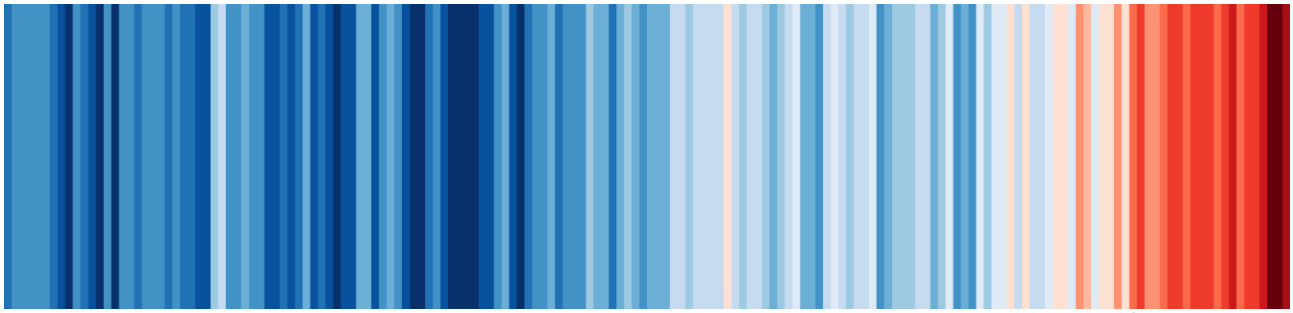
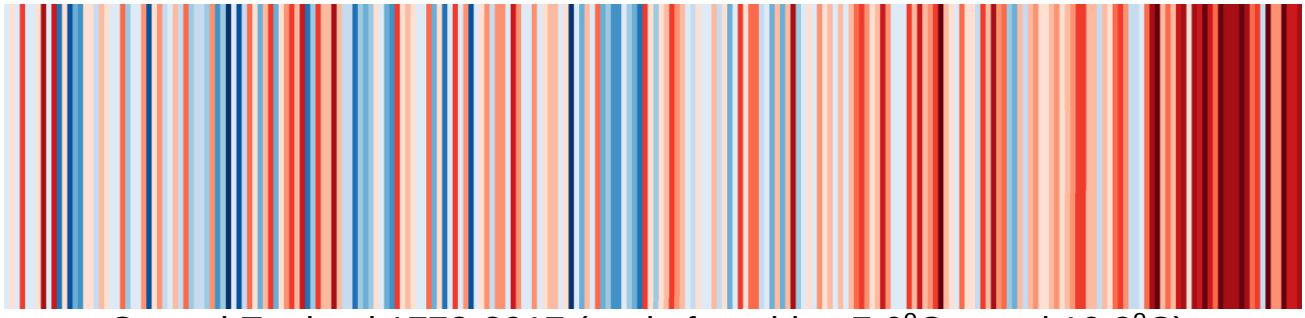
**Climate Change Strategy**



Annual global temperatures 1850-2017 (scale change of 1.35°C)



Central England 1772-2017 (scale from blue 7.6°C to red 10.8°C)

This strategy will be regularly updated to reflect new evidence, legislation, strategies and policies and a live list of actions to tackle climate change.

Introduction

Climate change refers to the large-scale and long-term shifts being observed in our planet's average temperatures and weather patterns.

For the last 11,000 years the average temperature across the world has been about 14°C. The industrial revolution began in the mid 1800s when humans started burning coal, oil and gas. This produces greenhouse gases such as carbon dioxide that form a 'blanket' in the atmosphere that traps heat from the sun and causes global warming. It has increased the average temperature of the planet by about 1°C. It is also responsible for extreme weather patterns, melting ice caps, rising sea levels, flooding, droughts and fragile ecosystems. Although it is very difficult to predict, scientists estimate that the planet could warm by 4°C by 2100 if we continue at the current pace.

The possible local implications for Welwyn Hatfield include heat, drought, flooding, impact on ecosystems and biodiversity, water supply, river quality, soil quality, agriculture, air pollution, pests, diseases and invasive species.

The UK Intergovernmental Panel on Climate Change (IPCC) is unequivocal that "*climate change is real and human activities are the main cause*."

