



# SUSTAINABILITY STRATEGY 2020 TO 2023

Road to net zero – part 1



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# Foreword from Peter Taylor, Elected Mayor of Watford

## Taking local action for global change

Climate change remains a concern for millions of people, and around the world communities everywhere are living with its affects. From extreme heatwaves, cold snaps and flooding, to species loss and collapse of our environments. We are just at the beginning of changes that will fundamentally affect every aspect of our environment. That's why we all have a responsibility to make changes, to act to prepare us and future generations for a sustainable way of living. Helping to shape a borough to be proud of, we are committed to doing everything we can to reduce our emissions and adapt to our changing climate. We can no longer continue 'business as usual' so at the beginning of the summer the council declared a climate emergency. This was a public testimony of our commitment to reduce the carbon footprint of the council and the whole borough.

Our far reaching and ambitious strategy sets out how the council and the town will work towards our target of becoming carbon neutral by 2030. This strategy brings together some of our existing projects and immediate plans that are already taking shape delivering this aim. Further projects are being developed so that through our example we can leave a prosperous and sustainable legacy for the future.

The UK Government was the first in the world to declare a climate emergency that commits to reducing emissions to net zero by 2050. As a country we will all need to work together with urgency. As a borough we can help influence this change and demand action to decarbonise our energy use, improve insulation in homes and businesses as well as improving our emissions from transport. The Council will play its part in this transition, seizing the opportunities such as creating green jobs and projects that result in cleaner air and healthier environments.

The Council already has a long and strong history of helping improve the environment. From insulating homes to help residents cut emissions and reduce fuel bills, to improving our council run buildings. By increasing our efficiencies we have reduced our costs, whilst still providing quality services for our residents. We have been building for the future with examples of our award winning leisure centres that incorporate solar arrays, ground source heat pumps, hot water recovery and UV water treatment to reduce the need for chemicals.

In the borough Watford's green spaces have been granted more Green Flag awards than any other district in Hertfordshire for the fourth year running. We are currently working to become a Sustainable Travel Town and our aspirations are in full swing with our new cycle hubs and bike share scheme, improved cycling routes and on demand buses which come into action from March 2020.

So with this strategy I am proud that we have a number of initiatives that support our climate change agenda that improve our natural world. With your help I am looking forward to working with our community to create a green, prosperous, healthy and sustainable town for us and for future generations to come.

We hope that local people will work with us to find ways to reduce our impact on the environment, whether that is how we travel; how we heat our homes; what food we choose to eat; or how we deal with our waste. **Peter Taylor, Elected Mayor of Watford**

## Introduction

*“Man-made climate change is the biggest threat that humanity faces. In 2018 the Intergovernmental Panel on Climate Change (IPCC) report states that we have just 12 years to act on climate change if global temperatures rises are to be kept within the recommended 1.5 degrees Celsius. All governments whether national, regional or local have a duty to limit the negative impacts on climate change and need to commit to aggressive reduction targets and carbon neutrality as quickly as possible. Watford Borough Council has a pivotal role to play in tackling climate change and enabling sustainable living. We recognise the importance of tackling climate change both in the terms of reducing greenhouse gas emissions to minimise future global climate change and planning for the unavoidable local impacts of climate change”. **Councillor Ian Stotesbury, Watford Borough Council.***

On 9th July 2019 Watford’s elected councillors voted in favour of declaring a climate emergency and have pledged to do everything in their power to make the borough carbon neutral by 2030.

The motion approved the following actions:

- 1) Join other Councils in recognising and declaring a climate emergency
- 2) Pledge to do everything within the Council’s power to make the whole of Watford carbon neutral by 2030
- 3) Within this develop an ambitious sustainability strategy for reducing the Council’s own emissions, with an objective that the Council becomes carbon neutral by 2030
- 4) Use all planning regulations and the Local Plan to cut carbon emissions and reduce the impact on the environment

- 5) Call on national government for more powers and resources to make this pledge possible, and ask the Elected Mayor to write to the Secretary of State for Environment, Food and Rural Affairs to this effect
- 6) Continue to work with partners across the borough, county and region to deliver this new goal through all relevant strategies and plans
- 7) Take account of climate impacts within existing decision making processes
- 8) Report back to Council, via the newly established Sustainability Forum, on an action plan to address the climate emergency, and then every six months after this provide an update on progress being made. The proposed action plan to be on the agenda of the Sustainability Forum to be held 3rd October 2019
- 9) Dedicate enough staff and budget to achieve these aims, including the most appropriate training for members and officers to promote carbon neutral polices and to achieve these aims”

Sustainability means different things to different people. In this strategy we aim to address not just how our operations and the boroughs residents impact emissions; but also look at ways that improve our living environment. We want to have a forward thinking strategy that protects the health of ourselves and the ecosystems we depend upon. As a community leader we have a responsibility to protect the environment, with actions that are appropriate and cost effective. We want to deliver economic and public health benefits, create jobs and reduce our spending on energy costs and reduce our waste so that we can create a resilient, prosperous and healthy borough.

## A strategy with 6 key strands



**Leading By Example**



**Reducing Energy Use and Emissions**



## Improving Transport & Air Quality



## Reducing Waste



## Nature Restoration



## People Power

This strategy sets out the first part of our journey towards our target of achieving net zero CO<sub>2</sub> emissions for the whole borough by 2030. To track our progress we are using borough wide emissions as measured each year by the [Department for Business Energy & Industrial strategy](#) (BEIS). There are three categories measured that are considered within the scope of the local authority influence. These are emissions from estimates of end-user carbon dioxide (CO<sub>2</sub>) emissions produced in three areas: Industrial & Commercial, Domestic and Transport.

