Coventry Climate Adaptation and Resilience Plan

Executive Summary, March 2026

DRAFT (to be updated with designed version)

Foreword from Cllr Jim O'Boyle, Cabinet Member for Jobs, Regeneration and Climate Change

Who would have thought that Coventry would have a tornado, yet last year we did. Fortunately, it was short-lived and did not cause too much damage, but what if they became more frequent? How can we be better prepared and more resilient to such threats? Already we're seeing more frequent extreme weather events around the world. Some with devastating consequences, loss of life, destruction of property including significant impacts to our global economy.

What is even more concerning than extreme climatic events are the gradual growing trends over time. Of particular concern are the increasing temperatures we are experiencing especially in the summer months.

More locally, this plan identifies the more extreme weather events and changing weather patterns that can impact on our communities and economy, including more than 20,000 properties at risk of flooding. Last year Coventry experienced rising temperatures with the hottest summer on record (June to August) with some significant risks to public health for those with known conditions and impacts on our city's infrastructure and water supply.

As the Cabinet member responsible for addressing issues relating to climate change, I see how important it is that we understand the future risks to the city and find ways of adapting to the changes in weather we are now experiencing. This is why 'Climate Adaptation and Resilience' is a key pathway in our city's Climate Change Strategy. We need to plan ahead and work with our communities and businesses to and become more resilient in the face of weather conditions which are becoming less predictable and more extreme. We have a duty to protect our city as best as we can and the Council recognises it requires a collaborative effort working with agencies across the city alongside, businesses and communities, particularly those most vulnerable to risks. It is also vitally important that local residents and businesses are aware of the risks and to develop plans to protect themselves, their families, homes and communities from the effects the increasing incidence that extreme weather events may have.

I am very grateful to all of our partners who are working with us and who have contributed to this shared goal of adapting to climate change and making our city more resilient to the threat that extreme weather events pose.

(Photo to be inserted)

Adapting to a changing world and being resilient to change

There is no denying that over recent years the world is experiencing an increasing incidence of extreme weather events with devastating effects on communities and the economy. We have witnessed floods from rivers and storm surges, forest fires, droughts, heatwaves, high winds, cold snaps, hurricanes and tornadoes. These pose a significant threat to our health and wellbeing, economy, and property.

The Met Office predictions for the West Midlands as with the rest of the UK are that overall we can expect to experience warmer wetter winters and hotter drier summers with a reduction in our water supply overall as our annual rainfall drops.

Farmers across the UK are already changing the way they farm the land and the crops they grow. Who would have thought that twenty years ago the UK would today be competing with France as a significant wine producer. Severe cold spells are still likely to occur but less often. The State of the UK Climate Report indicates a 16% reduction in the number of days where temperatures go below 0 °C in the last decade. This will have an effect on our fruit crops for instance which require a minimum number of frost days for flowers and later fruit to develop, also frost days significantly help to control pests on our crops. One of our biggest concerns is how the changes in our global and local climate will affect agriculture and food security in the future.

The costs of climate change

A recent assessment commissioned by the West Midlands Combined Authority (WMCA) indicates that the annual economic costs to the region of these increasingly extreme weather events could rise from £350 - £638m by 2030 and from £1.5bn - £2.9bn by 2050 (*Economic Impact Assessment of Climate Change on the Economy of the West Midlands Combined Authority Region, WMCA Aug 2024*). https://www.wmca.org.uk/media/zw5dfb2k/economic-impacts-assessment-executive-summary.pdf

The WMCA estimated the cost of three historic extreme weather events, Storm Doris, dating back to Feb 2017, the heatwave in July and August 2022 and the flash flooding in August 2023. These incidents resulted in the temporary closure of road and rail connections, disruptions in power supply, damage to property, loss of business, unfortunately also injury and death, with an estimated price tag in excess of £21m. Four deaths were reported as a consequence of the storm and the number

of reports of injuries to the West Midlands Ambulance Service (WMAS) increased threefold during this period in comparison to the regional average.

Event	Date	Cost
Storm Doris	Feb 2017	£7,045,030
Heatwaves	July/Aug 2022	£11,805,340
Flash flooding	Aug 2023	£2,791,130
Total		**£21,641,500**

What does all this mean for Coventry?

Some people are more at risk to the effects of extreme weather events because of where they live and their exposure to adverse conditions. They may live close to a river with a greater risk of flooding. People with pre-existing health conditions may be more vulnerable to the effects of extreme weather, particularly in more heavily trafficked areas with great levels of pollution, less green space and poor air quality. Many homes won't have air conditioning. Households already living in fuel poverty are unlikely to be able to afford the installation and running costs of cooling systems. Everyone will be vulnerable to food price spikes when supply is affected. This may well result in more people entering into food poverty.

No matter what we do to reduce carbon emissions in the longer term we are going to face some significant changes to our weather in the coming years. There are two key things we have to do to protect ourselves for the future and that is to

- ***Adapt to the changes,*** *and*
- ***be more resilient*** *so we are more able to recover quickly should an event occur.*

There are two courses of action which we will have to take. One is to understand the changes we are facing accept that they are happening and to **adapt** to them. For example, when planting new street trees, we need to use species that can cope with higher temperatures and lower water levels especially in the summer months. Another example is if someone lives in an area where there is a known risk of flooding and is planning on rewiring their house to put practical measures in place such as locating the ground floor electricity cabling plugs and sockets are at a higher level above the possible flood levels, using plaster that contains a waterproofing agent and salt inhibitor and use flotation air bricks to prevent basements from flooding etc. Here we are adapting to the changes and by doing so can also become more **resilient** by preparing, planning ahead for change and know what to do, when and how to do it. In this instance such measures would make it easier for a family to move back into a house after it has been flooded., so when events happen we can minimise the damage and recover more easily.

If we establish ways to give people early warnings about the risk of extreme weather events (e.g. flooding , heat waves, high winds and storms etc) and the times in which

they have to respond they are likely to be better prepared when the time comes. Households could develop their own personal plans as a precautionary measure to best protect their family and possessions so that they are more able to adapt and be resilient when the time comes.

Some of the best examples of resilience can be found in developing countries where whole communities come up with ways to adapt to changes. Communities involved in forward planning are better prepared for an event when it occurs and rally round far more effectively as a community in times of need. Engaged communities have a vital role to play in protecting and minimising damage when faced with extreme weather events

Understanding the challenge and rising to it

Climate Adaptation and Resilience is a key pathway in the city's Climate Change Strategy. Coventry's independent Climate Change Board has established an up an 'Adaptation and Resilience Pathway Group' to develop an Adaptation and Resilience Plan for the city. The Group includes representatives from the Environment Agency, Severn Trent, University of Warwick, Coventry Solihull Warwickshire Resilience team. The Council appointed CAG consultants to lead on development of the city's Adaptation and Resilience Plan, working with the pathway group and other key stakeholders across the city. The plan identifies risks under different climate scenarios, which have been assessed and plans developed to try and address them.