Scientists are increasingly warning of a ghasty future that threatens human survival and observe that "*the scale of the threat to the biosphere and all its lifeforms is so great that it is difficult to grasp even for well-informed experts*". There is an urgency to recognise and respond to the scale of the problem.

The purpose of this strategy is to introduce the concept of climate change and the various international agreements and national policies that exist to tackle it, before focusing on the practical things that the Council and its partners can do at a county and borough level: the "think global, act local" mantra.

The Council declared a climate change emergency in June 2019 and set itself the ambitious target to be zero net carbon by 2030, or a justification for a later date if the review finds this unachievable.

The Council has established a cross-party Climate Change Member Group. This group will meet on a regular basis to maintain its understanding of international agreements, national policies and local strategies and to identify actions that that can be delivered to help address the climate change crisis.

International Agreements

The Brundtland Report 1987 recognised the interdependence of development and the environment and sought to galvanise political effort to achieve more sustainable development, which it defined as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."*

The Earth Summit in Rio de Janeiro in 1992 developed a set of sustainable development goals that have since been incorporated into many aspects of UK legislation.


The Kyoto Protocol 1997 committed industrialised nations to limit and reduce greenhouse gas emissions by an average of 5% below 1990 levels by 2012.

The Paris Agreement 2015 achieved a common cause for all nations to keep the rise in average global temperature well below 2$^{o}$C and ideally below 1.5$^{o}$C above pre-industrial levels. It warns that this will require rapid, far-reaching and unprecedented changes to all aspects of life, but can also help to create a more sustainable and equitable society.

The European Green Deal aims to transform the continent into a low carbon economy, through regulation and legislation, ambitious targets, budgeting,

The High Ambition Coalition of 50 countries, including the UK, has committed to protect almost one-third of the planet by 2030 to halt the destruction of the natural world and slow the extinction rate.

It is perhaps however the words and actions of Greta Thunberg and Sir David Attenborough that better raise public consciousness.

This section will be updated following the UN COP26 Climate Change Conference that will take place in Glasgow in November 2021.

National Strategies

The Climate Change Act 2008 established a legally binding target to reduce the UK's greenhouse gas emissions by at least 80% by 2050 against 1990 levels. It also requires the Government to set binding five-year carbon budgets based on latest scientific knowledge and economic circumstances.

The Prime Minister has clarified that the UK will aim to cut greenhouse gas emissions further and faster than any other major economy – by 68% in annual carbon emissions by 2030 compared with 1990 levels. This will be submitted as part of the UK's pledge to the Paris climate change agreement.

In 2019 the UK became the first national government to declare a climate change emergency.

The UK Committee on Climate Change has been established to advise the UK government on emission targets and to report progress in achieving them.

The latest CCC progress report states that territorial emissions have reduced by 30% and emissions embedded in imports have fallen by 18% since 2008. The report identifies a number of clear investment priorities for green and resilient recovery from coronavirus, including: low carbon retrofits; buildings that are fit for the future; tree planting; green infrastructure; energy networks; walking and cycling infrastructure; and a circular economy.

The latest CCC risk assessment of the current and predicted impacts of climate change include: flooding and coastal change; high temperatures harming health, wellbeing and productivity; water shortages for agriculture, energy and industry; risks to ecosystems, soil and biodiversity; risks to food production; and new pests, diseases and invasive species.

The Government has issued a 10 point plan to tackle climate change and deliver a green industrial revolution. It intends that this will mobilise £12 billion of investment to create up to 250,000 jobs and spur much greater levels of private sector investment.

- Offshore wind: Producing enough offshore wind to power every home, quadrupling how much we produce to 40GW by 2030, supporting up to 60,000 jobs.

- Hydrogen: Working with industry aiming to generate 5GW of low carbon hydrogen production capacity by 2030 for industry, transport, power and homes, and aiming to develop the first town heated entirely by hydrogen by the end of the decade.

- Nuclear: Advancing nuclear as a clean energy source, across large scale nuclear and developing the next generation of small and advanced reactors, which could support 10,000 jobs.

- Electric vehicles: Backing our world-leading car manufacturing bases including in the West Midlands, North East and North Wales to

accelerate the transition to electric vehicles, and transforming our national infrastructure to better support electric vehicles.

