limit future disruption.
- c. **Reporting** - this should be standardised and reported annually with a 6 monthly progress update. A method comparable to the information being reported via the Adaptation Reporting Power would be most suitable. This would take the form of a progress report on three stages of the process;
Stage 1 - risk assessment (developing a priority list of risks)
Stage 2 - possible adaptation responses (adaptation responses to the priority risks)

Stage 3 - implementing, embedding and monitoring (taking action where appropriate, embedding climate change into existing policy procedure and monitoring suitability of actions and progress via reporting to the partnership).

d. **Future projects**

Consideration of Climate Change impact should be an integral part of the planning process for large scale changes to organisations, infrastructure and new building development.