Methodology for assessing the risks to Coventry

The development of the Adaptation and Resilience Plan is based on the UK's 3rd Climate Change Risk Assessment (CCRA3[1]) approach, where 61 specific climate risks and opportunities were identified as applying to the UK and seeing of those which are of the most importance to address for Coventry. Of those risks the Pathway Group looked at the 34 categories of risk that related to Coventry, and of these assessed which posed a high or medium risk.

In order to assess our **vulnerability** to these risks we had to identify the nature of the hazard and where, and factors such as whether people living in some locations more vulnerable than others as a result of extreme weather scenarios. This included heavy rainfall leading to flooding, heatwaves causing excessive indoor air temperatures or adversely affecting outdoor air quality and risk of fires, damage from high winds, effects of severe cold weather and its effects upon the elderly and those in fuel poverty etc.

Using data and projections from the Environment Agency, Met Office and our own teams of specialists we identified our **exposure** to the risk e.g. the extent and likely duration of flooding and how many households and businesses are likely to be

[1] https://www.ukclimaterisk.org/publications/technical-report-ccra3-ia/

affected and how often over time. We assessed the level of **sensitivity** to the risks e.g. certain vulnerable groups with health conditions may be particularly at risk and will need to be protected, or specific locations may be sensitive to drought and prone to fires. We then reviewed our ability to **adapt** to the likely changes, the more we are able to adapt the less vulnerable we are likely to be. All of these things were taken into account when assessing our vulnerability to a risk with a final combined score for each risk factor being on a scale from 0 to 6 with a final score of 0 being a negligible risk to six a serious risk.

Vulnerability = Exposure + Sensitivity – Our capacity to adapt

Nothing is certain, we have lots of data from current trends and projections to help inform us what the future is likely to look like. We can look at a range of different scenarios based upon the levels of greenhouse gases we have in the atmosphere. The higher the concentration level the more extreme the weather incidents are likely to be.

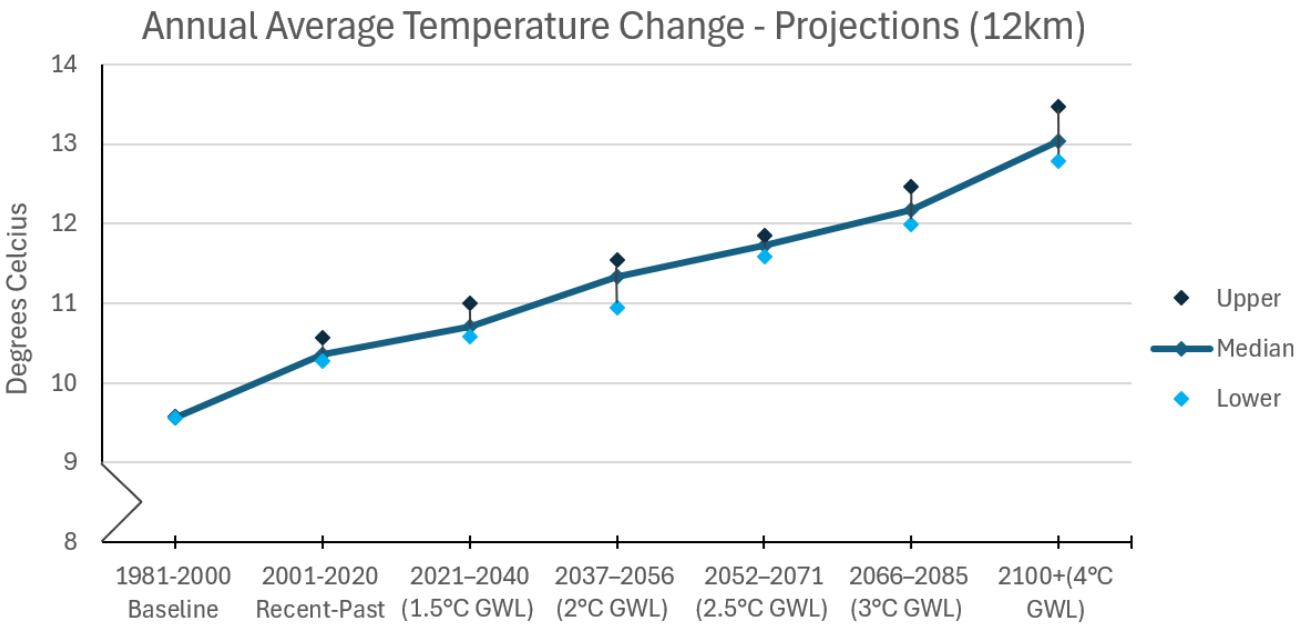
If we can reduce the levels of emissions proposed at the UN Climate Change Conference in Paris in 2015 the world would be able to keep the average global temperature increase to 1.5^{o}C by the end of the century. If we are not able to do so then we are likely to experience even more extreme weather. The French Government, for example, is planning all of its future activities and services for a world with a 4 °C temperature rise by the end of the century. It is worth noting that Coventry, being in the heart of the UK, is likely to experience higher overall average temperature increases than the rest of the country. One can safely assume that it is likely to be more of a challenge to those delivering services to the citizens of Coventry than in other parts of the country.

The study looked at a number of temperature rise scenarios using a combination of 12 different Met Office models and the likely weather changes by 2050 and the end of the century (2100 AD) some of those key measures are detailed below illustrating the range of potential outcomes in relation to the Global Warming Levels (GWL's).

Climate scenarios for Coventry

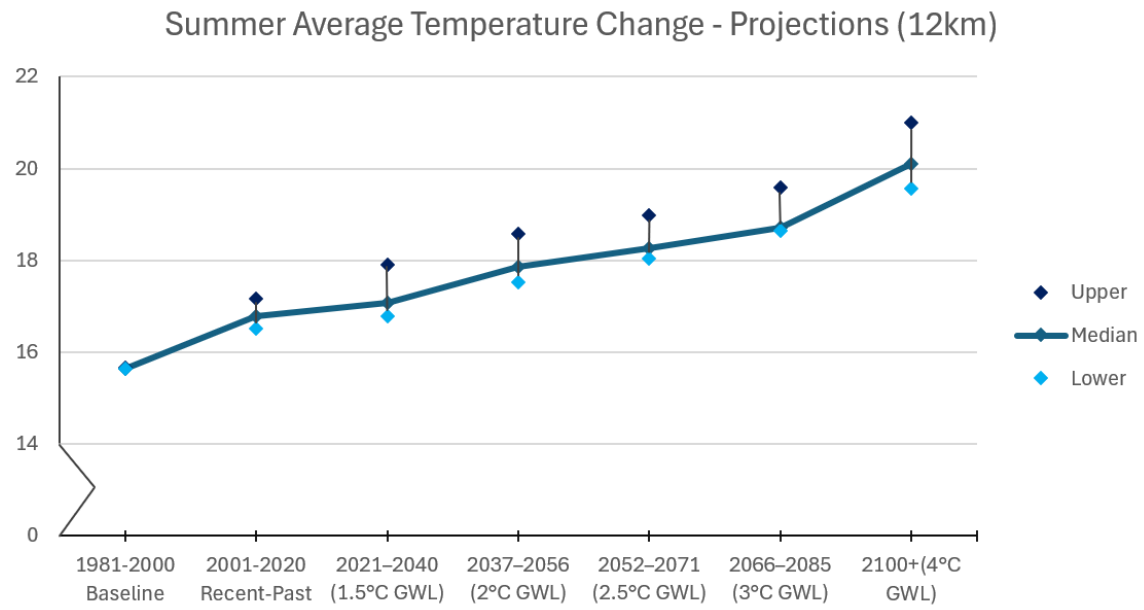
The following graphs illustrate the results from the analysis of the 12 Met Office models and the projected changes in temperature and rainfall scenarios from the present to the end of the century:

