



Report to: Cabinet
Subject: Adapting to Climate Change
Date: 3rd February 2011
Author: Head of Planning & Environment

Purpose of Report

To report on progress in moving the Council from Level 0 (Getting Started) to Level 1 (Public Commitment and Impacts Assessment) in preparing to adapt to climate change.

Context

There are two strands to responding to climate change; mitigation and adaptation. Mitigation is activity which aims to reduce the future extent of climate change, focusing on reducing Carbon emissions now to minimise the extent of future changes to temperature and climate, and the Energy Policy and Action Plan is a response to that. Adaptation measures focus around becoming more resilient to changes to weather and climate which are already taking place and will continue to occur as the result of previous carbon emissions.

Recent weather events have already demonstrated that the climate is changing; extreme weather events, such as flooding and droughts are becoming more common. The Met office has indicated that in the East Midlands summers are likely to be hotter and drier, whilst winters will become milder and wetter. Both however will also see a greater number of extreme weather events. Based on climate change modelling, the extent of changes in the East Midlands could be as follows;

Impact	Low/ High emissions 2020	Low/High emissions 2050
Summer mean temp	1.4-1.5°c increase	2.3–2.8c increase
Winter mean temp	1.3° c increase	1.9°c increase
Summer mean precipitation	3-5% decrease	11-16% decrease

Winter mean precipitation	6% increase	11-15% increase
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(based on UKCP 09)

The impacts of these will go beyond those of the events themselves and their immediate aftermath; for example, longer drier summers will impact on the availability of water, may result in shortages of certain foodstuffs and could result in higher than usual seasonal death rates. All of these might impact on the ability of the Borough Council to deliver its own services, for example through staff absences, and on the community's requirements of the council, for example through increased demand for public health services. There may also be opportunities for service development as well however, as better summer weather may promote increases in tourism and related businesses in the region.

Councils have been required to assess the potential impacts of climate change, and plan ahead to manage them. Councils were required to self assess themselves against five categories, ranging from 0 (Getting Started) to 4 (Implementation, Monitoring and Continuous Review). As this is a new field for the Gedling Borough Council, initial submissions have been Level 0. However the Borough Council has aimed to improve to Level 1 in 2010/11.

Level 1

There are a number of milestones which need to be achieved for this;

'Technical Definition

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.'

(LRAP)

The key points of this are;

- Making a public commitment
- Identifying current vulnerability
- Identifying potential future impacts.

In terms of making a public commitment, the Borough Council is already a signatory of the Nottingham Declaration. The Council is also leading on sustainability issues for the Gedling LSP and so will develop this role to encourage other partners to consider adaptation issues.

With regards to identifying vulnerability and potential future impacts, the Council has used the Local Climate Impacts Profile model. This has identified the areas identified in appendix 1. Each service area has reviewed the areas identified in light

of the likely changes to the climate highlighted above, and provided information on how these risks could be minimised.

This information has then been used to develop prioritise activity in terms of what are the threats and what opportunities might arise, included as appendix 2. These focus around;

- Changing demand for services
- Implications for finance
- Vulnerability of the supply chain
- Impact on buildings
- Implications for workforce and customers
- Impact on service delivery

These identify a number of areas where the Council will need to focus activity to be able to adapt to climate change, such as around ensuring services can continue to be delivered in extreme weather events, and areas where opportunities might arise, such as generating renewable energy.

Recommendations

That Cabinet note the report and the progress made in preparing to adapt to climate change.