Within this first period we will be working on the next phase of the strategy and also continue to improve, evolve and develop new projects that work towards our 2030 target.



# LEADING BY EXAMPLE





## Leading By Example

*“We’ve been committed to reducing our carbon footprint for several years now, with successful recycling and home insulation schemes in place, good access to public transport and several award winning urban green spaces that promote biodiversity and reduced carbon emissions, but we need to do more – this declaration will accelerate and broaden our range of activities so we can achieve carbon neutrality by 2030 – key for our community and our planet.” Elected Mayor of Watford Peter Taylor.*

The council has a long history of committing to climate change initiatives and delivering projects supporting carbon reduction. With the recent climate emergency declaration the council will also refresh its approach to sustainability, building on past success to ensure that this strategy is ambitious in reducing the Council’s and the boroughs emissions.

In June 2019 the first meeting of the Sustainability Forum took place consisting of 7 members (elected at Annual Council with representation from all parties, as well as officers. The remit of the forum is to:

- Bring together councillors and officers to discuss matters relating to sustainability to support the corporate plan.
- To provide an opportunity for councillors and officers to reflect on issues and emerging opportunities and think strategically to provide check and challenge to identified issues
- Identify if there needs to be any changes in Council policy and procedures or the need for action plans and, if so, take these forward for discussion and adoption by the Cabinet/Council as appropriate



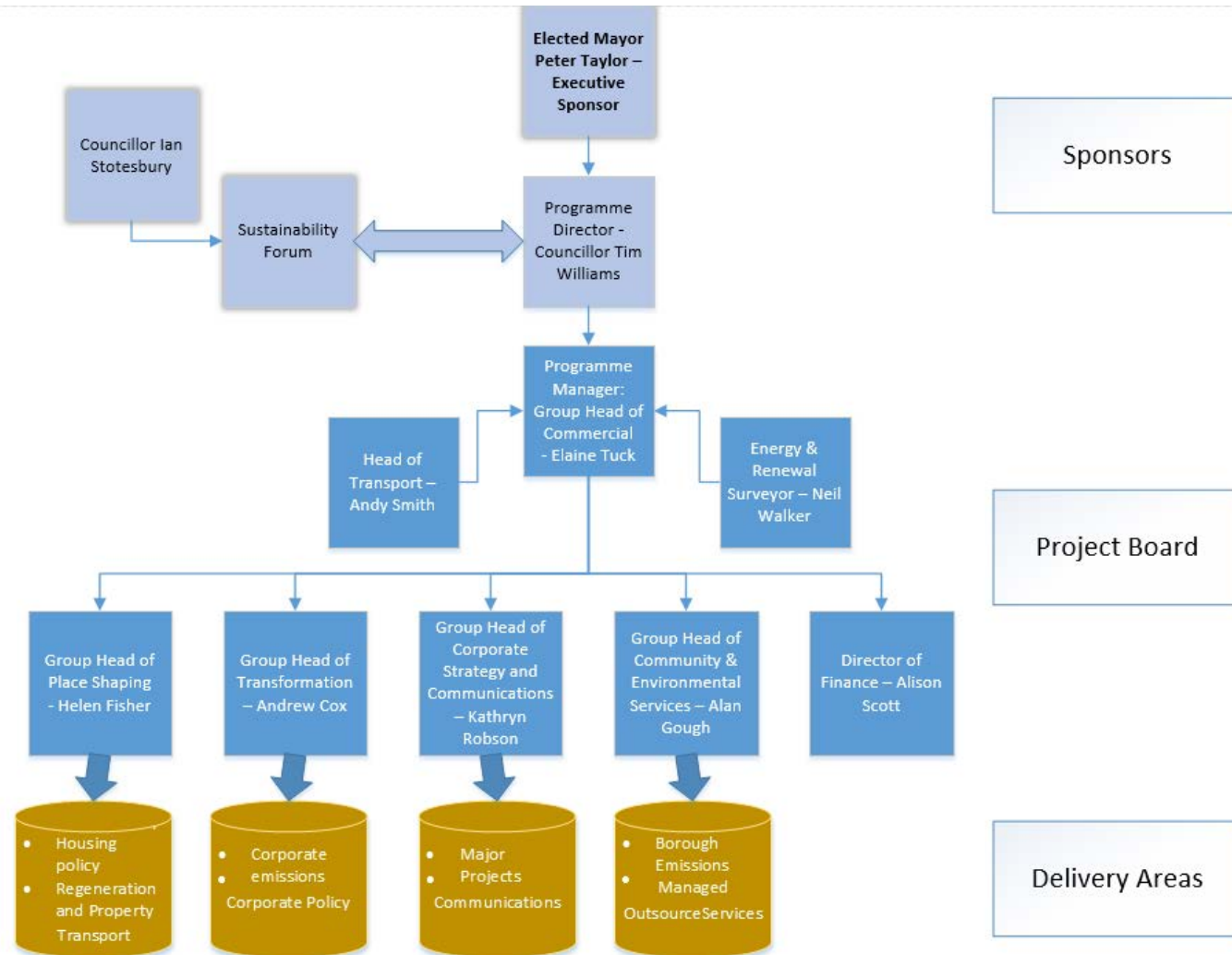
Watford FC promote the council signing up to [Climate Local](#) on 2<sup>nd</sup> December 2013

On 21<sup>st</sup> October 2019 the portfolio holders and heads of service agreed to commit to producing this Strategy to meet our 2030 zero carbon target. To deliver this plan a cross-service Sustainability Board with resources and clear corporate support for action will be set up. The Councillor led group will meet regularly, include senior representatives as well as technical officers and will report to the Sustainability Forum against progress and delivery.