- Public transport, cycling and walking: Making cycling and walking more attractive ways to travel and investing in zero-emission public transport of the future.

- Jet Zero and greener maritime: Supporting difficult-to-decarbonise industries to become greener through research projects for zero-emission planes and ships.

- Homes and public buildings: Making our homes, schools and hospitals greener, warmer and more energy efficient, whilst creating 50,000 jobs by 2030, and a target to install 600,000 heat pumps every year by 2028.

- Carbon capture: Becoming a world-leader in technology to capture and store harmful emissions away from the atmosphere, with a target to remove 10MT of carbon dioxide by 2030, equivalent to all emissions of the industrial Humber today.

- Nature: Protecting and restoring our natural environment, planting 30,000 hectares of trees every year, whilst creating and retaining thousands of jobs.

- Innovation and finance: Developing the cutting-edge technologies needed to reach these new energy ambitions and make the City of London the global centre of green finance.

As part of leaving the EU, the Government has indicated it will phase out £1.6 billion of agricultural subsidies to UK farmers by 2028 and will start using the funds to restore wild habitats, create new woodlands, boost soil quality and cut pesticide use.

The Government has consulted on legislation to prevent illegal deforestation in the supply chains of UK businesses and to require companies to know where the commodities they use have come from and comply with local laws. The Council will incorporate these policies into its own procurement strategy.

The UK Climate Assembly draws together people from all walks of British life to debate climate change.  They have recently identified a series of actions including: more investment in low carbon trains and buses; an early shift to electric vehicles; a ban on heavily polluting vehicles; grants to buy low-carbon cars; more wind and solar energy; greater reliance on local food production; and a change in diet to reduce meat and dairy consumption.

The National Planning Policy Framework (NPPF) states that the purpose of the planning system is to contribute to the economic, social and environment objectives of sustainable development. Plans should take a pro-active approach to mitigating and adapting to climate change and policies should support measures to ensure the resilience of communities and infrastructure.

The Planning White Paper proposes fundamental changes to the planning system, including to help create beautiful place that stand the test of time, protect and enhance our precious environment and support efforts to combat climate change and bring greenhouse gas emissions to net zero by 2050.

The Clean Growth Strategy sets out government proposals to decarbonise all sectors of the UK economy through the 2020s. It includes policies to improve the energy productivity of businesses by at least 20% by 2030, make all homes Energy Performance Certificate Band C by 2035 and end the sale of conventional petrol and diesel vehicles by 2040. For information, the energy performance of homes is based on a Standard Assessment Procedure. A property achieving a C rating must score 69-80 points out a potential 100.

The Green Future 25 Year Environmental Plan wants to help the natural world regain and retain good health. It identifies ten goals to achieve: clean air; clean plentiful water; thriving plants and wildlife; reduced risk of harm from environmental hazards such as flooding; use resources more sustainably; enhance beauty and heritage; mitigate and adapt to climate change; minimise waste; mange exposure to chemicals; and enhance biosecurity.

The Environment Bill proposes new regulations on air quality, water usage, waste disposal, resource management and biodiversity and a new Office of Environmental Protection. Its signature policy is that new development should achieve at least 10% net biodiversity gain. This will use a DEFRA metric to calculate the difference between the pre- and post- development biodiversity value of the site. Gain can be achieved via on-site provision or off-site contributions and must be maintained for at least 30 years after the development is completed.

The England Tree Strategy observes that trees capture 4% of UK carbon emissions and therefore proposes an ambitious tree planting programme to help achieve net zero emissions by 2050.

The Future Homes Standard proposes changes to building regulations to uplift the energy performance of new homes. It wants homes to be 75-80% more efficient by 2025 though features such as triple glazing, heat pumps, gas condensing boilers, waste water heat recovery, airtightness standards, floor/wall/roof fabric efficiency and photovoltaics.

It is also important to note that the Health Protection Agency has identified a series of health effects arising from climate change, including temperature, air pollution, aero-allergens, ultraviolet radiation, flooding and diseases affecting humans, agriculture and animals.

The Government is banning gas boilers in new houses from 2025.

The Government is banning the sale of petrol and diesel cars by 2030.