APPENDIX 1

Local Risk Assessment: Potential risks to Gedling Borough Council caused by severe weather

RIVER FLOODING (Major Local Fluvial Flooding)						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Rising river floodwater damaging property and infrastructure. 	Closures of council-run buildings.	<p>Disaster Recovery System in place. 5 leisure centres available to act as alternative venues.</p> <p>The Communications Team would invoke its communications procedures as stated in the council's emergency plan. This would involve making sure important messages about procedures/information /contingencies are circulated to local media and members of the public via a number of communication channels, such as the council's website, local BBC radio and local press. Social media is also being considered such as Twitter to get urgent messages out to the public in case our website was to go down. Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities.</p> <p>Officers can work at home. Backscanning of paper records in place. Dangerous structure service</p> <p>No Council Buildings fall within the flood plain.</p> <p>Current Trent flood defences are being improved at present</p>	<p>LS</p> <p>S&P</p> <p>CS</p> <p>P&E</p> <p>DS</p>	<p>Install IT connector to Richard Herrod Centre to use as an emergency office to supplement the arrangements with Newark and Broxtowe.</p> <p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p>	<p>LS</p> <p>CS</p>	L
	Members of the public displaced from their homes.	<p>5 leisure centres available to act as Emergency Rest Centres. Emergency Plan in place Preparation of the Greater Nottingham Strategic Flood Risk Assessment to identify those areas most likely to be affected by flooding in the future.</p>	<p>LS</p> <p>S&P</p>	<p>Ensure leisure centres remain open(see above) Update Emergency Plan Ensure assessment remains up to date</p>	<p>LS</p> <p>LS S&P</p>	L

		<p>Preparation of Planning Policy (the Adopted Local Plan and the emerging Aligned Core Strategy) to direct new housing development to where it is less likely to be affected by flooding.</p> <p>The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.</p> <p>Corporate Emergency Plan (aligned to NCC Plan). Wardens available to assist vulnerable households B&B for a few households Invoke emergency plan</p> <p>Covered by; 1.Multi agency flood response plan. 2.Multi agency mass evacuation plan. 3.Rest centre plan 4.Multi agency 'Disaster Recovery' group. Flood risk assessment in place to inform future planning policy.</p>	<p>CS P&E</p> <p>CSOD</p> <p>DS</p>	<p>Ensure policy remains up to date</p> <p>Co-ordination of joined up response Community specific flood plans being developed.</p>	<p>S&P</p> <p>All</p> <p>DS</p>	
	Increase in call levels to the Customer service centre	<p>External agency agreement to deal with peak demand. Outsource to Northgate to provide resources</p>	<p>CS</p> <p>CSOD</p>	Automated message to callers?	CSOD	L
	High public demand for the delivery of sandbags.	Sandbag policy in place.	DS	Multi agency policy in development.	DS	M
• Road network flooded.	Emergency road closures and diversions.	<p>Funeral delays need to follow diversion signs. BCP &DRP (GBC perspective). Corporate Emergency Plan (aligned to NCC Plan – public perspective). Notts County Council responsibility</p>	<p>LS</p> <p>CS</p> <p>DS</p>			L
	Difficulty reaching vulnerable people.	<p>Have mobile phone numbers Multi agency flood plan identifies need to consider vulnerable people</p>	<p>CSOD</p> <p>DS</p>	<p>Establish a register of vulnerable households at risk? Comes under the community specific flood plans which will identify vulnerable people.</p>	CSOD	L