**Figure 1: Cross Service Sustainability Board: Structure Chart**

- Produce strategies to deliver against our 2030 target
- Have oversight of projects that deliver this goal
- Report and set baselines on our own and the boroughs emissions
- Responsibility for delivery will be appointed to the new Group Head of Commercial with support from key heads of service across the council





# REDUCING ENERGY USE AND EMISSIONS





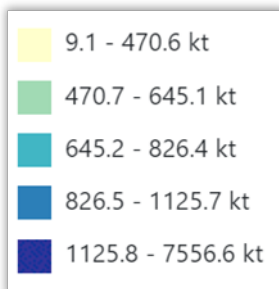
## Reducing Energy Use and Emissions

Our lives are fuelled by ever-increasing amounts of energy, and it is fossil fuel energy that is one of the main causes of climate change. By burning coal, oil and gas for energy, we are disrupting the radiative balance of the atmosphere, trapping heat and warming the earth's surface. As a result, average global temperatures have increased at a dramatic rate, affecting weather patterns and disrupting the delicate balance of the world's ecosystems, species and populations. The severity and scale of these impacts will become more severe as temperatures rise.

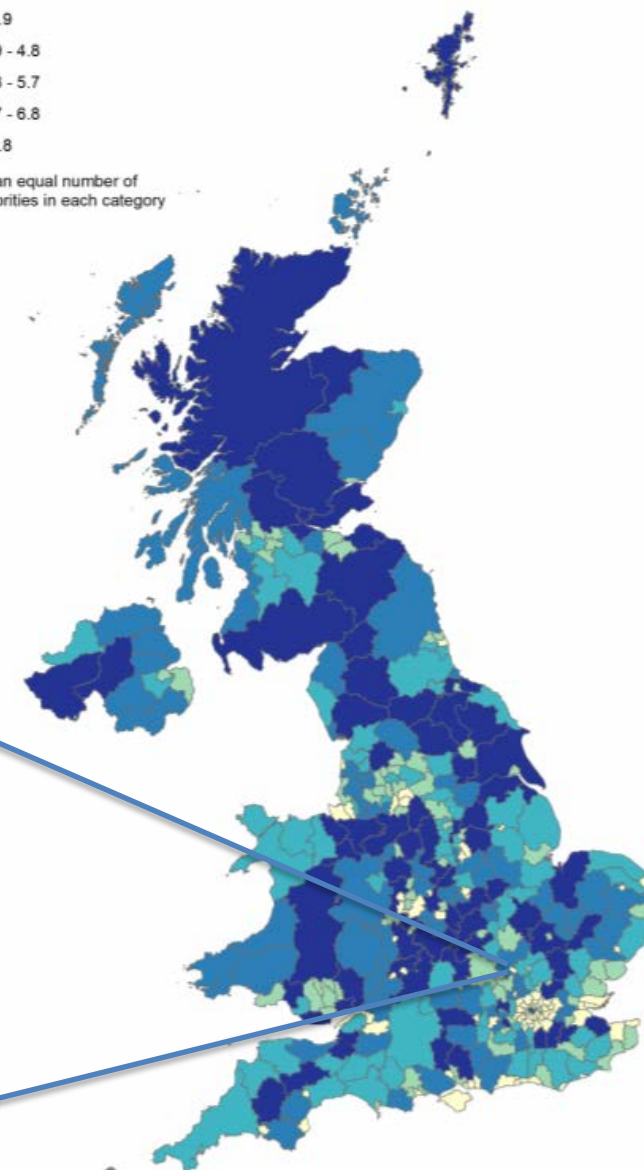
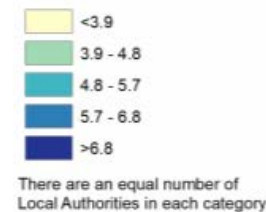
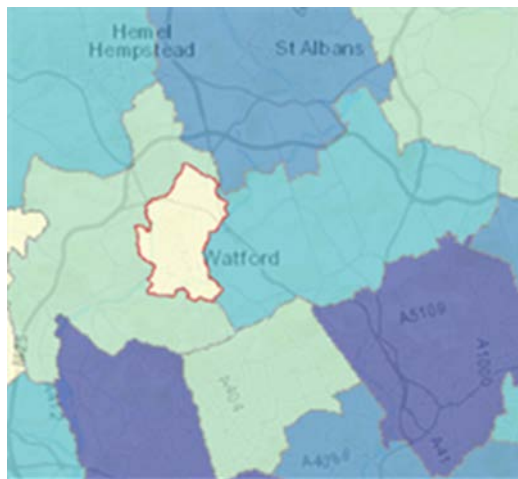
In 2017 the latest figures show that the borough generated 353 kt CO<sub>2</sub> that fall within the influence of the Local Authority. Emissions are categorised into three distinct sectors: those emitted by domestic, by commercial and by transport.