Grants and Funding

The Public Sector Decarbonisation Scheme provides grants for public sector bodies to fund energy efficiency and heat decarbonisation measures. The Council has submitted bids for funding for the replacement of gas-fired boilers at Campus East, Campus West and Hatfield swim centre with air source heat pumps and water source heat pumps that will reduce emissions by two-thirds.

The Green Homes Grant is available to local authorities, homeowners and landlords to apply for grants for energy efficiency improvements. Vouchers cover two-thirds of the cost of eligible improvements up to a maximum of £5,000 and up to £10,000 for households receiving certain benefits.

The Government has announced £20 million of funding for local authorities to boost the number of on-street electric vehicle charge points in their areas.

The Woodland Carbon Fund supports the planting of productive, multi-purpose woodlands of more than 5 hectares to help store carbon.

The Woodland Carbon Guarantee offers payments for carbon sequestration to landowners who plant new woodlands.

Local Strategies and Partnerships

The Hertfordshire Forward partnership of public, private and voluntary bodies sets five priorities, including healthy citizens and high quality environment.

The Hertfordshire Growth Board proposition has three themes to create a long-term infrastructure partnership, growth delivery programme and place narrative and six policy programmes, including to tackle climate change and ensure the benefits of growth are shared through community wealth building.

The Hertfordshire Climate Change and Sustainability Partnership brings together public, private and voluntary partners to develop countywide policies and actions. It has four sub-groups focused on carbon reduction, biodiversity,

water and transport. It is anticipated the Council will need to work closely with this partnership in order to achieve its climate change ambitions.

The Hertfordshire Infrastructure and Planning Partnership brings together public sector partners to develop countywide planning and infrastructure policies and actions.

The Hertfordshire Waste Aware Partnership brings together public sector partners to develop countywide policies and actions for dealing with waste. Its Municipal Waste Management Strategy prioritises reuse and sets a target for 50% recycling, which has consistently been achieved in recent years. When combined with composting and energy generation, only 15 tonnes out of every 100 tonnes produced by the county's households goes to landfill.

The Submitted Welwyn Hatfield Local Plan sets a target to build 12,000 new homes and 116,000 sqm of new employment floorspace over the next 15 years. It contains policies to control the sustainability of development, including higher densities around transport hubs, priority for pedestrians and cyclists, space for nature, protect and enhance environmental assets and sustainable construction principles for materials, waste, water and energy.

The Hertfordshire Local Transport Plan recognises that our dependence on cars and driving is having serious environmental consequences and that the future strategy cannot be to build more roads. It therefore focuses its policies and resources on getting more people to walk, cycle and use public transport as well as better technology to reduce vehicle congestion and pollution.

The Hertfordshire Intalink Partnership brings together public sector partners and rail and bus operators to promote passenger transport services as an integrated network and to provide coordinated information on services.

The Welwyn Hatfield Parking Strategy includes support for electric vehicle charging points in both council and privately-owned car parks.

The Hertfordshire Local Flood Risk Management Strategy seeks to understand flood risk from surface water, watercourses and groundwater sources and identify actions that will be taken to manage it. For Welwyn Hatfield it identifies that about 6,000 properties are a 1-in-100 medium risk and about 2,500 properties are a 1-in-30 high risk by virtue of lying within a modelled flood zone.

The Welwyn Hatfield Corporate Plan will set out the Council's projects and targets over the coming three years, to help deliver services.

The Hertfordshire State of Nature Report explores the county's wildlife over the past 50 years. It observes that "nature is a vital part of our physical and mental wellbeing and creating a wilder Hertfordshire should be important for everyone". It identifies that 1,500 out of nearly 11,000 species recorded in the county are of conservation concern, that grasslands and heathlands are a particularly threatened habitat, that some wetlands are fragile and that urban conservation is equally important.

## Coronavirus

The world is currently in the grips of a coronavirus crisis that has brought death and illness, lockdowns, business closures, unemployment and massive subsidies for companies and workers. It has forced many people to work at home, prevented them from travelling and limited opportunities for shopping and cultural activities. It has however had the unintended consequence of reducing our greenhouse gas emissions. It has also started conversations about the likelihood of wider societal change. It gives us the opportunity to capture and embed some of these changes into our future behaviour.