<ul style="list-style-type: none"> Damaged road surfaces. 	<p>Difficulty in delivering services.</p>	<p>The Communications Team would invoke its communications procedures as stated in the council's emergency plan. Wardens have some larger vehicles, but these have limited ability to navigate flooded roads</p>	<p>S&P P&E DS</p>	<p>Consider higher spec vehicles when procuring Multi agency recovery group will be involved.</p>	<p>All</p>	<p>M</p>
<ul style="list-style-type: none"> Polluted drinking water. 	<p>Disruption to piped water and/or sewerage services to a community population.</p>	<p>Infrastructure Delivery Plan being prepared in support of Aligned Core Strategy to establish whether appropriate services (eg drinking water/sewerage) will be available to support future development. BCP &DRP (GBC perspective). Corporate Emergency Plan (aligned to NCC Plan – public perspective). Mobile water testing</p>	<p>S&P CS P&E</p>	<p>Support water companies alternative plans – bottled water</p>	<p>P&E</p>	<p>L</p>
<ul style="list-style-type: none"> Risk of infection from flooded workplaces. 	<p>Temporary closure of Gedling Borough Council buildings.</p>	<p>Disaster Recovery System in place. 5 leisure centres available to act as Emergency Rest Centres. Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities. Home working/mobile working Eg Environmental Health Officers, Pest Control Liaise with Health Agencies re: disease control Limited remote working. Homelessness calls delivered to mobile phones Emergency plan No Council Buildings fall within the flood plain. No perceived immediate risk.</p>	<p>LS CS CS P&E CSOD DS</p>	<p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p>	<p>CS CS</p>	<p>L</p>
<ul style="list-style-type: none"> Flood-risk buildings considered uninsurable by insurance companies. 	<p>Gedling Borough Council have to insure against risk of damage within the council's internal Insurance Fund.</p>	<p>No Council Buildings fall within the flood plain.</p>	<p>DS</p>	<p>Risk assessment of all council buildings for flooding</p>	<p>CS</p>	<p>L</p>

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FLASH FLOODING/HEAVY RAINFALL						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Lack of capacity in the drainage system. 	<p>Flooding of the road network leading to emergency road closures and diversions.</p> <p>Difficulty in delivering services.</p>	<p>Thackerays Lane open space is a designated flood area.</p> <p>Infrastructure Delivery Plan being prepared in support of Aligned Core Strategy to establish whether appropriate services (eg drainage) will be available to support future development.</p> <p>Wardens vehicles – limited ability to negotiate flooded routes</p> <p>Burton Road open space has problems with flooding from the Pump Station – sewerage.</p> <p>Water cycle study evidence used in determining planning applications</p>	<p>LS</p> <p>S&P</p> <p>P&E</p> <p>LS</p> <p>P&E</p> <p>DS</p>	<p>Nominate other open space as flood areas. Improve the capacity of Severn Trent Pump House.</p> <p>Burton Road open space is closed following spillage.</p> <p>Multi agency recovery group will be involved.</p>	<p>LS</p> <p>LS</p> <p>DS</p>	<p>M</p>
<ul style="list-style-type: none"> Land movements. 	<p>Landslips, damage to bridges, severe damage to lightweight structures. Disruption to transport networks.</p>	<p>Preparation of Planning Policy (the Adopted Local Plan and the emerging Core Strategy) to direct new development where it is less likely to be affected by flooding. Account taken of advice from Environment Agency. Corporate Emergency Plan (aligned to NCC Plan).</p>	<p>S&P</p> <p>CS</p> <p>DS</p>	<p>Multi agency recovery group will be involved.</p>		<p>L</p>
<ul style="list-style-type: none"> Subsidence and heave on the highway. 	<p>Damage to carriageways and pavements.</p>	<p>Corporate Emergency Plan (aligned to NCC Plan).</p>	<p>CS</p> <p>DS</p>	<p>Multi agency recovery group will be involved.</p>		<p>L</p>

<ul style="list-style-type: none"> Waterlogged soil affecting tree roots and stability 	A number of trees fall across the county. Potential damage to private property through subsidence caused or exacerbated by Gedling Borough Council owned trees.	<p>Tree Survey on woodland undertaken, action plan in place to remove dangerous or diseased or dying trees.</p> <p>Corporate Emergency Plan (aligned to NCC Plan). Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.</p> <p>Dedicated Tree Officer – tree and hedge inspections</p>	<p>LS</p> <p>CS</p> <p>P&E</p> <p>DS</p>	<p>Repeat tree survey every two years.</p> <p>Promote planting of appropriate species in new developments</p> <p>Survey all Borough tree stock. Select list of emergency tree surgeons to respond.</p>	<p>LS</p> <p>P&E</p> <p>DS</p>	L