When comparing emissions of carbon dioxide per capita by Local Authority (tonnes CO<sub>2</sub> per capita), Watford is in the lowest category. Due to the urban nature of the borough, its good public transport links, a lack of major industry and high population density the boroughs emissions are comparatively low.

**Figure 2: Local Authority emissions (kt CO<sub>2</sub>)**



Data supplied from: [UK National Atmospheric Emissions Inventory](#) 2017



Over the next 10 years the council is committed to achieving Net Carbon Zero which will mean substantially reducing our energy consumption through improving the energy performance of new and existing buildings, transforming the way we use energy across communities and those generated by transport.

The council will measure our emissions using data supplied by the [Department for Business Energy & Industrial Strategy](#) (BEIS) using their annual published data for emissions that fall within the influence of the Local Authority. Emissions are categorised into three distinct sectors: those emitted by domestic, responsible for 37%; by commercial, 37% and by transport, 26%.

As the national grid continues to decarbonise UK emissions have continued to fall. In May 2019, the UK made headlines as we did not use coal to generate electricity for two weeks - the longest period since the 1880s. In June zero-carbon sources overtook fossil fuels in their power generation for the first time. Currently in Watford [1,783 buildings](#) (domestic and business) within the borough have roof mounted solar photovoltaic (PV) panels which help avoid the demand and usage from the national grid.

The council has set a target for the borough to become net zero by 2030 for those emissions within the influence of the local authority. The emissions target trajectory graph for each of the sectors is displayed in figure 4.

Although this strategy is concentrated on the borough of Watford it is noted that external influences such as national strategy and wider regional strategies (such as [Local Energy East: Tri-LEP Area Strategy](#)) will determine the success of reaching our target. The council will therefore continue to inform, engage, influence and work with external partners for the benefit of our community.

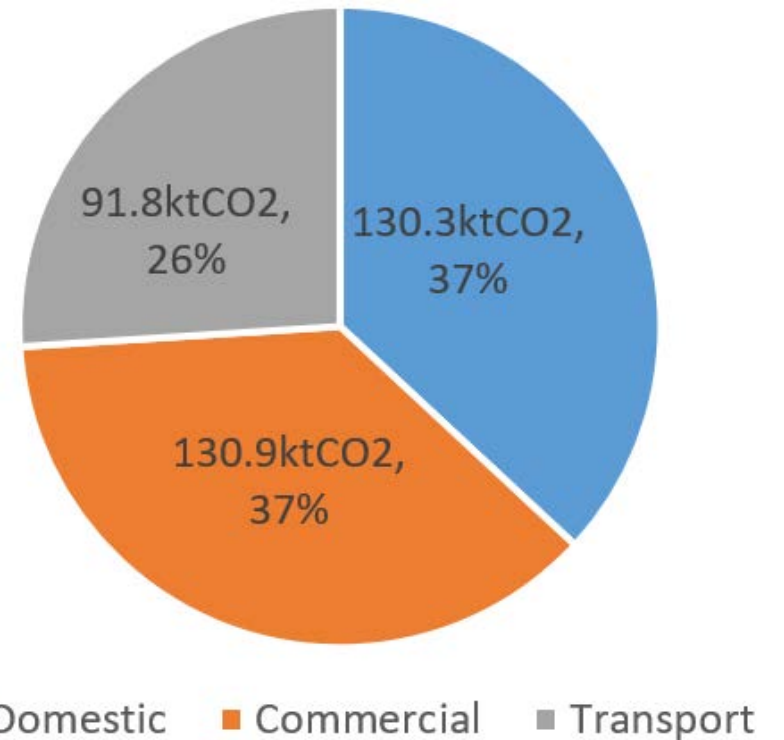
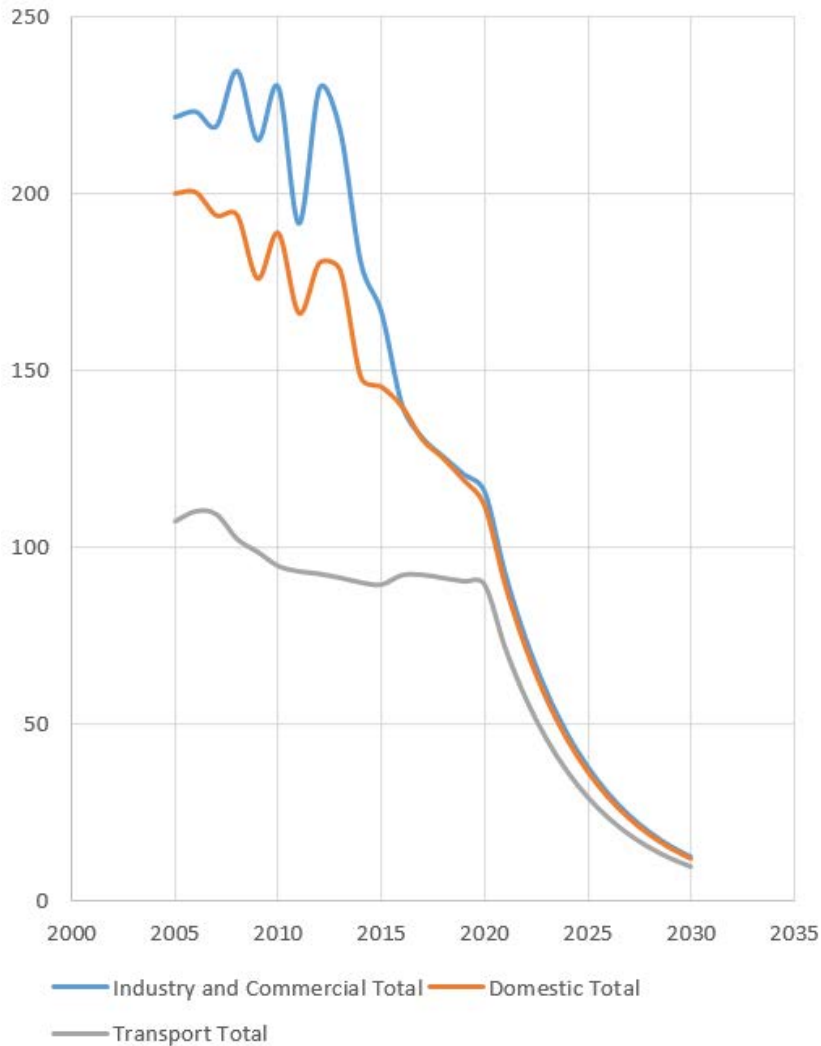


