

Developing a local strategy for Warrington in the face of the global climate emergency



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Introduction

The climate emergency is a global crisis with a local dimension. It can seem like a future and distant threat, a problem for someone else to sort out. But it's something that matters to us all and which we can all do something about. It's an issue that is already impacting people in Warrington. It's a crisis that if we don't act will only get worse here and elsewhere.

Most people recognise the climate crisis as a problem, but not all know what they can do about it or how best to act. Not all of us have thought about how things need to change locally and what part we have in that change. Those that have may not always be able to take the action that is necessary. Few of us are fully prepared for the impacts we face.

As the international community gathers to help ensure that the combined climate plans of the nations of the world are fit for purpose, we need to take stock locally too. This report is designed to help us all to begin to take stock of what the climate crisis means to us at home, in our workplaces and communities here in Warrington.

It's also time to begin to shape a local strategy that draws on the uniqueness of Warrington and the skills of the people and organisations who live and work here so we can make a positive impact greater than the sum of our individual parts. We need a shared 'route map' that helps us make a bigger impact together, one that helps us overcome some of the common barriers we face and enables us to realise the many benefits of taking climate related action.

Starting the conversation

No single organisation can solve the climate crisis alone. No single organisation has the power or resources to do all that needs to be done locally either. We need a collective effort.

In recognition that the climate emergency is a more-than-council issue, the council set up an independent 'Climate Emergency Commission' to advise on the local response. The commission is not just a sounding board to help the council put its own house in order, but a forum to help guide the wider conversation across different sectors and communities in Warrington about what needs to happen locally.

This report starts the public conversation, led by the Warrington Climate Emergency Commission, to help encourage wider action. It sets out to build a commonly accepted local strategy.

The report is based on:

- A review of the situation we are in including the wider national and international context
- An attempt to translate what this means broadly for the direction we need to move in Warrington Borough
- An attempt to break this down further into the main themes and the types of action we anticipate including some 'pen portraits' to describe what future conditions may be more like if we follow such actions
- A snap shot of the local strengths and weaknesses and some of the opportunities and threats we face

It is important to stress that this report is not a complete and detailed strategy but an opening discussion paper that starts to sketch out what such a strategy might look like. There is



limited time left to act so it's important to make a start somewhere. This is a work in progress and you are invited to help improve it. As you read on think about what this means for you and your actions but also what is missing and what you might be able to offer the wider effort. How can we work together to make a bigger impact?

As we try to better co-ordinate local activities, it is important to accept we are often starting from different places and may be moving at different paces. Some are already on the journey to help turn things around. Some are moving faster than others. Some don't yet see they have a role at all. The scale and nature of the problem can be traumatic too. Some of us are overwhelmed. Some in denial. Some angry and frustrated. It's natural that our responses vary. We need to acknowledge this dimension, but not lose sight that developing a local response is important. We are not alone. Our actions are part of wider change taking place. It's not just a journey for Warrington but one communities around the world are taking. What we do here can inspire wider action and activity elsewhere and vice versa. The stakes are high but the change we need to create has the potential to bring many benefits.

The situation we are in

So what's the problem?

Pollution from human activities, principally the burning of fossil fuels for heat, power, and travel, is changing our atmosphere causing an alarming and unnatural rise in global temperatures¹. Pollution is adding to the so called 'greenhouse effect' trapping more heat. This excess heat is disrupting climatic patterns across the globe and contributing to rises in sea levels. Both have serious consequences for humanity and the natural world, disrupting the natural systems which support and shape our lives and livelihoods.

To avoid potentially catastrophic 'run-away' global heating, we need to cut the pollution causing it drastically and fast. We also need to adapt to the changes that have happened or are unavoidable from the greenhouse pollution already in our atmosphere.

The global challenge and response

Globally, the UN's Paris Agreement on climate change sets out the international response. The Paris Agreement came into force in 2016. It seeks to stabilise unnatural global temperature rises so the problem does not get completely out of hand. The aim is to keep the average global temperature rise to well below 2°C and pursue efforts to limit the increase to 1.5°C². Unfortunately the evidence gathered since 2016 underlines how much worse 2°C of excess heat will be compared to 1.5°C. It also highlights how quickly we may breach both these limits without an urgent change of course. There has already been around 1°C of unnatural heating recorded.

The focus is now on trying to avoid the higher 2°C rise. To do this, means all but eliminating the pollution that is amplifying global heating. To use the jargon, it means reaching 'net zero carbon' towards the middle of this Century. 'Net zero' is the point when the amount of greenhouse

¹ The greenhouse pollution driving unnatural heating is made up of a number of gases. The principal one is Carbon Dioxide (CO₂). When people talk about tackling climate disruption they tend to talk about 'cutting carbon' as shorthand for cutting this collection of pollution.

² compared to before the industrial period when we started to pump large amounts of greenhouse pollution into the atmosphere.



pollution we release to the atmosphere is less than or equal to that which is removed naturally, or by artificial means.

Nations who have signed up to the Paris Agreement are committing to set out their Nationally Determined Contributions (NDCs) towards the global goal. These are action plans submitted to the UN detailing each nation's planned actions.

Parties to UN's climate agreements meet annually. These annual meetings are called the Conference of the Parties shortened to COP. Every five years there is a major 'stock take' as a reality check on progress and an opportunity to increase ambition. The meeting in Glasgow, COP26, hosted by the UK Government in November 2021, is the first such stock stake.