STORMS / STRONG WINDS						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Disrupted electricity / telecommunications/ street lighting/ traffic signals. 	IT system failure.	<p>Disaster recovery system in place. Manual back up systems in place.</p> <p>Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities Work remotely</p> <p>GBC IT recovery plan in place</p>	<p>LS</p> <p>CS</p> <p>DS</p> <p>P&E</p>	<p>Ongoing testing of current plans.</p> <p>IT system capable of significant remote access? Identification of alternative sites for council operations.</p>	<p>CS</p> <p>CS</p>	L
	CCTV failure.	Service agreement with system provider				
	Loss of public connection to the Customer service centre.	<p>Business Continuity Plan (BCP)</p> <p>Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities.</p> <p>Disaster Recovery Plan</p>	<p>CS</p> <p>CSOD</p>	<p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p>	CS	L

	Increased risk to vulnerable members of the public.	Corporate Emergency Plan (aligned to NCC Plan). Mobile phone access	CS CSOD			L
	Loss of critical infrastructure	Infrastructure Delivery Plan being prepared in support of Aligned Core Strategy to establish whether appropriate services (eg electricity/telecommunications) will be available to support future development. Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities.	S&P CS	Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation). Multi agency group established and looking at ways to prevent loss.	CS DS	L
• Damage to vegetation and trees and subsequent injuries	Trees falling on highways.	Corporate Emergency Plan (aligned to NCC Plan). Inspections and maintenance of trees in GBC ownership	CS P&E DS	Plant suitable species Survey all Borough tree stock. Select list of emergency tree surgeons to respond.	P&E DS	L
	Trees falling in parks – damage to property or public.	Regular frequency of inspection	LS	Remove dead, dying or diseased trees.	LS	
	Insurance claims made against Gedling Borough Council	Regular tree surveys Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.	LS CS	More regular inspections	LS	
• Street lights and signs blown down	Failure of street lighting columns and subsequent disruption to the highway network.	Corporate Emergency Plan (aligned to NCC Plan).	CS			L

<ul style="list-style-type: none"> Damage to the built environment and urban infrastructure 	<p>Damage to council buildings including to roofs and guttering.</p>	<p>5 leisure centres available to act as alternative venues where appropriate.</p> <p>Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities. Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.</p> <p>Dangerous Structures advice</p> <p>All GBC buildings surveyed and maintained to minimise risk. On call contractors to respond.</p>	<p>LS</p> <p>CS</p> <p>P&E</p> <p>DS</p>	<p>Regular condition surveys of all council buildings</p> <p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p>	<p>LS</p> <p>CS</p>	<p>L</p>
	<p>Temporary closure of council buildings.</p>	<p>The Communications Team would invoke its communications procedures as stated in the council's emergency plan. Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities. Insurance cover with Zurich Municipal plus insurance fund for uninsured losses. IT Recovery plan in place.</p>	<p>S&P</p> <p>CS</p> <p>DS</p>	<p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p> <p>Council relocation plan being implemented.</p>	<p>CS</p> <p>DS</p>	<p>L</p>
<ul style="list-style-type: none"> Increased risk of aviation/rail accident 		<p>Local resilience forum risk assessment group in place.</p>	<p>DS</p>			

HEAT WAVE / HOTTER SUMMER TEMPERATURES (Prolonged/Severe Heat wave)						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<p>Damage to highways and transport infrastructure, and urban pavement failure.</p>	<p>Road surfaces melting and requiring repairs. Disruption to the highway network.</p>	<p>Corporate Emergency Plan (aligned to NCC Plan).</p> <p>Promote alternative modes of transport – walking, office cycles. Maintenance of Council managed surfaces</p>	<p>CS</p> <p>P&E</p>			<p>L</p>