Overall temperature rises

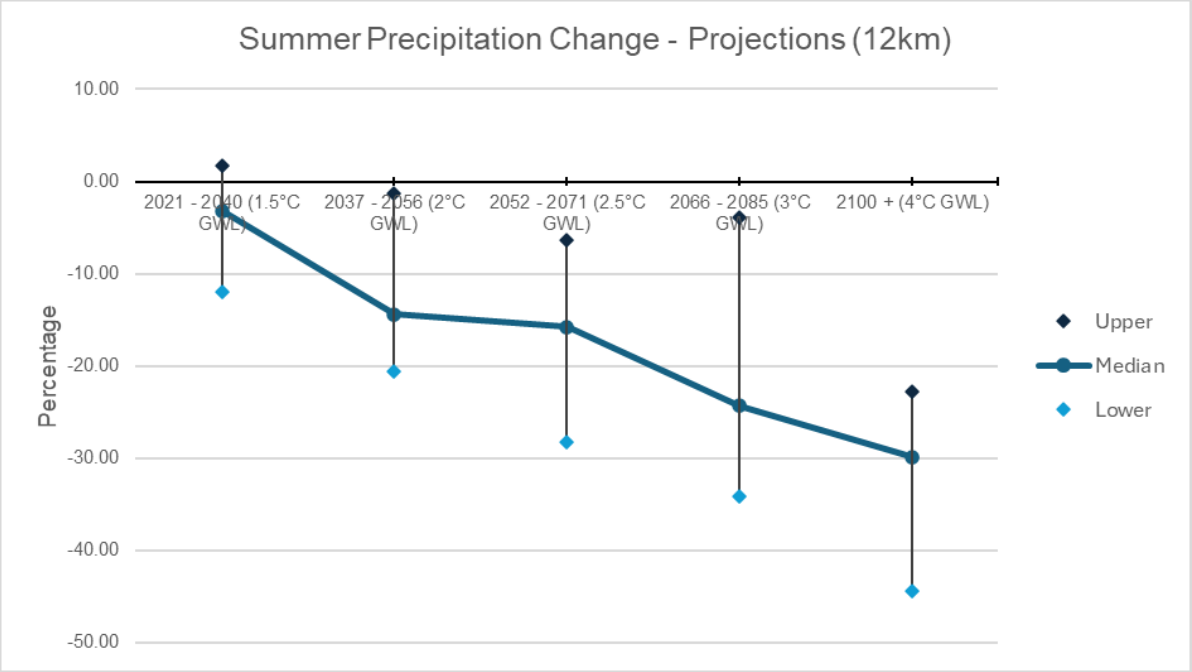


A significant rise in rainfall in Coventry over the course of the 21st century approaching at least a 3⁰C rise based upon current projections.

Hotter Drier Summers

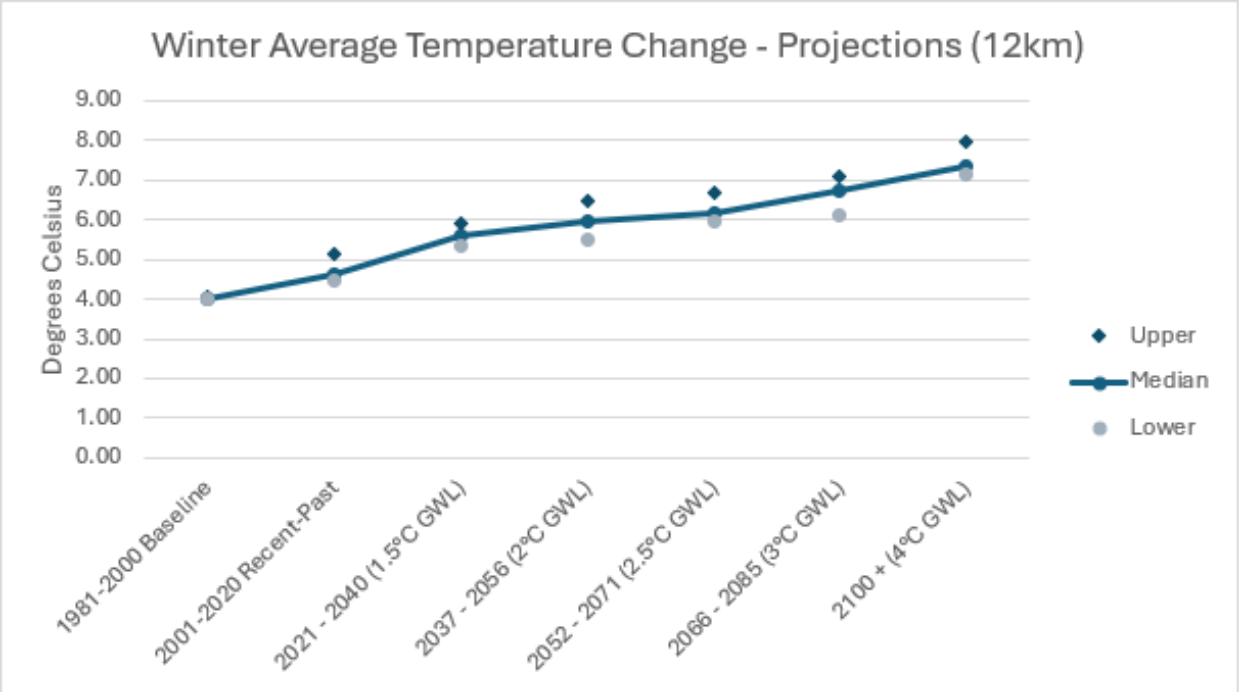


The average summer temperature up to the year 2000 was under 16°C there is a steady rise over the century rising by 4oC by the end of the century with an average summer temperature of 20°C

