Appendix A - Telford and Wrekin High Level Corporate Climate Change Risk Register

Climate change adaptation refers to the process of building resilience against the current and predicted impacts of climate change.

To take a proactive, not reactive approach to climate adaptation, it is necessary that risks are identified, and measures are put in place to reduce their impact. The development of a Climate Change Risk Register forms a major part of this process.

This Corporate Climate Change Risk Register developed by Telford and Wrekin Council aims to identify the most critical risks that the Council's services and stakeholders will face. The register assesses the Council's risk to the current and predicted impacts of climate change using the four climate hazards as identified by the Met Office[1]:

- Warmer, wetter winters
- Warmer, drier summers
- Extreme weather: heatwaves
- Extreme weather: flooding and storms

This Risk Register follows Telford and Wrekin Council's standard risk assessment method, ranking each risk using the 'likelihood' and 'impact' scoring matrixes (see below). Attached to each predicted risk is an accompanying mitigation measure. Predicted risks have then been given a revised likelihood and impact ranking to determine the effect of the mitigation measure if implemented. This allows the Council to determine the effect of the mitigation measure if implemented.

Telford & Wrekin Council
Strategic Risk Register updated January 2019

Definitions used in the risk register:

Likelihood of Risk Occurring

Occurrence	Description
Unlikely	Unlikely to ever occur
Rare	May occur only in exceptional circumstances
Likely	Will probably occur at some time
Almost certain	Is expected to occur in the foreseeable future

Figure 1: Likelihood scoring matrix.

[1] UKCP18 Climate Change over land (Met Office)

Impact of Risk if it does Occur

Descriptor	Financial	Reputation	Physical	Environ-mental	Service
Insignificant	Low	No damage	None	None/ insignificant	No loss of service
Minor	<£50K	Minimal/ minimal media/ social media	Minor	Minor locally	Internal disruption only, no loss of service
Moderate	£50K to £1m	Extensive local media/social media	Violence or threats of serious injury requiring medical treatment	Moderate locally	Disruption/ loss of service less than 48 hours
Significant	£1m to £5m	National media/social media	Extensive/ multiple injuries	Major local impact	Disruption/ loss of service less than 7 days
Major	>£5m	Extensive national media (lead item)/social media	Extensive multiple injuries/ death	Major national/international	Severe disruption/ loss of service more than 7 days.

Figure 2: Impact scoring matrix

Climate Change Risk Register: High-level Risks

Ref	Hazard	Risk	Result	Likelihood without controls	Impact without controls	What are we going to do to manage the risk?	Likelihood with controls	Impact with controls
1.1	Severe weather: extreme heatwaves	Potential for roads to melt and deform	Additional maintenance expense on carriageway	Almost certain (Is expected to occur in the foreseeable future)	Significant	Incorporate Polymer Modified Binders within surfacing to increase the allowable range of the material and therefore decrease the likelihood of deformation.	Likely (Will probably occur at some time)	Moderate
1.2	Severe weather: extreme rainfall and storms	Increased high wind events causes trees to come down on the highway, impacting the resilience of the network (connectivity). Increase flooding events will majorly impact the resilience of the highway network (connectivity), including: Increased rate of deterioration of roads. Physical damage to roads requiring repair. Working capacity of drains reduced leading to more frequent exceedance. Increased Land Drainage investigations and enforcement. Increased emergency response and deployment of flood barriers Increased number of enquiries from public. Reduced strategic development and delivery.	Additional demand on resources Additional maintenance expense on carriageway Reduced connectivity and mobility Increased numbers of property flooding Need to re-prioritise investment.	Almost certain (Is expected to occur in the foreseeable future)	Significant	Prioritise the response within the resources available.	Almost certain (Is expected to occur in the foreseeable future)	Moderate

1.3	Severe weather: extreme heatwaves	Information and Digital Technology (IDT) issues: - Cabling - overheating of comms- rooms - switches infrastructure - impact to networks communication - voip call centres. - Schools power outages	Disruption to the overall communications network. Increased pressure on Information and Digital Technology (IDT) team to resolve IT issues. Impact to staff wellbeing. Online council services unable to run.	Likely (Will probably occur at some time)	Moderate	Maintenance contracts for air-conditioning are up to date and services conducted regularly.	Likely (Will probably occur at some time)	Moderate
1.4	Warmer/drier summers	Increase in air particulates leads to worsening air quality.	Increase in respiratory illness increase in excess morbidity, mortality. School closure impact on communities, increase in demands on health care services – Telford and Wrekin may be impacted from pollution that arises outside its boundary.	Likely (Will probably occur at some time)	Significant	Education and awareness. Potential for changes in working patterns - starting earlier - longer midday breaks finishing later.	Rare (May occur only in exceptional circumstances)	Moderate
1.5	Warmer/drier summers	Mechanical cooling insufficient	An increase in cooling infrastructure (air conditioning installations) and energy consumption for cooling. Telford Ice rink cooling system fails. Significant loss of income if Ice rink closes. Increase costs of running cooling infrastructure/ replacing broken cooling infrastructure. More money is spent on energy and less on other services.	Almost certain (Is expected to occur in the foreseeable future)	Moderate	Temporary portable Air Conditioning units. Ensure new and refurbished buildings have sufficient systems to maintain the required environmental conditions. Switch to greener cheaper energies, fabric insulation. New buildings designed with greater insulation to avoid extremes heat or cold.	Likely (Will probably occur at some time)	Moderate