<ul style="list-style-type: none"> Increase in length of growing season 	Increased frequency of mowing and maintenance required on the soft estate.	<p>Hosepipe ban</p> <p>Infrastructure in place to deal with extended growing season if required.</p>	<p>DS</p> <p>DS</p>	Promote slower growing species on council land and in new developments.	P&E	L
<ul style="list-style-type: none"> Surface damage to structures 	Damage sustained to Council assets.	<p>The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.</p> <p>All buildings and hard landscape built to BS specification.</p> <p>Contractors in place for emergency repair works.</p>	DS	Regular condition surveys of all council buildings	LS	L
	Insurance claims processed by Gedling Borough Council following damage to Gedling Borough Council property	Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.	CS			
<ul style="list-style-type: none"> Exposure to UV / excessive temperature 	Staff suffer from heat exhaustion and/or contract UV related skin diseases.	<p>Staff working outdoors are issued with sun protection and suitable clothing.</p> <p>Internal (cooling fans and air conditioning units available)</p> <p>Warn and inform campaign when heat wave thresholds are reached</p> <p>Sunhats, sun screen, UV safety glasses and drinks are available for use by all staff.</p> <p>Review working shift patterns.</p>	<p>All</p> <p>CS</p> <p>DS</p>	Advice will need to be updated to reflect changing climate conditions	All	M
<ul style="list-style-type: none"> Warmer weather encouraging outdoor lifestyles/more 	Increased recreation and leisure based travel resulting in increased use of	<p>Ban on use of barbeques in parks.</p> <p>The emerging Aligned Core Strategy provides for increased sustainable recreation and leisure based travel.</p>	<p>LS</p> <p>S&P</p>	Raise profile of policy.	LS	M

tourists	the highways network.	Carnival/Gala risk assessments must account for warm weather	DS			
	Increased revenue attained at council-run events	Events are free therefore no additional income.	LS			L
<ul style="list-style-type: none"> Higher temperatures causing health problems to the young and elderly. 	Increased danger to vulnerable people causing strain on services.	Extra cemetery capacity available	LS			L
	Increase in contact to the Customer service centre.	External agency agreement to deal with peak demand.	CS			L
<ul style="list-style-type: none"> Higher temperatures in workplaces/ Gedling Borough Council vehicles. 	Complaints from members of staff about working conditions and reduced employee productivity.	Temperatures are monitored	LS	Potential demand for more climate control measures in leisure centres where temperatures are critical to operation and staff welfare. Consider less energy intensive means of cooling	All	M
		Internal (cooling fans and air conditioning units available)	CS			
		Flexible working Advice about drinking water and suitable clothing	P&E			
		Health and Safety procedures Risk Assessments Grievance procedure	CSOD			
		Warn and inform campaign when heat wave thresholds are reached. Sunhats, sun screen, UV safety glasses and drinks are available for use by all staff. Review working shift patterns.	DS			

<ul style="list-style-type: none"> Increased crime rates. 	<p>Increase in the number of burglaries through unlocked doors and open windows</p>	<p>Procedure in place to identify and minimise risk</p> <p>The emerging Aligned Core Strategy requires development proposals to deliver high levels of building security in advance of national standards in order to mitigate against and adapt to climate change.</p> <p>Caretaker observations. Grills fitted to ground floor windows. Security system.</p> <p>Wardens aware</p>	<p>LS</p> <p>S&P/P &E</p> <p>CS</p> <p>P&E</p>	<p>There may be extra budgetary demand for security measures for remote staff such as CCTV and Lone Worker systems</p> <p>Promote awareness</p>	<p>LS</p> <p>P&E</p>	<p>L</p>
<ul style="list-style-type: none"> Increase in vector borne diseases and pollutants such as ozone and photochemical smog. 	<p>Increase in the number of Gedling Borough Council outdoor employees contracting illnesses. Both diseases and respiratory illnesses.</p>	<p>Advice and appropriate clothing</p> <p>GBC have access to agency staff in event of core workforce illness.</p>	<p>P&E</p> <p>DS</p>	<p>Take public health advice in the event of such an occurrence.</p>		<p>L</p>