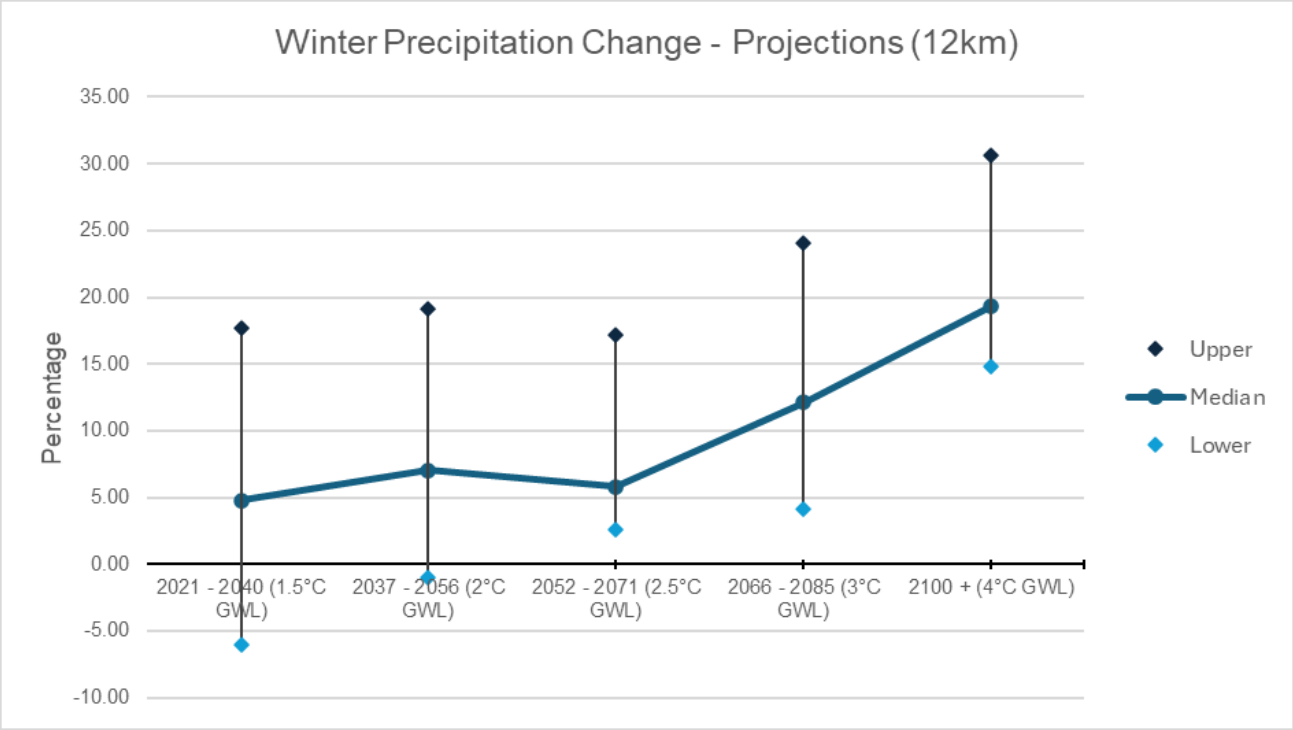


Summer rainfall dropping by over 15 % from current levels with a more rapid decrease from 2079 onwards where rainfall declines by as much as 30% of 2020 levels

Warmer Wetter Winters



A steady rise in average winter temperatures in Coventry over the course of the 21st century approaching at least a 3°C rise based upon current projections



A significant rise in rainfall in Coventry over the course of the 21st century approaching a 5 % increase with a rapid rise from 2070 to as much as 20% based upon current projections.

The data in the models developed by the Met Office Hadley Centre are at a level of detail that relates to the Ordnance Survey's 12km grid across the UK to help inform measures for adaptation and resilience to climate change at the local level. https://www.metoffice.gov.uk/research/approach/collaboration/ukcp

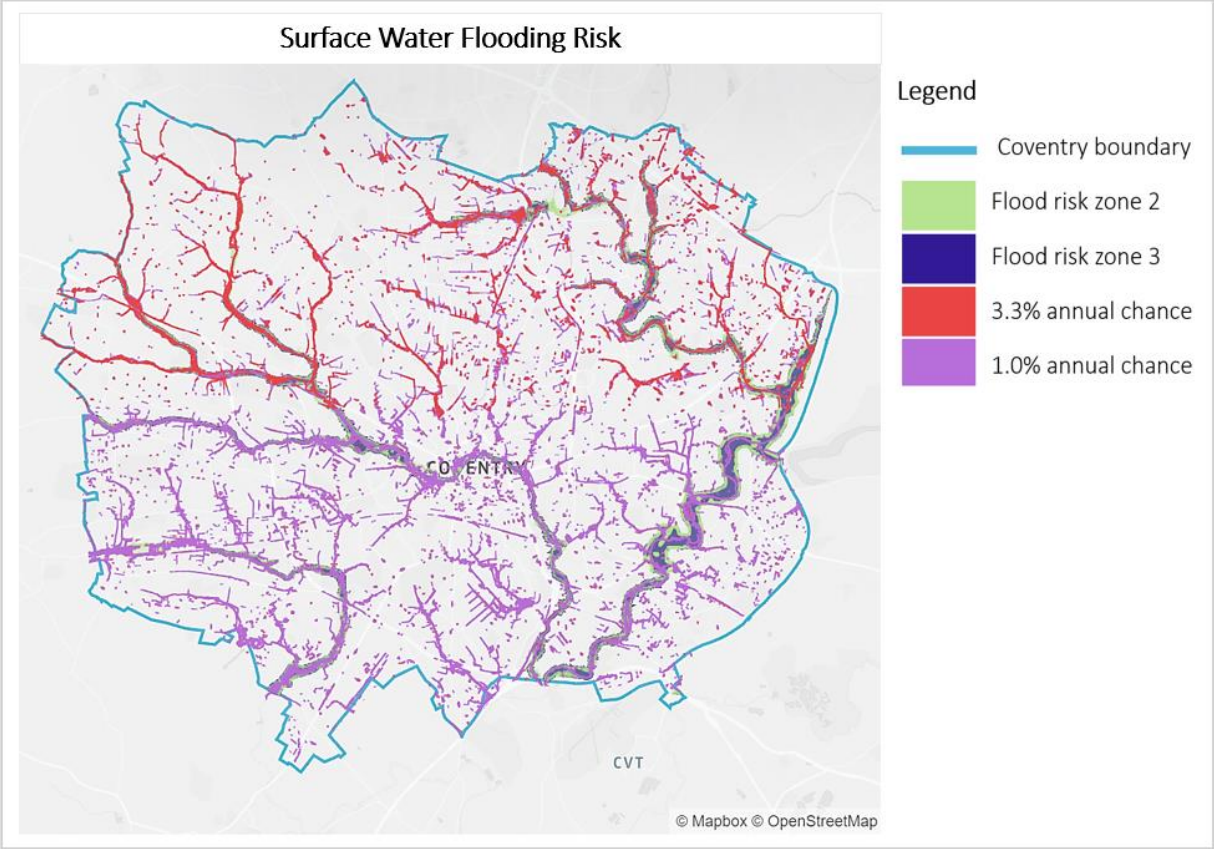
The Group also mapped out geospatial climate data at a higher level of resolution for flood risk and where possible heat. The WMCA have commissioned a more detailed analysis from the University of Birmingham to help with identifying heat islands across the region to build upon the work we have carried out so far.