So far the combined national action plans produced fall well short of what is needed. We remain on course to overshoot both the 1.5 and 2°C targets. Unless there is a rapid fall in pollution we could see 1.5°C of unnatural heating as early as 2035³. If ambition and action does not improve, we will end up in a much more dangerous situation.

The national context

The UK has played a pioneering role in climate action as an early adopter of climate law. It has made some progress to reduce climate pollution, though still has a long way to go in the face of the latest evidence. Since the Paris Agreement, the UK has had to tighten its legal target from an 80% reduction in greenhouse pollution to reaching 'net zero' emissions by 2050. With a more demanding target the Government has had to bring forward new plans. In October 2021, just before COP26 the UK Government published a new net zero strategy "Build Back Greener".

Under the Climate Change Act 2008, the Government is required to set out actions to achieve greenhouse pollution reduction targets. It must indicate how it will stay within a series of five-year legally binding 'carbon budgets'. These budgets set the maximum pollution we can afford to emit over each five year period. The amount of pollution we can emit falls for each budget period forming a series of 'stepping stones' towards the final target. An independent Climate Change Committee set up under the Climate Change Act advises government on the target, the carbon budgets and adequacy of government plans.

Though the UK has done well with respect to early 'carbon budgets', the Climate Change Committee has signalled the need to bring forward new action if we are to stay on course and meet the net zero target. The Committee welcomed the Government's recent net zero strategy as a step forward, though has signalled the need for further detail.

The Climate Change Act also requires a regular assessment of risks from the changing climate in the UK and a programme of adaptation, so that we are better able to cope with unavoidable changes. The Climate Change Committee's adaption sub-committee has criticised the adequacy of the existing work in the face of the risks identified.

³ IPCC (2018) Special Report on Global Warming of 1.5°C



What does this mean for Warrington?

Developing a local response

Mirroring international and national efforts, locally we collectively need to:

- (i) Cut the pollution arising from our activities in Warrington that adds to the climate crisis
- (ii) Adapt to our changing local climate so we are more resilient

It's important we consider what each of these overarching goals mean for us locally.

Cutting climate pollution from Warrington: how much and by when?

If we are to shape plans to cut the pollution that causes the climate crisis we need to have a sense of the scale of these emissions cuts and the speed at which we need to make them, as well as our current position.

Climate related pollution has been falling locally. Carbon dioxide pollution arising from Warrington as a whole fell by 31% between 2005 and 2019 (from 1962 ktCO₂ in 2005 to 1351 in 2019 (Figure 1)).

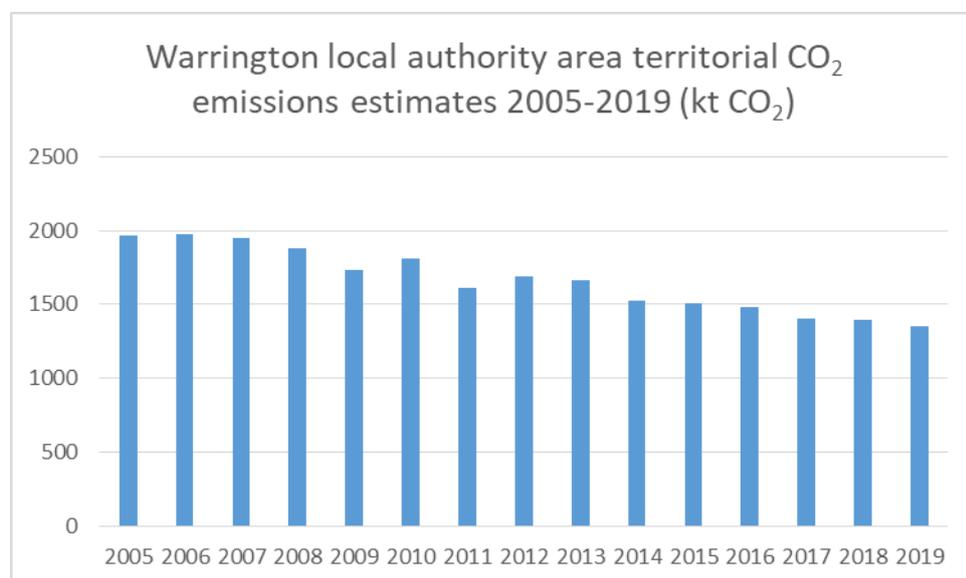
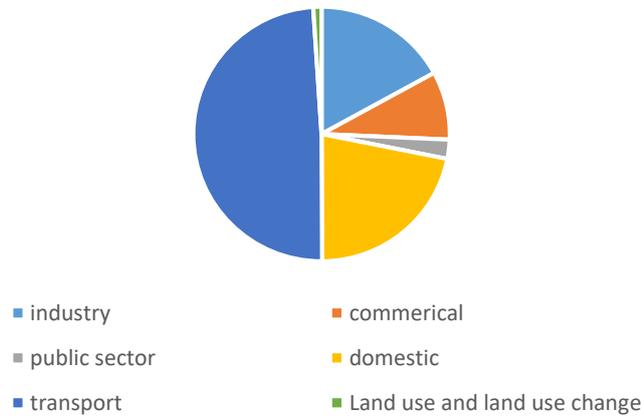


Figure 1

The latest published estimates (2019) indicate that transport is a major source of current total CO₂ pollution associated with Warrington, which accounts for just under of half of emissions. Domestic emissions make up around a fifth, followed by industrial and commercial sources.