DROUGHT (Prolonged/severe drought)						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Lower summer rainfall leading to water shortages. 	<p>Loss of water supply to members of the public</p>	<p>Infrastructure Delivery Plan being prepared in support of Aligned Core Strategy to establish whether appropriate services (eg water supply) will be available to support future development.</p> <p>Preparation of the Greater Nottingham Water Cycle Study considers in detail the likely water related constraints on, and impacts of, future development.</p> <p>Corporate Emergency Plan (aligned to NCC Plan).</p> <p>Watering will cease on all fine sports turf surfaces. All</p>	<p>S&P/P &E</p> <p>CS</p> <p>DS</p>			<p>L</p>

		bedding and floral displays will be left to die and removed.				
	Increased risk and severity of park fires	Watering will cease on all fine sports turf surfaces. All bedding and floral displays will be left to die and removed.	DS	Closure of all parks	DS	
<ul style="list-style-type: none"> Lowering of water table reducing soil moisture and causing ground subsidence and structural problems. 	Damage to council assets and corresponding process and payment of insurance claims. Potential damage to private property through subsidence caused or exacerbated by Gedling Borough Council owned trees	<p>Preparation of Planning Policy (the Adopted Local Plan and the emerging Core Strategy) takes on board advice from the Environment Agency to minimise impact on the water table.</p> <p>Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities. Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.</p> <p>Dangerous structure advice</p> <p>All buildings and hard landscape built to BS specification. Contractors in place for emergency repair works.</p>	<p>S&P/P &E</p> <p>CS</p> <p>P&E</p> <p>DS</p>	Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).	CS	L
<ul style="list-style-type: none"> Fire 	Reduced biodiversity	<p>Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities.</p> <p>Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.</p> <p>Fire Safety Procedures for all GBC buildings.</p>	<p>CS</p> <p>CS</p> <p>CS</p>	<p>Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).</p> <p>Promote planning of fire resistant species Bio diversity replacement plan required</p>	<p>CS</p> <p>P&E</p> <p>DS</p>	L
	Reduced access	<p>Business Continuity Plan (BCP) Disaster Recovery Plan (DRP), incorporating Adam Continuity Management and reciprocal agreements with neighbouring authorities. Fire Safety Procedures for all GBC buildings.</p> <p>Insurance cover with Zurich Municipal plus insurance fund for uninsured losses.</p>	<p>CS</p> <p>CS</p>	Ongoing testing of current plans. Enhance BCP (require cost/benefit analysis for further risk mitigation).	CS	L

SNOWFALL (Prolonged/Heavy snowfall/blizzards)						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Loss of water/electricity supply. 	IT system failure	Disaster recovery system in place. Manual back up systems in place. The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.	LS	Improve communication methods with the public – text etc.	LS	L
	Closure of leisure facilities	GBC IT recovery plan in place Inform the public	S&P/P&E DS LS	Recovery sites need to be identified	DS	
	Loss of public connection to the Customer service centre.	The Communications Team would invoke its communications procedures as stated in the council's emergency plan. Disaster Recovery	S&P CSOD			L
	Disruption to piped water and/or sewerage services to a community population.	Water testing	P&E	Agreement with water companies re: bottled water	P&E	L
	Increased risk to vulnerable members of the public.	Flexible B&B facility for homeless people Night shelters etc	CSOD	Increased demand for 'no living relatives' funerals.	P&E	L
	Loss of critical infrastructure	Disaster recovery plan	CSOD	Multi agency group established and looking at ways to prevent loss	DS	L
<ul style="list-style-type: none"> Warmer Winters. 	Less disruption by snow and ice likely to mean reduced need for winter maintenance.	The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.	S&P			L