Risks of flooding

The Environment Agency has three categories of flood risk these are based upon the likely probability of an event happening. Zone 1 which is the largest area of land which could realistically flood under extreme circumstances this is where there is less than 1 in a 1000 year (less than 0.1%) annual chance of a river flood. Flood Zone 2 is where there is between 1 in 100 to 1 in a 1000 year (0.1% to 1.0%) annual chance of flooding. Flood Zone 3 is where there is a high probability of flooding of an area with a 1 in 30 to 1 in 100 year chance (3.3% or higher) of a flood. The floodplain usually relates to that area of land where there is likely to be greater than a 1 in 30 year chance of it being flooded (3.3% or higher). For this reason, special mitigation measures would have to be put in place in order to let any land in this area

to be developed and in many instances there would be a presumption against development.

The latest data from the Environment Agency obtained earlier this year has identified an increased risk of flooding from rivers swelling their banks (Fluvial flooding) the key risk areas for river flooding are Sherbourne, Wyken, St Michaels, Binley & Willenhall or surface water drainage not being able to cope with heavy levels of rainfall (Pluvial flooding) with an increasing incidence of the latter.



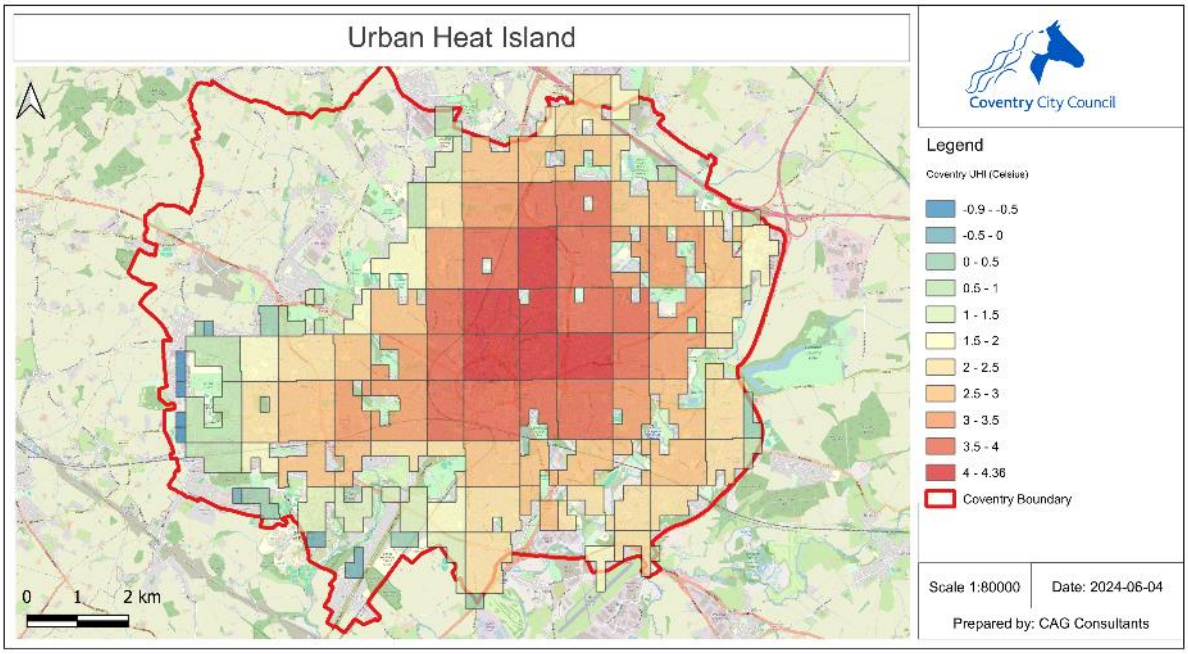
Some areas are more prone to flooding whether because people live near a river or in locations that are densely built up where the drains cannot cope with very heavy rainfall and surface water run off from streets and buildings and other hard paved surfaces. Warmer wetter winters are likely to increase the risk of flooding and rainfall in the summer months will also be more severe with an increasing incidence of heavy thunderstorms between long periods of minimal rainfall or drought. Surface run off in the summer months is more likely to increase when the rain falls on the hard dry ground resulting in an increased risk of flooding.

These areas of flood risk are mapped out for the City and areas on which to focus are identified with a new flood risk management plan[2]

2 https://www.coventry.gov.uk/downloads/file/19379/coventry_local_flood_risk_management_strategy.pdf

Extreme heat is affecting our health & wellbeing

The temperatures in cities can fluctuate between different locations by as much as 5°C. The difference between the built up areas in the city centre, often referred to as the 'Urban Heat Islands' and the green areas in the suburbs are noticeably cooler. Parks, gardens, trees, green spaces etc have a vital role to play to help cool urban areas and improve air quality. Coventry has a real need to improve access to green spaces for people, particularly those communities living in the most green-deprived parts of the city to increase resilience during the high temperature periods.



The heat map shows some significant differences in temperature across Coventry depending upon where you live. The more built up an area is the more heat is absorbed whereas green spaces help to reflect the radiation from the sun providing shade which has a cooling effect.

People may be more vulnerable because of their age such as young infants and the elderly and others because that have particular health conditions. Heat and solar radiation can adversely affect air quality to such a degree that it can seriously adversely affect people with circulatory and respiratory diseases such as COPD, asthma and emphysema.

Over the summer of 2023 the UK Health Security Agency estimated there to had been more than 2,000 deaths associated with five separate periods of elevated temperatures with people over the age of 85 yrs being particularly susceptible. Five of the top ten hottest summers on record in the UK have occurred since the year 2,000. The NHS's own '4th Health & Climate Adaptation Report' https://www.england.nhs.uk/long-read/4th-health-and-climate-adaptation-report/

projects that heat-related deaths could well increase six-fold by 2050 if we fail to adapt or reduce carbon emissions by the levels required.

Heat also has social effects as well as placing strains on public services. A study[3] of 16,000 different scientific papers revealed that as temperature increases with heatwaves in cities, so does the incidence of crime people become more irritable and aggressive a ten degree increase in temperature increases the risk of violence by 9%.

Drought and issues of reduced Water Supply

As well as the issue of increased heat during summer, reduced rainfall and an increased likelihood of periods of drought will impact on water supply. Due to the growing pressures on our water supply, the Environment Agency is not able to grant new abstraction licences from businesses during the summer when supply is particularly low. Water is being diverted from other sources in order to protect rivers and maintain flows and overall supply. Severn Trent is managing higher levels of water demand in the city as our population grows and currently pumps out 2.3 billion litres of treated water per day, which equates to 95 million litres per hour.

During periods of dry weather and drought there is an increased risk of fires. Cities in the UK are facing a growing threat from an emerging phenomenon called 'firewaves' where the absence of rainfall for a period of ten consecutive days or more can result in fires starting in multiple areas of vegetation placing pressure on emergency services.. In 2022 the West Midlands Fire Service was called to 4,011 fires in the region, a 71% increase from the previous year. The third week of July that year temperatures exceeded 40^{o}C.

Storms and High Winds

The relationship between storms and high winds to climate change is complex. There is not a clear connection between climate change and wind speed, but there is an increasing incidence in the number of storms (particularly in winter) and the severity of the wind gusts and more extreme weather events often associated with warming climate and periods of high rainfall. For every 1 ^{o}C temperature rise the moisture content of the air rises by 7%. On the 10th October 2024 an area in Finham was hit by a small tornado causing significant damage to a localised area with the loss of trees and structural damage to roofs and fencing.