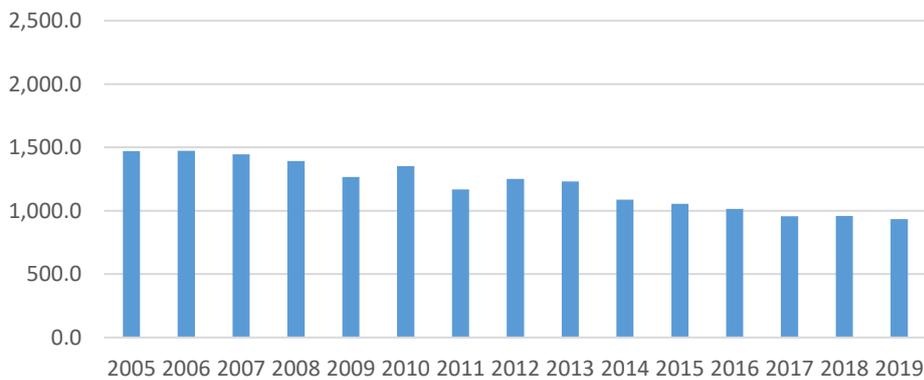
A small proportion comes from the public sector or is attributed to land use and land use change (Figure 2).

Figure 2: Sources of total CO₂ pollution in Warrington in 2019



A subset of the “local authority area” data is also published that includes emissions under local influence. This excludes emissions from motorways, railways and any large local industrial sources. Carbon dioxide pollution arising from Warrington under local influence fell by 37% between 2005 and 2019 from 1,472 KtCO₂ in 2005 to 934 KtCO₂ in 2018/9 (Figure 3).

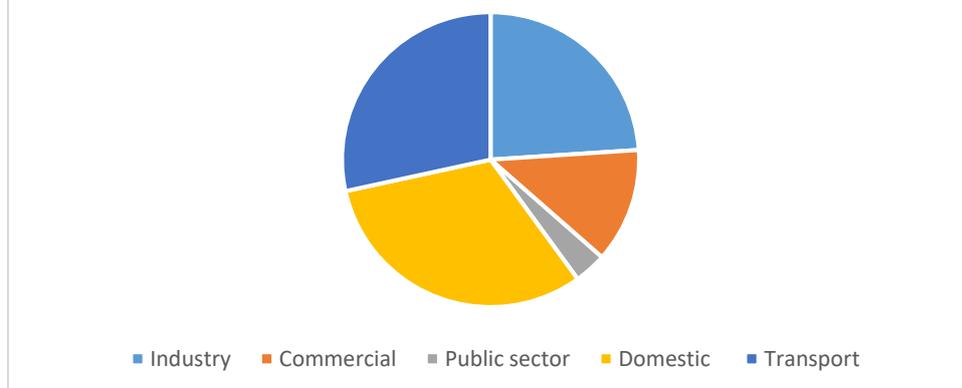
Figure 3: Warrington territorial CO₂ emissions estimates within the scope of influence of Local Authorities 2005-2019 (kt CO₂) (Excludes large industrial sites, railways, motorways and land-use change)



If we consider CO₂ emission under local influence in 2019, the source of emissions are much more evenly spread. Domestic emissions account for the largest proportion (32%) followed by transport (28%) then industry (24%) then commerce (13%) with the balance from the public sector (4%).



Figure 4: Sources of CO₂ pollution in Warrington under local influence 2019



Whilst emissions have been falling, they have not been falling fast enough. It is important to make clear how fast pollution ought to be eliminated to be in line with global goals for stabilising the temperature.

Different local areas have set various targets for eliminating climate damaging pollution and reaching 'net zero carbon', some have avoided a target altogether. Some have adopted the same date as the UK's 2050 target.

Many have adopted net zero targets in advance of this. It is not always clear what the basis for local targets are. Or what local targets include. Sometimes they are for the whole area. Sometimes they just cover a council's emissions which is only a tiny fraction of the whole area. Many set a target date to be net zero by, but say little or nothing about how pollution needs to fall between times.

To address the issue of how pollution must fall immediately and onwards, a growing number of local climate strategies use science based local carbon budgets developed by independent experts. A local carbon budget is the total amount of climate pollution that can be emitted from a particular area over a given time compatible with the global efforts to stabilise global heating.

The focus on a budget rather than a seemingly distant future date for 'net zero' pollution is important, particularly when it's possible to 'blow the budget' long before we reach the target date. Several areas utilise the work of the Tyndall Centre for Climate Research, an academic group specialising in climate research based at the University of Manchester.

The Tyndall Centre have developed estimates for local carbon budgets for each local authority area in the UK that are compatible with the Paris Agreement to keep the global temperature increase well below 2°C and pursuing the 1.5°C global temperature target.

We recommend that a local climate strategy for Warrington should:

- Adopt The Tyndall Centre local authority area carbon budget for Warrington as a benchmark for pollution reduction.

- Emphasize the need for a step change in pollution reduction to around 13.7% per annum from 2020 in order to stay within the Tyndall Centre recommended local carbon budget of 8.3 million tonnes (MtCO₂) for the period of 2020 to 2100⁴
- Recognise the Tyndall Centre date for near zero emissions of 2041, but encourage people and organisations to reach net zero faster where they can.