	Possible increase in number of 'marginal' nights mean number of 'turn-outs' in winter is likely to remain similar or increase.					
	Increased length of grass growing season.	Infrastructure in place to deal with extended growing season if required.	DS			L
• Provision of grit runs low.	Council have to buy grit from non-council suppliers at considerable expense.	Government Salt Supply cell will be in operation and will allocate resources accordingly.	DS	Increase salt supplies in stores.	DS	M
• Road network inaccessible	Increased demand on winter maintenance operations.					
	Increase in contact to the Customer service centre.	Able to route calls to remote working officers	CSOD			L
	Staff face difficulties reaching work.	Flexible working/remote working Service plans GBC have access to agency staff in event of core workforce not being able to attend their work place. Reduce the range of services available.	All DS All			M
• Staff unable to attend place of work	Cancellation of meetings, staff unable to access Gedling Borough Council IT system.	Burials – additional staff trained in procedures to provide cover. Circulate severe weather warnings/allow internet access Remote working Defer Activity	LS P&E CSOD	Arrangements with undertakers to hold bodies	LS	L

		GBC have access to agency staff in event of core workforce not being able to attend their work place. Reduce the range of services available. Home working as required.	DS All			
	Increased number of calls to contact centre	Use of answer phone (call back) Use of messaging Reduced service	CSOD			L

Severe cold weather (Prolonged/severe cold weather)						
What are the risks?	What are the consequences?	What are the current mitigation measures in place?	Lead	What further mitigation measures can be implemented?	Lead	Risk: H/M/L
<ul style="list-style-type: none"> Health risks to vulnerable people 	Increased number of hospital admissions	The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.	S&P			M
	Increased number of fatalities	Sufficient Burial/cremation provision. Emergency 'Mortuary' plan may need to be activated. Extra grave diggers to be employed. Mass 'Fatality' plan activated if required. Crematoria to be used as required.	LS DS	Provision of new burial land.		L
<ul style="list-style-type: none"> Increased heating bills 	Increased number of residents unable to pay heating bills	The emerging Aligned Core Strategy requires development proposals to deliver high levels of building sustainability in advance of national standards in order to mitigate against and adapt to climate change.	S&P			M
		187 – Fuel Poverty work	P&E	Support subsidised insulation measures	P&E	
Indirect impacts resulting from climate change						
What are the risks?	What are the	What are the current mitigation measures in		What further mitigation		Risk:

	consequences	place?		measures can be implemented?		H/M/L
<ul style="list-style-type: none"> • Power disruption • Climate enforced immigration • Social disorder 		ASB resources	P&E	Promote local power generation – CHP plants	P&E	L

Appendix 2

Markets: changing demand for services	
Threats	Opportunities
<ul style="list-style-type: none"> • Decreased or disappearing demand for present range of services. • Quality issues relating to how services perform in the new climate e.g. inability to collect organic waste which could be decaying faster in a warmer climate. • Access of customers to services could be undermined by extreme weather. • Difficulties in marketing existing assets, e.g. buildings, that become increasingly unsuited to the climate 	<ul style="list-style-type: none"> • New services or modifications to existing services to respond to a changing market, e.g. flood management technologies, generation of sustainable energy, consultancy, measuring and monitoring equipment, climate resilient building advice. • Advantages for early movers in response to changed markets and lifestyles. • Increased passing trade in some sectors during long hot summers, e.g. tourism and demand for leisure facilities. • Increasing demand for some services e.g. planning for increased demand for local employment to reduce commuting. • More extreme events means opportunities, e.g. repair, maintenance and clean up services, domestic tourism, summer foods, sport, and leisure.
Finance: implications for investments, insurance & stakeholder reputation	
Threats	Opportunities
<ul style="list-style-type: none"> • Failure to adapt creates difficulties in securing investment and/or insurance cover at reasonable cost. • Potential liabilities are associated with previous actions which future changes in climate may reveal as vulnerable. • Potential liabilities if climate change is not factored into long-term decisions about the future. • Investment in equipment ties business into climate-sensitive process or activity. • Limit of global financial markets to absorb risk could be reached. 	<ul style="list-style-type: none"> • Good risk management will appeal to financiers, insurers and other stakeholders, leading to security for investment and opportunity for reduced insurance premiums. • Potential risks reduced and liabilities diminished through pro-active risk assessment and implementation of climate change adaptation strategies. • Customers attracted to a council and borough that can show it is resilient to climate change.