Prioritisation of Risks

[3] Temperature, Crime and Violence: A systematic Review and Meta-Analysis Hayon Michelle Choi, Seulkeee Heo, Damien Foo, Yimeng Song, Rory Stewart et al. Environmental Health Perspectives Vol 132, Issue 10, Oct 2024

The Pathway Group assessed the exposure and sensitivity for each of those 40 areas of concern out of the 61 risks detailed in the 'Third UK Climate Change Risk Assessment' (CCRA3) document[4] were identified as being relevant to Coventry. Each of these 40 potential risks for Coventry was subjected to an assessment by the Pathway Group members from a series of workshops, interviews and meetings. The members of the Group with the support of CAG, Sustainability West Midlands and Slingshot Solutions were required to review risks and identify the level of resources, skills and abilities, organisational and management capacity to address each of the identified potential risks from which they calculated a vulnerability score for each. From this larger list, 24 were considered as either a high or medium priority for action, with some details for those risks that need further consideration over the coming years.

The Pathway Group considered one or more actions to address each of the high and medium priority risks. Some risks need a number of specific practical actions, whilst others may require further research.

The following 11 risks were considered to be of a high priority:

High priority climate change risks for Coventry

Risk and Opportunity Descriptor	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
H 9 - Risks to food safety and food security	3	3	1	5
I 1 - Risks to infrastructure networks (water, energy, transport, ICT) from cascading failures.	3	2	1	4
I 2 – Risks to infrastructure services from river, surface water and groundwater flooding.	3	3	2	4
I 8 - Risks to public water supplies from reduced water availability	3	3	2	4
H 1 - Risks to health and wellbeing from high temperatures	1	3	1	3
H 3 - Risks to people, communities and buildings from flooding	2	3	2	3

[4] https://www.ukclimaterisk.org/publications/technical-report-ccra3-ia/

H 7 - Risks to health and wellbeing from changes in air quality	3	2	2	3
H 10 - Risks to water quality and household water supplies	2	3	2	3
H 12 - Risks to health and social care delivery	2	2	1	3
H 13 - Risks to education and prison services	2	2	1	3
B 1 - Risks to businesses from flooding	2	3	2	3

And the following 13 risks were considered a medium priority

Medium priority climate change risks for Coventry

Risk Theme	Risk and Opportunity Descriptor	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Business and Industry	**B 5** - Risks to business from reduced employee productivity due to infrastructure disruption and higher temperatures in working environments	3	1	2	2
Health, Communities and the Built Environment	**H 5** - Risks to building fabric	2	2	2	2
	H 6 - Risks and opportunities from summer and winter household energy demand	2	1	1	2
	H 8 - Risks to health from vector-borne disease	0	2	0	2
Infrastructure	**I 4** - Risks to bridges and pipelines from flooding and erosion	3	2	3	2
	I 5 - Risks to transport networks from slope and embankment failure	2	1	1	2

Risk Theme	Risk and Opportunity Descriptor	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
	I 10 - Risks to energy from high and low temperatures, high winds, lightning	2	1	1	2
	I 12 - Risks to transport from high and low temperatures, high winds, lightning	2	1	1	2
	I 13 – Risks to IT from high and low temperatures, high winds, lightning	2	1	1	2
Natural Environment and Assets	**N 4** - Risk to soils from changing climatic conditions, including seasonal aridity and wetness.	2	1	1	2
	N 11 - Risks to freshwater species and habitats from changing climatic conditions and extreme events, including higher water temperatures, flooding, water scarcity and phenological shifts.	2	2	2	2
	N 12 - Risks to freshwater species and habitats from pests, pathogens and invasive species	1	2	1	2
	N 18 - Risks and opportunities from climate change to landscape character	2	2	2	2

Challenging the way the Council and its partners work.

In addition to tackling the specific risks detailed above, a number of universal actions were also identified for the partnership to address in the future, which organisations may need to work more collaboratively on in order to be more effective at addressing future trends. These covered data gathering, data sharing and use of Geographical Information Systems. The development of information dashboards with the agencies involved to share management information and monitor progress in delivering outcomes will be particularly useful. The need for training and raising awareness across the City working with businesses and communities in helping them to adapt to the changes in weather they are facing will be vitally important in the future.

One of the most significant universal actions is to work with representatives in local communities in an effort to help neighbourhoods to become more resilient in the face

of extreme weather so that communities and the organisations which serve them can better prepare and protect their neighbourhood their homes, friends and family and to have the ability to recover more quickly when events occur.

Independent Assessment of the Pathway Group

This was assisted by the WMCA, which funded 'Climate Sense', a national specialist adaptation and resilience consultancy to assess all the local authorities in the Combined Authority area and their ability to address adaptation and resilience issues for their own organisations, protecting the services they provide and working with partners to safeguard the City and its people.

Coventry has received an initial favourable assessment from Climate Sense and is in the process of receiving a further more detailed assessment. At present the city is demonstrating efficient management and is on target to start the delivery of breakthrough projects such as extension of wetlands with a major rewilding project at Brandon Wood and future SUDs proposals all of which will help to reduce exposure to riaks.

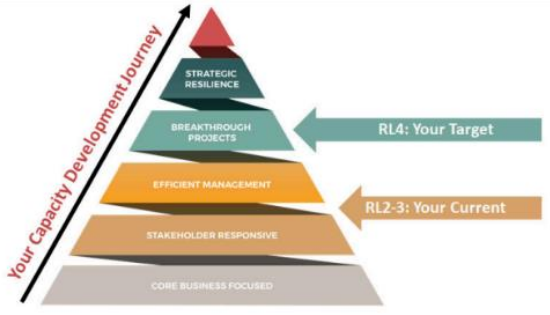
Practical actions to adapt to Climate Change

Over 90 specific actions are proposed by the Council and its partners which address the 24 key High and medium risk areas of concern to the City. These are summarised in this document under key types of activity and intended outcomes, the full action plan can be found in detail in the main Strategy and Action Plan document[5].

Understanding and minimising risks for the delivery of public services and promoting health

There are many organisations delivering front line services for the public in the private, voluntary and public sector and it is critical that they **understand the risks** and how they may affect the public, especially those people who may be particularly vulnerable to their effects. This will also involve **reviewing contracts for the delivery of services** to ensure that risks from extreme weather events are addressed.

We will need to audit our facilities and ways of working to **prevent disruption to service delivery,** to be able to cope and



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provide support, no matter what the circumstances may be when experiencing extreme weather events.

We will also need to obtain better quality information about such events at the local level to map out the details to **assist forward planning. This will improve the quality of service delivery** as well as **prevent any adverse effects** of climate events on the public. One such area that the WMCA is working with the Council on with the support of Birmingham University is the development of the **Climate Risk & Vulnerability Assessment (CRVA) Mapping Tool** which is being developed for use by all the local authorities as a planning and management tool. We have insufficient data on the effects of heat at the very local level, this is needed so that we are better able to identify where the heat islands exist (i.e. locations of hot spots) across the city. An improved level of detail concerning heat islands resulting from the work of the Met Office and that of the University of Birmingham for the Climate Risk should help with targeting of locations landscaping and urban design resulting in significant improvements to the living conditions for the population of the City.