Adopting a science based budget and targets is important as a marker to assess our progress and to plan our actions, but it is important to acknowledge that locally we do not always have the powers and resources to deliver the change needed. Part of the strategy will involve working with others beyond our boundary to make the case for necessary changes that enable us to reach these goals.

Adapting to climate change in Warrington

If we are to better adapt to the changing climate we first need to assess our current and future vulnerabilities.

The Met Office's UK Climate Projections (UKCP) provide an assessment of how the climate may change in the UK this century. UKCP18 is the most recently published version. The headlines from the latest projections are showing an increased chance of warmer, wetter winters and hotter, drier summers along with an increase in the frequency and intensity of extreme weather.

By the end of the 21st century, all areas of the UK are projected to be warmer, more so in summer than in winter. Hot summers are expected to become more common. Although overall there will be summer drying trends, there will also be increases in the intensity of heavy summer rainfall events.

The UKCP18 includes models of regional and local conditions⁵ which can be used to explore scenarios for later in the century with finer detail.

Breaking it down

Goal: Cut the pollution arising from our activities in Warrington

We need to cut pollution arising from our activities locally that add to the climate crisis and capture more of that which remains.

To reach the 'net zero carbon' goal locally there is a need to cut pollution wherever we can. In Warrington, a large part of that reduction will come from steps that help eliminate fossil fuel use. To do this we collectively will need to:

- Use energy as efficiently as possible so we use less energy to start with
- Shift away from fossil fuels for generating power
- Shift away from fossil fuels for producing heat
- Reduce the need to travel and shift how people and goods move around so there is less single occupant private car travel and more walking, cycling and public transport use, and a move from road to rail and waterways for some heavy goods

⁴ Kuriakose, Jones, Anderson et al, (2021), Setting Climate Commitments for Warrington: Quantifying the implications of the United Nations Paris Agreement for Warrington, Tyndall Centre for Climate Change Research, October 2021 (accessed online via carbonbudget.manchester.ac.uk)

⁵ The UKCP18 regional based model has a resolution of 12KM squares and local model has a resolution of 2.2 KM squares.



- Change the local vehicle fleet from petrol and mineral diesel to electricity or alternative sustainable fuels

Emissions directly related to fossil fuels for heat, power and transport are only part of our impact. We also need to reduce the indirect impacts associated with the decisions we take, the food we eat and the goods and services we rely on. To do this we collectively will need to:

- Consider the impacts that our decisions have for climate pollution elsewhere
- Adopt diets that reduce emissions shifting from an over consumption of meat
- Shift from a waste producing, high consumption ‘throw away’ economy that demands huge amounts of natural resources and energy, to a more circular one where we design out waste and create and use more durable, repairable goods and re-use and recycle materials so they ‘cycle’ through the economy again and again in a more sustainable way

It is vital that we work to eliminate as much greenhouse pollution as possible. It is also important that any difficult residual emissions are balanced by an increase in natural or artificial carbon capture and storage. To do this we collectively will need to:

- Restore and develop habitats that contribute to natural storage of carbon including enhancement of soils and increases in tree cover
- Develop and adapt technologies and infrastructure to assist with wider plans to capture, transport and store carbon by artificial means and to ensure these processes are effective

Goal: Adapt to our changing local climate

Adapting to changes in our climate that have already happened or are now unavoidable means we have to:

- Build a better understanding of the risks we face locally and what our particular vulnerabilities are
- Develop resilience to changes taking place including adapting our infrastructure and practices

Each of these themes can be broken down further to help illuminate where we need to be heading, and the types of things we need to be doing to get there.

Identifying actions

This part takes each objective in turn and begins to flesh out the types of action that we will need to meet it. Each begins with a brief ‘pen portrait’ to describe the future conditions we are heading towards. We have used these portraits as a means to distil a wealth of material into a relatively brief but understandable scenario. However we accept some scenarios may be more uncertain and contested than others.⁶ After each ‘pen portrait’ we present lists of potential actions. We hope these will be useful prompts to stimulate thinking about future actions needed.

⁶ We recognise there is an ongoing debate about the different approaches we might take and that the course taken nationally may change over time, and that not all will agree with the merits or limitations of a particular approach, or role of a particular technology and that the technologies themselves may change. The pen portraits should be viewed as an informed best guess, built up from a variety of sources including initiatives that have already started, reports by the Climate Change Committee and existing government policy.



Objective: Use energy efficiently

The vision:

We use energy efficiently. Wasting energy is a thing of the past. Our homes and work places need less energy to heat and cool. The lighting equipment, plant and processes we use are highly efficient. The local energy system operates smartly. It utilises data and connectivity to make the best possible use of different sources of heat and power and local energy infrastructure.