## Strategy

The Council declared a climate change emergency in 2019 and set itself five ambitious objectives:

1. To reduce carbon emissions from our own estate and operations to net zero by 2030, or a justification for a later date if the review finds this unachievable.

2. To comply with statutory obligations to mitigate and adapt to climate change.

3. To work with, support, encourage and engage residents, communities, businesses and other partners in initiatives to reduce carbon emissions.

4. To embed climate change mitigation and adaptation into our plans, strategies and policies.

5. To reduce carbon emissions across the borough by promoting energy efficiency measures, sustainable construction, renewable energy, sustainable transport and behavioural change.

## Action Plan

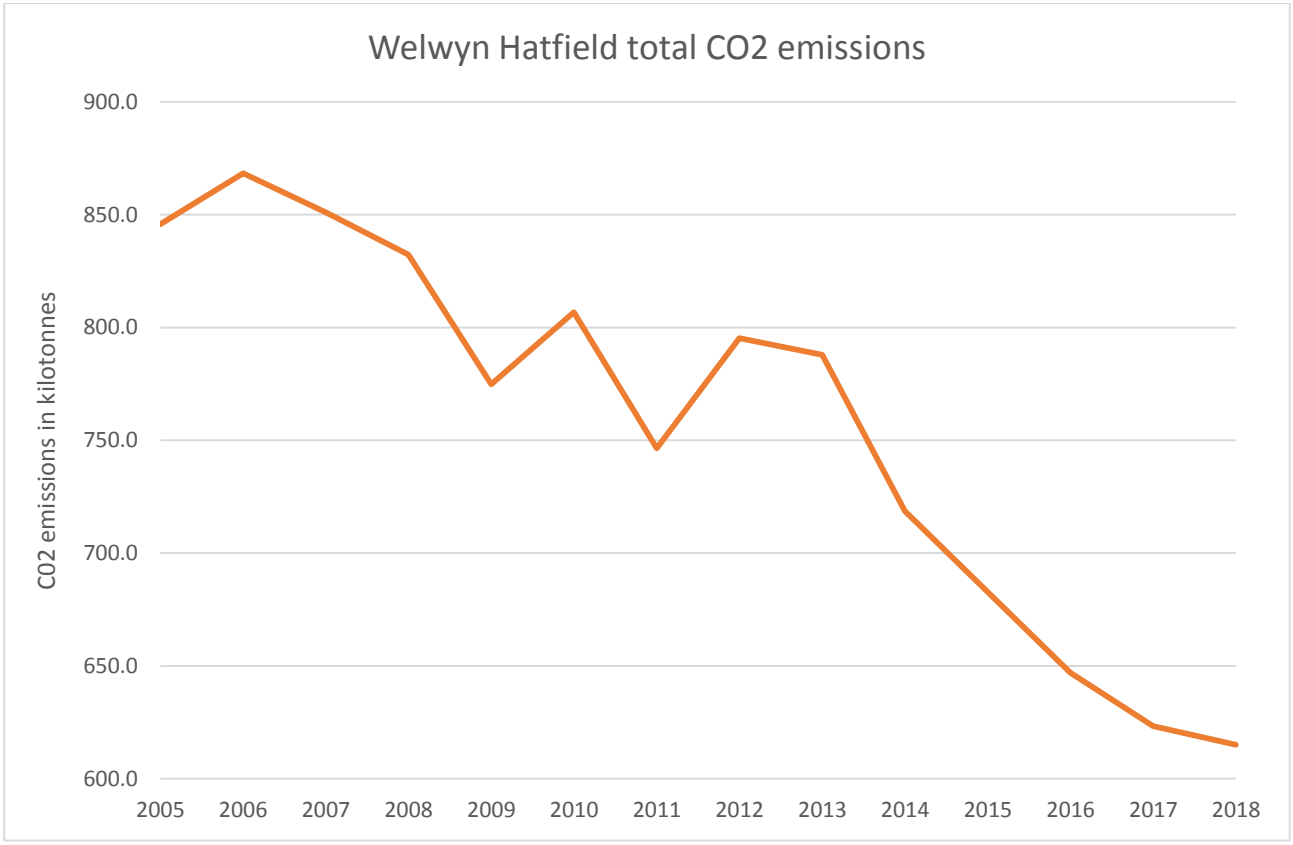
The action plan sets out existing actions that the Council is already undertaking and new actions that the Council and its partners will take to tackle climate change.