There are real risks of significant cost implications to service providers in protecting property and infrastructure in the future whether that be maintenance and repair, capital improvements or higher insurance premiums as a consequence of enhanced risks. Providers of key services that are critical to the functioning of our city such as energy supply, telecommunications, transport, emergency services, water supply and digital data networks are to meet and **share their risk assessments, models and management plans**. To help **set priorities for action and explore connectivity** and managing those possible situations when extreme weather events can result in several service failures where one can affect the other in what are known as **cascading failures**. These sessions will help the organisations **to better predict and adapt to change** and where possible pool resources to make a real difference and **enhance the overall resilience of the City**.

Working with natural systems to cool the City down, reduce the risk of flooding and help to conserve water.

Much of the rain falling in the city like in many cities around the world lands on hard impervious surfaces. Often the rate of flow exceeds the levels that the local drainage network are able to cope with resulting in an increased rate of flow and an increased risk of localised surface water flooding.

The development of **Sustainable Urban Drainage Schemes** (SUD's) promote the use of natural features and localised vegetation with porous surfaces. The use of natural vegetation slows the rates of flow reducing the risk of flooding often providing a natural filtration system that helps to remove pollutants from the water.

With the projected growth in the city's population and the likely increasing demand for water, the city will need to promote water conservation methods in new

developments. We will be encouraging developers and investors to adopt best practices and to innovate in addressing the challenges that changes in our weather patterns will present and some Policies in the Local Plan will help to address this.

In addition to Sustainable Urban Drainage Schemes (SuDS) we will be advocating new approaches to **promote water conservation** such as the use of water efficient showers and taps, low-flush toilets and the introduction of **grey water systems** where waste water from showers and sinks is re-used for flushing toilets or watering gardens. In countries like Australia where water is more scarce, grey water systems are in common usage but not in the UK as yet. Property owners will be encouraged to adopt low cost measures such as the use of water butts to **collect rainwater** from downpipes for use in watering gardens etc and the use of **more efficient irrigation methods** such as trickle hoses will be encouraged for watering plants.

Severn Trent Water is working with partners and making significant investments for **minimising leaks, replacing pipes,** improvements to storm overflows across the City network and increasing capacity for water supply with a recent £78m upgrade **of the treatment works at Finham** including a 4million litre mega tank.

The City Council with its partners will continue to progress its ambitious **Urban Forestry Strategy to plant over 360,000 trees by 2031 with** 20% of the City having a canopy cover. Improved standards for tree maintenance will be used and plants especially street trees that are better adapted to the hotter drier summers will be selected for use.

Large areas of concrete surfacing store the heat from the sun creating what are often referred to as heat islands sometimes creating temperatures that are as much as 4 to 5 ^{o}C higher than cooler spaces nearby. Green plants on the other hand, reflect much of the incoming solar radiation, as well as often providing shade. All of which helps to reduce the surface temperatures that people are exposed to. In cities like London we can find lots of examples of the use of **turf roofs and living walls** where growing plants on buildings help to cool the buildings down and also help to clean the air of pollutants. The City's planning policy team will encourage the integration of such features in new development and refurbishments where possible.

We need to increase access to green and blue space in the city. **Creating and improving the quality of green spaces** in the most green-deprived and built-up areas is a priority, which would help to improve air quality, create a cooling effect, reduce flood risk and promote well-being by connecting residents to nature. Some areas of green space especially near rivers can be allowed to flood as a store for excess water slowing the rates of flow and diverting flood waters away from local housing and development. There is a proposal for the transfer of water through a new pipeline from Minworth to the Coventry Canal at Atherstone where the water will then pass through the Coventry, Oxford and Grand Union Canal transferring 115million litres of water from the Midlands to meet demands in the South East. This may also be of benefit to Coventry during periods of water shortage.

The Council is actively addressing this through ‘Green for All’, receiving just under £1m through the Nature Towns and Cities programme to develop a new green and blue plan for the city to put nature at the heart of placemaking. This will involve identifying opportunities to improve spaces and create new ones, engaging communities and delivering training over the next 2.5 years. The Council is working with a number of partners on this ambitious project, including Warwickshire Wildlife Trust, John Muir Trust, National Trust, Coventry University, University of Warwick, Garden Organic, Historic Coventry Trust and Grapevine.

The Coventry Grows Project is helping to identify and transform new areas of greenspace supporting community organisations to use Council land for amenity, wildlife conservation and food growing. The project has been funded by E.ON, with support from Garden Organic and Grapevine working in some of the least green parts of the city. This contributes to reducing the risk of flooding by slowing the rate of flow of water, promote natural water filtration as well as helping to cool the city.

PICTURE OF LOCAL RESIDENTS GARDENING ON AN AREA OF ADOPTED GREENSPACE

The Council is soon to launch a community growing sites policy, which will enable residents and community groups to lease unused Council land for gardening, which could include food growing, wildlife gardening and planting of fruit trees. This will help to address the issue of food security and rising food prices. We will also be seeking funding and resources also will include providing support for the **development of social enterprises** relating to food growing and cookery skills **making food available to benefit families** living in disadvantaged communities. The City will also find ways of addressing the fundamental issues of security of supply food distribution and supply for in times of emergency or crisis working with the Food Network in applying the 7 steps to narrowing the UK civil food resilience gap outlined in the ‘Just in Case’ Report[6] to the National Preparedness Commission but applied to the local context.

Learning from the City’s multi agency work to address fuel poverty the experiences of identifying warm refuges for vulnerable people to go to in the cold winter months aims to do likewise in identifying cool spaces **‘cooling centres’** for people to go to in the hot summer months.

In addition to keeping cool in summer and despite the predicted rise in temperature in the winter months there are still risks from the effects of cold and the rising humidity levels in the winter months are likely to have an adverse affect on indoor living conditions with increased damp and mould. The increased volatility, such as sharp cold snaps interspersed with mild, wet, and stormy periods, can cause even more damage and health risks than consistent, predictable winters. Furthermore, the

[6] https://nationalpreparednesscommission.uk/wp-content/uploads/2025/02/NPC-Just-in-Case-Executive-Summary_PDF-Download.pdf

financial costs associated with repairing damage and adapting to a wetter, more unstable climate will likely lead to lower overall living standards for many.

The City Council is working with Eon its strategic energy partner on a improving the energy efficiency to improve comfort levels in homes through a series of practical energy efficiency retrofit programmes for those less energy efficient households. The Strategic Energy Partnership is also addressing ways of reducing bills for those in fuel poverty using methods of storing electricity from off peak periods to use at other times when needed. The increased volatility, such as sharp cold snaps interspersed with mild, wet, and stormy periods, can cause even more damage and health risks than consistent, predictable winters. Furthermore, the financial costs associated with repairing damage and adapting to a wetter, more unstable climate will likely lead to lower overall living standards for many. With support from the University of Birmingham's indoor air quality specialists the retrofit teams are monitoring how different energy efficiency measures affect living conditions before and after retrofit to make sure the best approaches are adapted for use for each of the specific housing types which improve living conditions the most and reduce the risk of damp and mould etc.