To move forward we need actions to:

Improve existing buildings so they are fit for the future and perform as efficiently as possible:

- Improve the fabric of our buildings to limit demand for heating and cooling with better insulation and air tightness alongside controlled ventilation
- Upgrade heating and cooling systems and their controls to more efficient ones
- Adapt buildings to make better use of natural light and opportunities for passive heating and cooling

Ensure new buildings are designed, built and operated to the highest standards for low energy 'zero carbon' use:

- Design and build new buildings to much higher standards that make use of natural light, passive heating and cooling, and enhanced insulation and air tightness with controlled ventilation
- Stronger compliance. Reduce the gap between building standards 'on paper' and what is actually built

Change existing processes, equipment and behaviours to improve energy efficiency:

- Adopt the most energy efficient plant, processes, appliances and lighting
- Develop an energy efficiency culture that supports energy efficient practices and behaviours
- Establish 'heat networks' in urban areas where feasible to provide low carbon heat efficiently
- Develop 'smart energy systems' that take advantage of data and connectivity to make the best use of our energy infrastructure and local sources of heat and power

Objective: Shift away from fossil fuel use for generating power

The vision:

We no longer use power generated from fossil fuels. Our power comes primarily from renewable sources including the wind and sun with the balance from nuclear generation. We use batteries and other storage technologies to ensure the local power system meets local needs.

To move forward we need actions to:

Develop new renewable energy generation capacity locally including solar farms and building integrated solar along with energy storage technologies including batteries:



- Identify and develop local opportunities for renewable energy generation
- Upgrade the local power network and local storage capacity to enable more renewable generation

Purchase and secure energy from renewable and nuclear sources elsewhere to meet local needs:

- Switch to renewable energy and fossil fuel free electricity contracts
- Invest in developing new renewable energy capacity beyond Warrington to meet our needs

Objective: Shift from fossil fuel use for heat

The vision:

We use less heat now that our buildings and processes are more efficient. We no longer rely on natural gas, oil and coal directly for local heat. Many newer homes and buildings in more densely built up areas are connected to heat networks that utilise waste heat, biomass from local sources, or heat captured from our environment.

Other new buildings and many older properties including those that were off the gas grid now utilise heat pumps or electric heating. Power infrastructure has been upgraded to meet the demand for heat from electricity. Solar energy and biomass fuels contribute to meeting some local heat demand. Those still using gas do so with hybrid heating with boilers and heat pumps. The gas grid supplies gases from more sustainable sources including bio-methane. Hydrogen gas is now a source of heat for industrial processes in addition to heat from electricity.

To move forward we need actions to:

Develop low carbon heat networks in denser urban areas in Warrington Borough to serve new and existing buildings where practical:

- Mapping of potential heat supply and demand across Warrington to identify opportunities for heat networks
- Heat network feasibility investigations
- Ensure new buildings that can be served by heat networks are 'heat network ready' making provision for future connections and appropriate lower temperature 'wet' heating emitters
- Exploit waste heat and natural sources of low carbon heat from our environment wherever possible supplemented with biomass

Install heat pumps and electric based heating in new and existing buildings where there is no opportunity for a district heating connection:

- Reinforce the local power network to enable the wider uptake of electric based heating systems and heat pumps
- Appropriately sized radiators/underfloor heating for lower temperature heat pump based heating systems
- Potential hybrid heat pump systems combining boiler and heat pumps for building currently on the gas grid

Switch from standalone fossil fuel heating systems in properties that are currently off the gas grid to heat pumps, biomass and solar thermal heating systems. An increasing use of



non-fossil fuel alternatives to natural gas injected into the gas grid including bio-methane and the potential for hydrogen

- Explore and exploit opportunities for local bio-methane and green hydrogen production
- Build connections with developing hydrogen production and storage facilities in the sub region
- Take part / learn from gas blending and substitution trials

Objective: Reduce the need to travel

We need to reduce the need to travel, and shift how people and goods move around so there is less single occupant car travel and more walking, cycling and public transport use, and a shift so that more heavier goods are moved by rail and waterways.

The vision:

We conduct more business using information and communication technologies which has reduced the need to travel. More people walk and cycle for local journeys now that it's easier and safer to do so. Secure parking facilities for bikes are widespread and conveniently located for shops, leisure and work places. It's stress-free and affordable to travel by bus and train.

It's easy to join up different services and modes of travel when getting from A to B. Travel tickets and prices are straight forward and work across services. We no longer reach for the car keys by default when travelling in the borough. Fewer of us now own cars for our exclusive use, but access cars on a 'pay as you go' basis as part of the wider integrated travel services we buy. More heavy freight is moved by rail and waterways. More 'last mile' deliveries are made by cargo bikes.

To move forward we need actions to:

Reduce the need to travel:

- Utilise information and communication technology to limit the need for journeys
- Plan local land uses to minimise the need for travel

Create an environment where walking and cycling is easier and safer so that more people walk and cycle:

- Greater priority for cyclists and pedestrians rather than for motor vehicles
- Create a better environment for people to walk
- Create a better environment for people to cycle safely and park cycles securely

Create infrastructure and services so that public transport is an obvious choice for journeys within the borough and to and from places beyond the borough so that more people use public transport:

- Priority for public transport over other motor traffic
- Better public transport infrastructure and vehicles to create a high quality passenger experience
- Better integration of services and simplification of ticketing to enable straight forward 'end to end' journeys for a fair price
- Good connections between different modes from walk and ride, cycle and ride, to park and ride, and bus and train interchange
- Regular, frequent and rapid public transport services



We also need to develop and utilise 'car clubs' as part of a wider local travel service offer, and encourage the greater use of e-cargo and delivery bikes for 'final mile' deliveries.