It will be updated on a regular basis by the Climate Change Officer Group and reported to the Climate Change Member Group and Cabinet as appropriate.

Each action has been assessed in terms of its carbon benefits (high, medium, low), its costs (cheap, medium, expensive) and the level of control (high, medium, low) that the Council or its partners have to make it happen. This will help to prioritise our actions and to define appropriate timescales and milestones for their achievement.

## Baseline

BEIS data for 2018 reveals that Welwyn Hatfield emitted 198,000 tonnes $CO_2$ from industrial and commercial activities, 164,000 tonnes $CO_2$ from domestic activities and 267,000 tonnes $CO_2$ from transport activities. This equates to an average of 5 tonnes per person, identical to the county average and slightly less than the UK average. The more important point is that emissions have been on a downward trend since 2005 and we want that this strategy to continue that trend.



A Carbon Footprint Appraisal Report has calculated that the Council's buildings, services and transport activities emitted 2,507 tonnes $CO_2$ in 2019/2020. It includes Campus East, Campus West, Jim McDonald Centre, Mill Green Museum, Roman Baths, Coronation Fountain and Vineyard Barn, but does not include emissions from council housing.

| Activities | Emissions tonnes $CO_2$ |
|---|---|
| Direct: | |
| Electricity consumption at sites owned/operated by Council | 829 |
| Gas consumption at sites owned/operated by Council | 693 |
| Council-owned car and van travel | 5 |
| Indirect: | |
| Greenwich Leisure Ltd sites | 846 |
| Grey fleet: staff car travel for work purposes | 55 |
| Electricity transmission and distribution | 70 |
| Paper consumption | 8 |
| **Total** | **2,507** |

A Treeconomics Report reveals that the Council manages a total tree stock of about 100,000 woodland trees and 16,900 street trees. In total they store 78,000 tonnes of carbon, annually sequester 2,400 tonnes of carbon and annually remove 31 tonnes of pollution from the ground and air.

The Hertfordshire Waste Partnership Annual Report 2019/20 reveals that each household in the borough produced an average of 781 kg per year, of which 47% was recycled or composted.

Hertfordshire Building Futures reveals that Hertfordshire is one of the driest counties in the country and that our residents use 8% more water than the national average. The average unmetered usage is 170 litres per person per day, against the aspired target of 110 litres per person per day.

The Hertfordshire State of Nature Report identifies that 1,500 out of nearly 11,000 species recorded in the county are of conservation concern.

It is clear from baseline information that the most significant action that the Council can take to reduce up to 94% of our carbon emissions is to reduce electricity and gas consumption in council buildings and GLL sites. This can most easily be achieved by purchasing renewable energy and/or installing on-site renewable energy systems. On-site systems would save a further 3% from electricity transmission. Using electric vehicles charged by renewable energy and encouraging staff to do the same would save 2%. Achieving net

zero carbon entirely through off-site actions would require the planting of about 125,000 trees.

Residents can check their own carbon emission baseline for free using a footprint calculator such as www.carbonfootprint.com/calculator.

Monitoring

The Council will monitor the objective to be zero net carbon by 2030 by aiming for an average reduction of 250 tonnes (10%) per year, although this may vary on a year-by-year basis.

The Council will use the Climate Change Officer Group and Climate Change Member Group to monitor and deliver actions.

The Council will engage with the community on climate change issues.

The Council will maintain an up-to-date understanding of international and national agreements, plans, strategies and other climate change information.

The Council will use annual BEIS data to identify whether the borough has reduced its carbon emissions.

The Council will carry out an annual appraisal of its own carbon emissions to check whether they have reduced and regularly audit this process to ensure we are using the correct data and methodology.

The Council will monitor the rates of recycling achieved in fortnightly waste collections.

The Council will monitor the use of energy and water in our own buildings.

The Council will monitor the use of energy and water in council houses.

The Council will monitor the use of paper and printing in our own buildings.

The Council will monitor the hectarage of woodland and the number of street trees it plants and fells.

The Council will monitor the borough's biodiversity baseline.

The Council will monitor the success of the Environment Bill's biodiversity net gain policy once it is enacted.