Raising awareness and working with communities to make practical tangible differences at the local level.

Using our approach to engaging residents and local business in neighbourhood improvements, the Team aims to work with colleagues in WMCA and in neighbouring Authorities to promote and assist the development of Neighbourhood resilience teams. Local residents will be encouraged to support one another in creating liveable spaces that protect those living in the vicinity from extreme weather events and to make where they live more resilient in the face of droughts and extreme temperatures. This work has started with some WMCA funded **'World Café community events targeting the four most vulnerable community areas notably Longford, Hillfields, Foleshill and Radford**.

A Flood Risk Management Strategy and Plan and a Surface Water Management Plan for Coventry are in place. There are plans to work with neighbourhood groups to raise awareness of risks and our ability to address them, and **promote best practice for households,** which can help to conserve water or reduce levels of surface water run off and flood risk.

One initiative of concern is the extensive laying of hard paving for car parking in front gardens using impermeable surfaces, which increases the risk of surface water flooding at the neighbourhood level. Working with organisations like the Royal Horticultural Society (RHS) and Garden Organic, we can establish **some demonstration front gardens** which can accommodate parking, whilst not detracting upon the streetscape or the appearance of the property. This can be done

through using surfaces that allow for vegetation and shade as well as the conservation of water to promote examples of best practice for local residents to see. Local Planning policy will be used to stimulate designs which help to reduce rates of flow and to conserve water such as rainwater harvesting.

We will work with medical practitioners in providing accessible information and advice to residents with certain clinical conditions and respiratory illnesses (such as Asthma and COPD). This will help to provide information about the levels of pollutants at any moment in time to let vulnerable residents know where and when it is safe to go out.

Schemes such as the **'Air Alert' App** used in Hampshire and West Sussex have proved very successful in providing advice and guidance and are well received by GPs and patients alike.

Providing training and advice to frontline staff who are providing care for people in need will help them to reduce the risk of exposure to extreme weather events. Staff and volunteers in community organisations, the emergency services. the Council and the NHS, all have an important role to play. With the right knowledge, confidence and skills they can really help vulnerable residents and families in the best and most cost-effective ways to keep cool and protect themselves and their homes from the effects of extreme weather.

The increasing risk of extreme weather events will place increasing pressure on finding solutions to complex problems that will require greater levels of **innovation and experimentation** for finding workable solutions over the years ahead.

The City Council and its partners will continue to lobby for greater recognition, legal powers and resources to enable and facilitate actions and influence future developments to better protect Coventry's citizens, businesses and the environment from the effects of extreme weather events.

These are some examples of just some of the actions which are proposed the challenge which lay ahead is the Partnership finding the resources and ways in which to make them happen.

[ADD LINK TO RISK ASSESSMENT, FULL STRATEGY & PLAN]

The following pages outline some of the things citizens can do to address the risks of extreme weather events on homes and neighbourhoods

Building awareness is critical to help citizens understand what is likely to happen so they can better prepare for it and also help to reduce their impact:

The Met Office Climate Change pages to are a valuable tool for people to see what changes in the weather you are likely to find in Coventry with different global

temperature rise scenarios. Remember the famous Paris Agreement recommended to nations to contain the temperature rise to 1.5ºC overall to reduce the risk of more extreme weather patterns. https://climatedataportal.metoffice.gov.uk/pages/lacs

PREPARING FOR FLOODS

If residents live in a flood risk area they need to think about what actions need to be taken in the event of a flood. Residents can check if your home is one of the 6.3m properties in England at risk of flooding visit the Flood Hub website Am I at Risk? | The Flood Hub.

It's important that residents have a plan for what to do if their home is about to be flooded, know what valued possessions are downstairs that need to be taken upstairs and what to do regarding safety e.g.turning off utilities,checking on neighbours etc. Refer to the Environment Agency Floodline https://check-for-flooding.service.gov.uk/

Tel: 0345 988 1188

Elevate valuables in basements and use waterproof containers.

Homes can be made more resilient if when rewiring consideration is given to location of electrical sockets and electricity cabling, fuseboxes, MCB Boards etc raising to higher levels in the basement and ground floor and using water resistant materials to prevent further damage and disruption when returning home.

Other practical measures include the use of rodent resistant backwater valves on sewage pipes to prevent sewage backing up into homes at times of flooding. This also has the added advantage of making it more difficult for rodents to gain entry to homes.

Residents can also replace old air bricks with flotation air bricks which close up with rising water levels to prevent water getting into basements.

It is recommended that when undertaking home energy efficiency improvements that cavity wall insulation installed is water repellent for those living in a flood risk area.

Residents should also avoid paving driveways with concrete slabs and tarmac, instead using porous materials such as gravel and permeable surfaces which allow the water to drain away.

Flood barriers should be installed for use in doorways at times of flooding.

A useful guide from the Flood Hub is the Property Flood Resilience Booklet https://thefloodhub.co.uk/wp-content/uploads/2018/09/FT-Q-R38-R2-Property-Flood-Resilience-PFR-booklet.pdf

DEALING WITH EXTREME HEAT

Younger children, older people and people with respiratory illnesses are particularly vulnerable to heatwaves.

It is recommended to plant trees to provide shade to homes and gardens. Residents should seek advice as to what trees to plant and at what distance from the home to not damage property foundations.

Grow plants which are more drought tolerant to reduce need for watering.

Reflective window film or blinds can be used to reflect heat away from the house.

It is advised to designate a cool room with fans and blackout curtains for those sweltering hot days and make sure to have jugs of cool tap water in the fridge to keep hydrated.

People should avoid the sun during the hottest hours 11am to 3pm and see that older relatives and children are feeling okay.

Useful guidance from the Government website 'Beat the heat: staying safe in hot weather guidance' gives lots of useful health and safety advice: https://www.gov.uk/government/publications/beat-the-heat-hot-weather-advice/beat-the-heat-staying-safe-in-hot-weather

CONSERVE WATER

A person can use anywhere between 3,650 to over 20,000 litres of water a year just flushing the toilet. Make sure you have the more modern flushes which conserve water use toilet flushing systems which use less water 6 litres a flush.

It's recommended to use the shower more often than baths which hold up to 200 litres of water, whereas a shower uses 50 to 60 litres on average and a 4 minute efficient shower uses around 36 litres.

Fix leaking taps can waste up to 60 litres of water a week.

Fit water butts to downpipes which collect rainwater from roofs for watering plants.

Use trickle hoses (soakers) to water plants, especially vegetables, as they use much less water and are better for the soil and plants and don't require manual watering so save time. Use watering cans instead of regular garden hoses where possible.

Keep tap water cold in water bottles during the hot summer months

Use mulch on plants helps to keep the soil moist and reduces water loss in gardens.

Look up the Severn Trent website with lots of practical tips for saving water in the home https://www.stwater.co.uk/wonderful-on-tap/save-water/

https://thefloodhub.co.uk/am-i-at-risk/