Objective: Shift away from the use of vehicles that burn fossil fuels to those propelled by electricity or alternative sustainable fuels

The vision:

Petrol and mineral diesel are vehicle fuels of the past. The motor vehicles that we now use in Warrington are propelled by electricity, hydrogen and biofuels. Infrastructure and supply chains are in place to ensure we can charge and refuel the motor vehicles that we still use. Those who still have or use cars have charging points at home, or can access charging points on street or in car parks. More rapid chargers are available for 'on-the-go' charging and for local taxis. Bus and HGV depots have suitable charging or clean fuel infrastructure

To move forward we need actions to:

Ensure the widespread adoption of electric vehicles:

- Greater familiarity with and access to new and used electric vehicles to meet local needs including, cars, vans, taxis and buses to purchase, lease and pay-as-you-go
- Investment in infrastructure to support large scale electric vehicle charging with provision for different vehicle types including taxis, buses and cars and vans, including new hubs with rapid 'on the go' charging facilities
- Support the provision of charging in residential areas where people don't have access to drives to enable them to charge at home.

Encourage the uptake of hydrogen and bio fuels from sustainable sources as a vehicle fuels

- Greater familiarity with and access to new and used vehicles utilising hydrogen and biofuels from sustainable sources particularly for vehicles where electric options are not available
- Investment in refuelling infrastructure and supply chains for hydrogen and biofuels from sustainable sources



Objective: Consider the impacts that our decisions have for climate pollution elsewhere or overtime in order to take climate friendly decisions

The vision:

We routinely think about the wider impacts of our decisions to avoid negative consequences elsewhere. Organisations now have policies and processes in place to ensure better decisions are taken. There are well developed, robust standards and certification schemes in place to support decision taking.

To move forward we need actions to:

Incorporate climate and environmental considerations into our policies and decision making processes:

- Adopt climate emergency policies
- Develop 'climate implications' assessments as part of decision making processes
- Develop or adopt existing robust standards to guide action
- Make use of appropriate certification schemes to assure standards

Objective: Adopt diets and food production systems that reduce emissions shifting away from over consumption meat

The vision:

We enjoy healthier plant based diets and eat less meat and dairy than we used to. Our food production systems produce high quality affordable food using less energy, water, fertilisers and pesticides. More of our food is organic. We appreciate how the variety of our food changes with the seasons and enjoy and store food accordingly. More of us 'grow our own' food or source it locally. Food waste is much less than it used to be. Where food waste persists, systems are in place to make use of it for energy and fertilisers and biochemical feedstocks.

To move forward we need actions to:

- Raise awareness about the climate and health implications of our diets
- Promote 'plant based' recipes
- Encourage less 'meat heavy' menus across hospitality and catering services, including in schools, with greater variety of 'plant based' options
- Promote local food production
- Identify opportunities for expanding personal and community food growing

Objective: Shift from high consumption, waste producing, 'throw away' economy

We need to move away from the high consumption, waste producing, 'throw away' economy utilising finite resources, to a more circular one where we design out waste and pollution



to create more durable, repairable goods and re-use and recycle materials so they 'cycle' through the economy again and again in a regenerative, sustainable way .

The vision:

We have designed out waste and pollution. The products we make, and materials we use to create them, are kept circulating through our economy in a sustainable way. We design products to be durable and repairable so they are in use for longer.

We retain value through re-manufacture and re-use. That which can no longer be reused is recycled. We use renewable natural materials wherever possible.

Food and biological wastes are processed to produce fertilizers, biogas and biochemical feedstocks for re-use. New business models support our circular economy.

It is much easier and cost effective to get things repaired. Shared ownership, leasing and hire services are now more common, and more of us pay for services rather than directly to own things so that resources are used more efficiently

To move forward we need actions to:

- Encourage the adoption of circular economy practices by existing business
- Create new enterprises based on circular economy business models.
- Extend opportunities for accessing equipment without the need to buy it outright, for example tool 'libraries'
- Create more opportunities to repair goods including 'repair cafes'
- Promote re-use including opportunities to access second hand and 'up-cycled' goods
- Encourage remanufacture
- Improve recycling including the introduction of deposit return and food waste collection and processing

Objective: Restore and develop habitats that contribute to natural storage of carbon

We must restore and develop habitats that contribute to natural storage of carbon including the enhancement of soils, improvement of peat habitats and increases in tree cover

The vision:

We recognise the central role of managing land and habitats to increase natural carbon storage. Agriculture and land management practices have changed to restore soil health. We have added more organic material and biochar to some soils to improve its carbon storage potential. We have restored peat habitats and increased tree cover where it helps increase natural carbon storage. Arrangements are in place to support the long term stewardship of natural carbon stores.

To move forward we need actions to:

- Raise awareness of the importance of natural carbon capture and storage
- Identify the potential for natural carbon capture locally including that of soil improvement with organic matter and biochar, peat habitat restoration and increases in tree cover
- Modify farming and land use management practices to increase natural carbon capture and storage



- Ensure we value natural carbon assets and put in place suitable arrangements to manage them in perpetuity

Objective: Develop and adopt technologies and infrastructure to assist with wider plans to capture, transport and store carbon by artificial means and to ensure these processes are effective

The vision:

We have developed effective technologies to capture and store carbon emissions. Direct air capture is now being used to remove excess greenhouse gases from the atmosphere. The north west of England is the centre of an industrial decarbonisation 'cluster' exploiting carbon capture and storage technology storing captured carbon in legacy gas fields under Liverpool Bay.