Figure 3: Emissions within the influence of Watford Borough Council (ktCO<sub>2</sub>)



**Domestic (130.3 kt CO<sub>2</sub>):**

The borough has an estimated 40,129 properties (in 2018). [The new Watford Local Plan](#) estimates that an additional 7,500 new homes are expected to be built to 2036. Therefore the majority of the emissions will still be from the existing housing. On the energy performance rating scale (EPC) 25% of Watford’s housing is rated ‘A’ to ‘C’, 61% are rated ‘D’ and ‘E’ with the remaining 4% estimated to be in the worst performing categories of ‘E’ and ‘F’. The energy efficiency rating for the average property in Watford compares less favourably to the English average, whereby 30% of homes are already ‘A’ to ‘C’ compared to just 25% in Watford. This mainly reflects the older age of the town (as the majority of older housing performs worse than a modern home). Newer housing has become more efficient over the years as standards improve; meaning 8/10 new build homes are rated ‘A’ or ‘B’ (and have to be at least a ‘C’). The governments [Clean Growth Strategy](#) sets a target to upgrade as many homes as possible to Band ‘C’ by 2035.

Generally the less energy efficient a home is the more emissions it is likely to produce (however this also depends on, for example, the amount of time the heating is switched on). If all new homes get built 16% of the housing stock will be new leaving 84% existing stock. New housing standards should lead to improvements in energy efficiency in new homes. The government’s proposals are set out in the [Future Homes Standard](#). In addition our new [local plan](#) is proposing to set standards that above that of the current building regulations.

From the councils stock condition analysis it is estimated that retrofitting the existing housing stock with approximately 60,000 different energy improvement measures

would decrease the emissions from the domestic sector by 45%.

*Figure 4: Watford Borough Council road to net zero CO<sub>2</sub>*

These improvement measures (that currently attract subsidies from energy companies under the [Energy Company Obligation](#) – ECO) could be fitted to homes in the borough. The estimated requirement needed to upgrade all of the housing stock is based on fitting the following number of measures; Cavity Wall insulation (5,800), First time heating (2,000), Heating Controls (4,000), Loft Insulation <100mm (2,000), Air Source Heat Pump (or other renewables, 2,000), Replacement Boiler (12,000), Room in Roof insulation (1,500), Solar PV (8,000), Solid Wall Insulation (5,000), Storage Heater replacement (500), Underfloor Insulation (15,000), Party Wall Insulation (2,500).

Retrofitting houses to improve insulation standards also has other benefits with respect to the health of the boroughs residents. In [2017, 3,954 households in Watford](#) (10.2%) experienced fuel poverty. This means that these residents may not have been able to keep their homes warm enough at a reasonable cost. This happens when homes are inefficient at retaining heat, income is low, and fuel costs are high. As a result, people can find themselves having to make choices between warmth and food, which has been found to affect [physical and mental health](#). By reducing fuel poverty there should be a reduction in excess winter deaths. This is a measure of the number of deaths that occur through the cold by measuring the difference between deaths that occur in the winter and those that occur in the summer months. During the period between August 2017 and July 2018 Watford's [excess winter mortality index](#) was 16.9, which was lower than the national average for England at 29.6. However, during the same period the previous year (August 2016 and July 2017) Watford had a significantly higher excess winter death index rate at 33.2, than the England and Wales average which was at 21.3. Whilst the figures show marked improvement, it should be noted that the index is prone to fluctuations due to many factors such as rising energy costs, new strains of illnesses such as influenza and changing levels of homelessness. By further improving energy efficiency, we can ensure that everyone, even the most vulnerable, can afford to stay warm enough in their home whilst conserving energy usage.

### **Industry & Commercial (130.9 kt CO<sub>2</sub>):**

There are approximately 5,000 businesses based in Watford ranging from global brands to SMEs occupying an estimated 6,000 buildings, offices and premises.

Their commercial and operational activities account for 37% of Watford's total emissions.