Logistics: vulnerability of supply chain, utilities & transport arrangements	
Threats	Opportunities
<ul style="list-style-type: none"> • Global climate change could affect the availability of some goods and services (e.g. raw materials, components) and commodity prices. • Disruption to utilities, especially electricity supply, water supply and sewerage, which can be affected by extreme weather. • Disruption of transport and delivery systems for goods and services in and out – ‘just in time’ systems are especially vulnerable. 	<ul style="list-style-type: none"> • Competitive advantage for an authority with flexibility built into delivery systems and supply chains, and undertaking business continuity planning.
Premises: impacts on building design, construction, maintenance & facilities management	
Threats	Opportunities
<ul style="list-style-type: none"> • Vulnerability due to potential river or urban flooding. • Existing buildings are not designed with the future climate in mind. Building fabric and structure could be vulnerable to rain, storms and subsidence. Refurbishing to low carbon, climate-resilient standard represents a significant challenge. • Internal environment: challenge of coping with increased summer temperatures (without adding to greenhouse gases). Potential future regulation in this area. • Increased risk of flooding leading to clean up costs and loss of business continuity if premises are inaccessible to staff and customers. • Pest damage to buildings, e.g. termites over-wintering in mild winters. 	<ul style="list-style-type: none"> • Maintaining thermal comfort in winter months is less of a challenge. • Opportunities for high thermal mass building solutions, which can reduce air-conditioning requirements. • Opportunities for the Council to develop expertise and reputation in climate-related building issues. • Opportunity to exploit Council owned buildings and land for the generation of renewable energy.
People: implications for workforce, customers & changing lifestyles	
Threats	Opportunities

<ul style="list-style-type: none"> • Threat to working conditions and travel arrangements for staff from extreme weather. • Failure to attract or retain staff through reputation as poor employer (e.g. business not climate resilient, no training on impacts and adaptation). • External workforce exposed to increased sunlight and temperatures in summer • Internal environment uncomfortable as a result of increased summer temperature. • Training and skills implications e.g. negotiating energy deals in light of increased demand in order to cool buildings, negotiating insurance in the new climate. 	<ul style="list-style-type: none"> • Greater comfort and lower fuel bills in winter. • Reputational opportunities of responding effectively as good employer increases recruitment and retention of high quality staff. • Opportunity to improve work/ life balance by responding to climate change risks with flexible working hours and increased home-working. • Opportunities for service provision in areas away from urban centres, which could become more attractive as urban locations get hotter. • Generally more outdoor activity creates opportunities for tourism, leisure, and urban design.
<p>Process: impacts on service delivery</p>	
<p>Threats</p>	<p>Opportunities</p>
<ul style="list-style-type: none"> • Reduced productivity or disruption to climate sensitive processes or activities e.g. temperature sensitive equipment compromised and increased need for cooling; difficult working conditions from torrential rain, storminess and more dust in dry summer conditions; pitches, parks, golf links vulnerable to drought; summer drought reduces water quality. 	<ul style="list-style-type: none"> • Some aspects of service delivery made easier as a result of changing climate e.g. longer growing season and new species and varieties of plants can be grown in parks, opportunity to grow commercially; developing expertise in technologies in response to climate change; opportunity to use new insurance products and services that spread the risk of climate change and incorporate sophisticated underwriting that takes account of climate change; fewer site visits delayed through bad weather.