To move forward we need actions to:

- Ensure the processes being developed for carbon capture and storage are effective and deliver real emissions reductions
- Ensure local 'difficult to decarbonise' industrial processes can take advantage of developing carbon capture and storage technologies and infrastructure
- Help develop and exploit direct air carbon capture technologies

Objective: Build a better understanding of the risks we face locally and what our particular vulnerabilities are locally

The vision:

There is widespread awareness of the changing weather patterns we face both now and through the remainder of this century. We have considered our vulnerabilities to these conditions using available tools so that there is a clear picture of the risks facing Warrington. Locally people and organisations are aware of vulnerabilities and steps that can be taken to limit risks and adapt to change.

To move forward we need actions to:

- Improve understanding of changes in the local climate and the risks these present
- Raise awareness of changes in the local climate and their impacts
- Create wider understanding of the main risks and vulnerabilities from a changing climate including present and future risks to health
- Support wider appreciation of the advantages of preparing for change and the tools to help



Objective: Develop resilience to changes taking place including changes to buildings and infrastructure and our culture and practices

The vision:

We are resilient to the changes taking place in our local climate. Building and infrastructure have been adapted so they are resilient to overheating and flooding. We use water wisely now that we endure longer dry spells. We utilise natural 'green and blue' infrastructure to moderate the impacts of weather extremes. Our culture and practices have changed to reflect our new climate.

To move forward we need actions to:

Upgrade critical physical infrastructure to cope with expected changes:

- Use of property level flood protection in areas at risk from flooding

More efficient use of water:

- More rainwater and grey water harvesting systems, including the use of water butts for garden watering
- Use of water saving devices e.g. low flow aerators on taps and showers, waterless urinals

More investment in nature and water features ('green and blue infrastructure') to limit negative impacts:

- Increase urban green space and the use of green roofs and walls
- Protect and enhance existing green and blue infrastructure

We also need to:

- Develop Sustainable Urban Drainage Systems (SUDs) to 'slow the flow' of water into the hard drainage system
- Develop resilience in organisations to enable continuity of business and services; creating a change in culture
- Build support networks in communities to improve responses to emergency situations and support vulnerable groups
- Promote behaviour change to adapt to likely changes in the climate
- Ensure we make necessary provisions for changing health impacts

Joining things up to create a bigger impact

Having broken the global climate challenge into some suggested local goals and objectives and then set out some of the likely actions needed to help meet each of these objectives, we also need to consider how we can join up action and activities to make a bigger impact.

At present, without a local strategy, it's largely 'each to their own'. Some people and organisations will have made climate commitments and are bringing forward actions. Others have not. We do not currently have clear sense of who is active and what they are doing locally. Some will share their plans and activities publicly, others may not. There is no single place where we can get a sense of activities and actions across Warrington. There is not yet a clear mechanism where our efforts are gathered, shared and progress reported.



We believe the strategy needs to consider developing this wider 'infrastructure' too and that this should help to:

- Encourage individuals and organisations to be active, to consider their own climate impacts and bring forward actions to address them
- Make it easier to share and learn from each other's experience
- Identify potential interventions where combined efforts can help make a bigger impact than individual ones
- Make clear where we are making sufficient progress and where we are not
- Provide a mechanism to review and develop a local strategy that remains up to date and fit for purpose
- Provide the basis for flagging up where existing powers, resources and regulations are a barrier to sufficient progress so that these matters can be raised with the appropriate bodies

Thus, in addition to the specific objectives already identified, we also need to:

- Build stronger partnerships and networks
- Promote wider understanding
- Secure adequate powers and resources
- Put in place suitable processes for monitoring and review

Strengths, weaknesses, opportunities and threats

In order to shape a wider strategy we also need to think about existing strengths and weaknesses locally and the opportunities for and potential threats to making progress.

To help this process, the commission has undertaken an initial rapid SWOT analysis. As a rapid assessment we accept this is likely to be partial picture only and invite you to help improve it further by sharing your insights.

Strengths

- Geography - flat so good for cycling and walking
- Compact - most internal journeys less than 3 miles
- Up to date Local Transport Plan to support sustainable travel with transformational targets
- Municipal bus operator
- Good track record of working with business on Transport and Travel
- Planning and Transport authority combined
- Pioneering track record for energy projects e.g. solar investments and Rewire smart local energy systems research
- Existing active community energy organisations
- Good working relationship with Distribution Network Operator (DNO)
- Innovative financial approaches for climate related investments including community benefit fund
- Strong and willing private sector, including the UK's nuclear cluster
- Local expertise and strong public-private partnership relationships and approach
- Mild climate so heating and air con requirement not as high
- Significant existing woodland coverage within the borough



- Strong local relationships with the Local Enterprise Partnership and Cheshire East & West including the Hynet project
- Good track record of delivery of schemes
- Large proportion of high tech and engineering businesses in Warrington that could contribute to meeting objectives
- A council willing to invest resources into key projects with members and officers supportive of transformation and innovation
- High level of engagement with schools
- A network of connected green spaces and parks
- Several local organisations committed to being net zero and promoting carbon literacy
- Risley Moss restoration one of the best examples in the UK (featured in Natural England's presentation at COP26)