**Business retrofit improvement measures through existing and new incentives** – “[The Clean Growth Strategy](#)” recognised that improved business energy efficiency could deliver £6 billion in cost savings by 2030 and generate one of the single largest carbon-saving measures in the entire Strategy”. However “the barriers to uptake are [well documented](#): a lack of information; a lack of access to capital; high upfront costs and long payback periods; misaligned incentives between tenants and landlords; disruption to normal business activities; and competing investment demands within companies resulting in

other business growth investments taking precedence”. There have been various initiatives supported by the council within the sector; such as One Watford Green business projects back in 2009, to more recently the promotion of [Low Carbon Workspaces](#) European Regional Development Fund (which offered small and medium-sized businesses up to £5,000 to cover up to a third of the cost of making energy improvements). However these schemes and projects have been limited in scale in context of the size of the industrial and commercial sector.

As a council we have the opportunity to influence low carbon business through improvement programmes as well as instigating low carbon infrastructure for development schemes. Examples of low carbon infrastructure are as follows:

- [District Heating/Heat networks](#)

“Today heat networks reduce carbon emissions in buildings by approximately 0.7-1 million tonnes of CO<sub>2</sub> each year. However, the potential is much higher.....analysis suggests that heat networks’ (both in on-gas and off-gas grid areas) contribution to heat decarbonisation by 2030 will be about 2.2 million tonnes of carbon emissions (mtCO<sub>2</sub>) reduction in residential buildings and 3.5 MtCO<sub>2</sub> in non-residential buildings, totalling 5.7MtCO<sub>2</sub>.”

The council carried out a Master Planning study for the town in March 2019 in partnership with the BEIS and the [Heat Network Delivery Unit](#) (HNDU) to identify appropriate sites for district heating. Specific opportunities to incorporate a heat networks have been identified in the town centre development as well as some other scaled housing developments. Further development of these schemes is available with subsidised funding through HNDU, with delivery through [Local Partnerships](#).

- [Low carbon new developments](#) – Can be achieved high building standards such as [Passivhaus](#) which need to form part of new scheme design.
- [Retro fitting commercial solar](#) – To WBC own assets initially which present substantial opportunity. The council own freehold on a number of assets suitable for solar such as Tesco, Retail Parks, multi storey carparks; many suitable for solar canopy and/or rooftop solar. Solar potential could deliver 35% of borough commercial emissions if fitted to around 29,000 suitable borough rooftops with larger potential using land mass such as car parks.

### **Transport (91.8 kt CO<sub>2</sub>):**

Emissions from transport are set out in theme 3 ‘Transport & air Quality’ within this strategy.

### Key Project example:

Implement incentive schemes such as the Community Carbon Assistance/Loan as a delivery mechanism for an ongoing programme for improving the energy efficiency of homes in the borough.

### Some examples of progress so far:

- **External Wall Insulation Programmes:** By insulating 730 properties, the council has saved 986 tonnes of CO<sub>2</sub> emission per annum whilst saving residents £220,000 in heating bills and the N.H.S £2,880,000 in societal costs.
- **Herts Warmer Homes:** A scheme delivering Energy Company obligation money to fund a variety of energy efficiency installations such as loft and cavity insulation and improved boiler installations. 436 referrals for Watford alone have been made via this scheme since January 2015 to December 2019, the most for the Hertfordshire region by far.
- **Herts and Essex Energy Partnership (2009 – 2013):** Over 1,000 installations took place in Watford, fitting measures such as loft, cavity, external wall insulation, efficient boilers and solar PV systems. These resulted in life time savings of over 19,000 tonnes of CO<sub>2</sub> emissions.