1.6	Severe weather: extreme rainfall and storms	Damage to buildings roofs. Reduction/cancellation of services – reputational impact. Health and safety of outdoor activities. Access to facilities Staff being able to get into buildings. Damage to historic assets.	Building closures. Event cancellations. Increased construction specifications. Financial costs- viability and repairs. More at risk of deterioration.	Almost certain (Is expected to occur in the foreseeable future)	Moderate	Building condition surveys. Maintenance contracts. Facility checklists. Written operating procedures/risk assessments and emergency action plans. New developments chosen in suitable locations with good green and grey infrastructure (traditional stormwater infrastructure in the built environment). Effective policy to ensure sites are conditioned and infrastructure delivery. Manage council owned assets and review Risk Register.	Likely (Will probably occur at some time)	Moderate
1.7	Severe weather: extreme heatwaves	Increase in potential of wildfires	Property damage and risk to human life, increased air quality exceedances, increased use of water. Increase demand on services. Economic impact - property loss Evacuation of areas of housing. Cost of ongoing welfare support.	Likely (Will probably occur at some time)	Significant	Through planning ensure that all new builds have a fire break between boundary of site and open fields. Education and awareness raising - emergency planning preparedness.	Rare (May occur only in exceptional circumstances)	Significant
1.8	Severe weather: extreme heatwaves	Health risks: Increase in heat stress	Increased incidents of heat related health impacts/illnesses In particular, those who are vulnerable, elderly, those with heart and respiratory conditions and diabetes.	Likely (Will probably occur at some time)	Significant	Ensure that estate is equipped with cooling infrastructure - ideally powered by on-site renewables to reduce running costs Ensure vulnerable residents are supported in times of	Rare (May occur only in exceptional circumstances)	Moderate

			This is likely to be significant or catastrophic for people with care and support needs, families, and carers and on the workforce. Subsequent impact is that there will be an increase in demand on health and care services and the potential lack of capacity to deliver business as usual services and additional demand. Care settings close leaving vulnerable people without care. Care Home Market is usually at 94% occupancy so there are no alternative locations easily available. Care settings come to the council to increase fees to support installation of climate management systems.			extreme heat to reduce demand of NHS. Working with public health and health protection teams to promote ways to reduce heat stress – to staff and residents.		
1.9	Severe weather: - extreme heatwaves - extreme rainfall and storms	Infrastructure risk: lack of access to health services	Due to current infrastructure challenges, travel and public transport options may be severely limited for residents. This will impact on their ability to receive timely support for their needs which will subsequently cause an increase in demand on health services as people are unable to receive the preventative support at the right time. This could also mean that people are unable to receive/access emergency care when needed which could result in death.	Almost certain (Is expected to occur in the foreseeable future)	Major	This forms part of the Council's emergency response, alongside the Integrated Care System. Guidance would be shared with all staff and promoted to residents about how to keep safe and access health services in potentially different ways.	Likely (Will probably occur at some time)	Major

1.10	Severe weather: extreme heatwaves	Infrastructure risk: access to records limited due to server failure and / or computer failures due to overheating.	Employees are unable to view people's records to enable a full picture of the person's needs. Business Continuity Plans will be instigated which will include information at a point in time but long periods of time without records will have an impact on the person, their family and the people who are providing the care and support needed.	Likely (Will probably occur at some time)	Significant	This is part of the current Business Continuity Plans and procedures are already in place to ensure a copy is available should the servers fail.	Rare (May occur only in exceptional circumstances)	Significant
1.11	Severe weather: - extreme heatwaves - extreme rainfall and storms	Pressure on Health Systems – GP and Hospitals.	Increase risk of health complications and death in vulnerable people.	Almost certain (Is expected to occur in the foreseeable future)	Significant	This forms part of the Council's emergency response, alongside the Integrated Care System. Guidance would be shared with all staff and promoted to residents about how to keep safe and access health services in potentially different ways.	Almost certain (Is expected to occur in the foreseeable future)	Significant
1.12	Severe weather: extreme heatwaves	Heatwaves pose a health risk to vulnerable residents in the Borough, i.e. elderly and young children.	Increased cases of sunstroke/dehydration/heat -related deaths.	Almost certain (Is expected to occur in the foreseeable future)	Major	Work with Town and Parish Councils and other community organisations to identify the most vulnerable residents in their communities. Map and signpost cool spaces for community use. Work with Town and Parish Councils and other community organisations to promote this. Support the creation of a ‘disaster pack’ that is circulated to Members, alongside the delivery of an in-person ‘deep dive’ Members session that covers climate change, community impacts and adaptation.	Likely (Will probably occur at some time)	Moderate

						Support the creation of awareness and education materials for members on sunstroke/dehydration. Use a range of materials: online/postal/displays in community 'hubs' (i.e. libraries).		
1.13	Severe weather: extreme rainfall and storms	Flash flooding affecting areas away from rivers.	Residents/communities who are not experienced with flooding are significantly impacted due to ill-preparedness.	Almost certain (Is expected to occur in the foreseeable future)	Significant	Town and Parish Councils/members to input into list of emergency flooding contacts for their areas. Support the creation of a 'disaster pack' that is circulated to Members, alongside the delivery of an in-person 'deep dive' Members session that covers climate change, community impacts and adaptation. Learn/knowledge share from wards who have more experience in adapting to flooding events (I.e., Ironbridge). Ensure disaster planning is in place for every ward. Members to help, where appropriate, with practical measures such as clearing drains.	Likely (Will probably occur at some time)	Moderate
1.14	Hotter, drier summers	Increased risk of long-term drought/water shortages.	Long-term drought and water scarcity will impact everyone living and working in the Borough	Likely (Will probably occur at some time)	Significant	Support in the creation of awareness and education materials for members that address water shortages to circulate within the community. Work alongside Town and Parish Councils and community organisations to encourage behaviour change	Likely (Will probably occur at some time)	Moderate

						during periods of drought – e.g. water rationing. Encourage residents to collect water.		