Weaknesses

- Who's going to foot the bill locally for the huge changes required?
- High car usage and associated traffic as a legacy of new town growth and Warrington's location
- Culture change is needed to reduce car use
- Surrounding motorways great for connectivity but bad for pollution
- Unattractive conditions for cycling at key locations on the highway network such as town centre and across ship canal.
- Two major waterways add to severance for all modes
- Key new town infrastructure never completed
- Very low public transport usage
- Poor bus frequency and journey times
- Lack of revenue support for bus services
- Car travel and parking cheaper than public transport
- Flat so wind turbines less welcome from the public
- Lack of revenue funding to sustain new initiatives
- Perception - seen as a (dirty) manufacturing town, even though it's only 7% of the local economy (13% national)
- Difficult and potentially unpopular decisions needed
- Do local leaders beyond council and climate commission understand the challenges ahead?
- Motorways, water courses and railways hinder heat network capabilities
- Warrington has very little power grid capacity to supply any projects for move away from gas for heating to heat pumps
- Some of Warrington's population have less of a connection to the borough. Many newer families work and visit outside the borough
- Limited awareness/visibility of some projects. Examples of good practice exist but in isolation may be hard to notice.
- No single point for help and advice on climate matters and the potential actions we can take
- Limited council land assets for additional and new tree planting
- Limited revenue for tree and woodland management/maintaining green infrastructure



Opportunities

- UN's COP26 raising public awareness
- Growing business interest in 'net zero'
- A number of large employers keen to demonstrate their environmental thinking and role
- Bringing business and resident communities together to tackle the climate emergency
- Investment linked to Government's new 'net zero' strategy and related policies
- Opportunity to create an environment to attract innovative businesses and develop cutting edge research
- Potential to build networks to support climate actions locally
- Chance to link up existing activities to create a higher profile and share learning
- Potential to bring together information to create a climate 'one stop shop' for climate advice and information
- Links to the Hynet project
- Delivery of key transformational projects – ZEBRA bus electrification project, 'first and last mile' etc.
- Need to utilise waterways
- Topography supports potential for more bike trips
- Roof space on public, industrial and commercial buildings for more extensive installation of PV panels
- Public view of climate crisis and air quality help support traffic demand management measures rather than congestion reduction alone
- Restoration of local peat habitats to enhance natural storage with the potential to generate income
- Potential to engage parish councils to help them reduce their climate impact
- Valuable co-benefits from climate related actions – improvements in health, quality of life, better transport, green jobs and investment etc.

Threats

- Lack of investment - people and financial.
- Limited powers to support necessary action
- Government restrictions on Council's commercial approach impacting on ability to invest in key projects
- Places outside City Regions can be overlooked in national debates and miss out on funding etc.
- Losing green inward investment opportunities to other areas
- Policy inconsistency and uncertainty can frustrate and delay action. Local policies can be overruled, e.g. planning decisions on appeal
- Economic 'viability'/cost arguments can delay necessary action now creating higher costs in the future
- Supply chain bottlenecks and skills shortages can limit the ability to deliver the changes needed at scale, e.g. widespread building retrofit, heat pumps
- Risk that some will promote 'Greenwash' rather than showing real commitment
- Some of the technologies that are expected to help deliver net zero have not been deployed or tested at scale.
- The economics of some of the changes needed don't always add up today without subsidy e.g. electric heating costing more than gas heating



- Some impacts are already ‘locked in’ from past pollution. There will be Increasing problems, e.g. health impacts, if we don’t adapt to these changes
- Difficulty in making hard long term policy changes.

Moving forward

This report set out to help highlight what the climate crisis means to us here in Warrington; to start a wider public conversation that ultimately helps to shape a local strategy fit for the challenge we face. It is important that we have such a conversation, because any strategy for the borough needs to be widely owned too.

We acknowledge that the audience for a position paper like this will be limited. You can help extend it by sharing this document with others, but no matter how successful our combined efforts are, we recognise there is a need to develop engagement more widely too. We need to ensure that the conversation involves as wide a cross section of the community as possible and reaches across different sectors and interests.

The ‘virtual table’ around which the commission has met is limited, but we are keen to create opportunities for much wider involvement through a variety of fora and networks. As opportunities present, there will also be events for people to come together and share learning and experience too.

The commission is currently working with Warrington Council to help extend the conversation through different communication channels. An initial ‘count me in’ pledge campaign has been launched to coincide with the UN’s COP26 climate conference. We encourage you to take part and by doing so connect to a mailing list through which you keep in touch with this work. The Commission now has social media channels – [Twitter](#) and [Facebook](#).

We are also currently working to develop web pages via warringtonclimatecommission.org.uk, so that more people can find out about the commission and its work and connect with wider forums and networks as they develop.

Share your views

We invite you to share your thoughts on this position paper to help guide the development of a local strategy. In particular:

- Does it capture the key areas where local action is needed? If not, what is missing?
- What are our strengths and weaknesses and the opportunities and threats to progress? What can we do about them together so we can make faster progress?

Your comments on the paper are important but, we also invite you to consider how you can play a part in pursuing action in support. Just as the UN’s global approach relies on the nations of the world bringing forth their own action plans, our local response will rely on local people and organisations in Warrington bringing forth their own actions in support too.

- How can we secure wider action in the support of the strategy?
- How can we better capture what local organisations are doing?
- Are you willing to be part of a wider network focused on advancing local climate action?
- Are you willing to share you plans and actions to help wider learning?
- What can you offer to help progress local climate action?



Ways to give us feedback

With the climate crisis clock ticking we'd welcome comments by 24 December 2021. You can share your thoughts direct [by completing the online survey](#).

You can also get in touch by emailing us at climateemergency@warrington.gov.uk