IMPROVING  
TRANSPORT  
& AIR QUALITY



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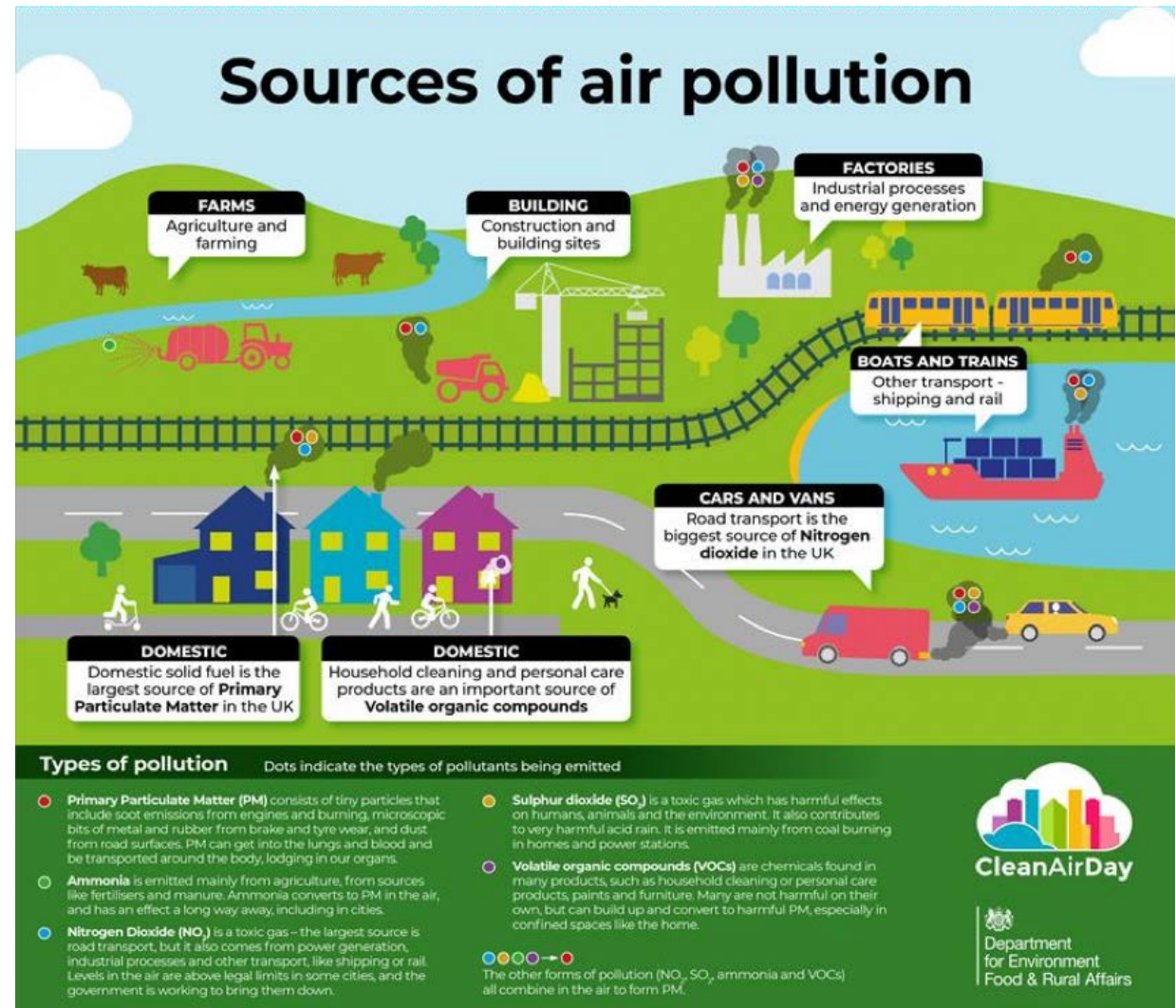
## Improving Transport & Air Quality

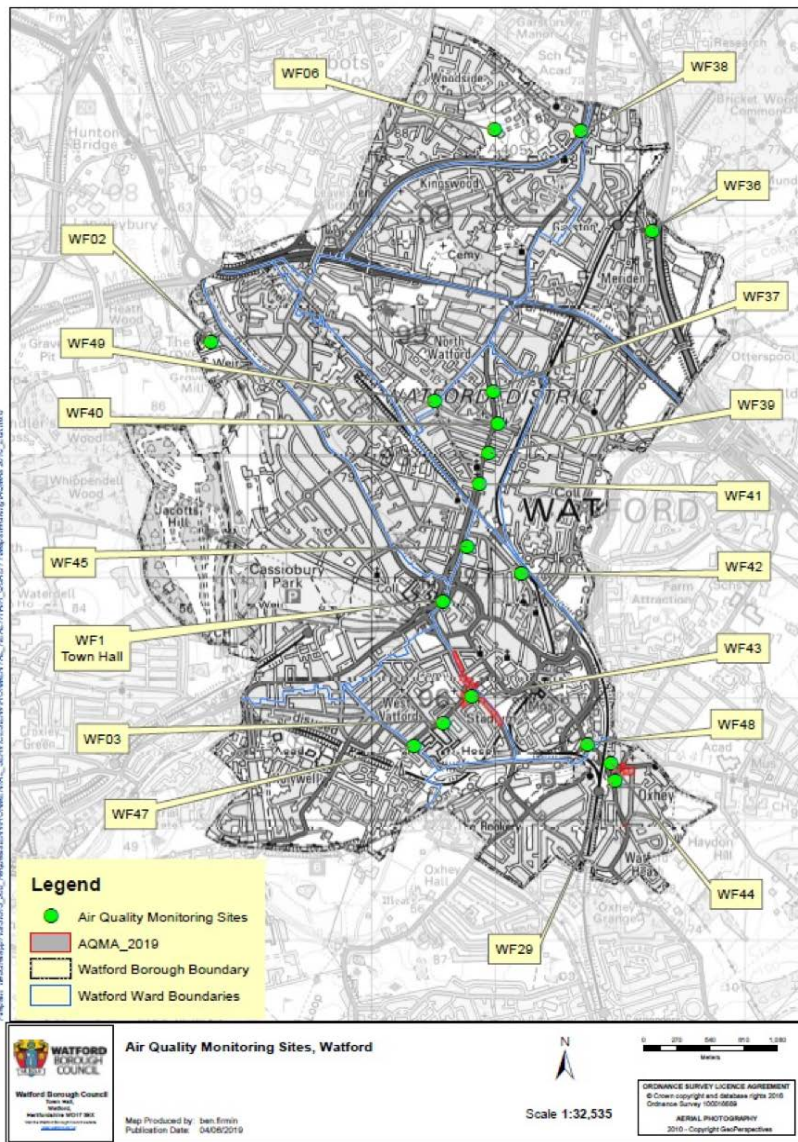
### Why is this important?

Air pollution is associated with a number of adverse health impacts. It is recognised as a contributing factor in the onset of [heart disease and cancer](#). Additionally, air pollution particularly affects the most [vulnerable in society](#): children and older people, and those with heart and lung conditions. There is also often a strong correlation with equalities issues, because [areas with poor air quality are also often the less affluent areas](#).

The annual health cost to society of the impacts of particulate matter alone in the UK is estimated to be around [£16 billion](#). Across the UK, it is thought that air pollution is responsible for the premature deaths of 50,000 people per year. This is twice the number of people dying from alcoholism and 26 times as many dying from road traffic incidents. Traffic noise can also [adversely affect health and concentration](#).

Public Health England estimates that in Hertfordshire [514 people](#) prematurely die each year as a result of ultra-fine particulate matter (PM2.5) alone. The main pollutants of interest in the Borough continue to be NO<sub>2</sub> and PM10 particulates. These are mainly associated with road traffic.





Watford Borough Council has monitored Air Quality through a series of Air Quality Management Areas (AQMA's). AQMA's are declared when there is an exceedance or likely exceedance of an air quality objective. After declaration, the authority must prepare an Air Quality Action Plan (AQAP) within 12-18 months setting out measures it intends to put in place in pursuit of compliance with the objectives.

In 2018, the Council carried out a review of the AQMA's in the Borough. In two AQMA's, trends over recent years have shown that NO<sub>2</sub> concentrations were below the national objective for NO<sub>2</sub>. The Council has now therefore revoked these AQMA's.

There are two remaining AQMA's within Watford:

- AQMA 2: Vicarage Road.
- AQMA 3A: Pinner Road.

The improvement is considered to be the result of a gradual shift over time to vehicles that are less polluting, and this trend will hopefully continue with newer vehicles and a shift to less polluting vehicles such as Electric Vehicles. There were no exceedences of the air quality objectives for PM<sub>10</sub>. Monitoring of PM<sub>2.5</sub> to date has shown concentrations to be below the national objective annual mean target of 25 µg/m<sup>3</sup>.

### Air Quality Action Plan (AQAP)

The objective of the AQAP is to improve air quality at the Watford AQMA's, working towards meeting the national air quality objective for the protection of human health. The Council's AQAP identified the effect that traffic has in the Borough's air quality and set out a range of transport-focused measures to improve them. In total, 21 options were considered. Additional options were suggested to complement planned and ongoing activity. Of these options 16 were moved forward as measures for implementation or further feasibility study.

Figure 5: Air Quality Management sites, Watford

**Highlights of Progress so far:**



**Promotion of car sharing scheme - E-Car Club Scheme:** In February 2019, as part of its commitment to support green transport, the Council in partnership with E-Car Club, offered residents the opportunity to [hire electric cars](#). Usage of the Car Club has on average increased as the awareness of the Car Club has grown (see figure 6). The Council has operated a pool car scheme for members of staff for a number of years.

**Watford High Street Improvements:** The High Street improvements led by the Council in partnership with HCC and the Watford BID – were undertaken to provide better access for everyone to fully enjoy the town centre. The work included upgrading the bus shelters, providing a new dedicated taxi rank and offering new permanent disabled parking bays. Part of the work was also aimed at encouraging pedestrian use by making the spaces more attractive and clutter free.



**Clarendon Road Improvements:** In February 2017 Project Centre was commissioned to undertake a Traffic Study in along Clarendon Road between the A411 and the High Street, and High Street between Clarendon Road and King Street to identify potential short and longer-term measures for improvement in the area. The work included a review of traffic movements through the High Street.

Figure 6: Watford E-Car club usage figures

Motor Vehicle Traffic: Project Centre were subsequently commissioned to undertake a review of traffic movements along High Street following completion of the works (completed at the end of August 2018), which included a bus gate to enforce the prohibition of motor vehicles (except buses and deliveries). In addition, an assessment of cycle movement was also requested in order to determine if there has been any increase in cycling since completion of the scheme. The survey data indicates that there has been a clear reduction in motor vehicles along the High Street following implementation. This confirms that the provision of the bus gate has been effective in reducing abuse of the prohibition.

Electric Vehicle infrastructure:

As part of plans to increase clean vehicles in the borough the council is working on increasing the provision of electric chargers. This is starting with the roll out of new on street chargers in March 20. In addition further chargers are being located in our public car parks -in addition to those already in place.

Cycling: To help reduce road traffic, CO<sub>2</sub> emissions and air pollution, as well as improving the health and fitness of people in Watford, Beryl Bikes will deliver the first council bike share scheme in Hertfordshire. The scheme will comprise up to 200 pedal bikes and 100 e-bikes at 70 locations across the borough. In conjunction with the new bike share bays the Council is continuing to install cycling stands across the town. In addition to those the Council has put in as part of the Public Real scheme (the Council and Intu have provided around 60 parking opportunities for cyclists)



On-demand bus service for Watford (launches March 2020):

Seven small fifteen-seater buses (accessible and DDA compliant) from ArrivaClick will provide a flexible bus service that, unlike others does not follow a fixed route at fixed times – but responds to demand from the passengers and the routes they want to take. There are no bus stops – people are picked up and dropped off at ‘virtual bus stops’ at a point either close to their home or their destination. The buses will operate across the borough and to Warner Brother Studios and Croxley Park (just outside the borough boundary). Each bus will have comfortable seating, tables, free Wi-Fi, USB chargers and air conditioning ensuring a clean, comfortable and safe method of public transport.

The scheme will operate via a free, easy to use smartphone app and the operator will also provide an online (web-based) and telephone service for those without access to a smartphone.

Travel app (launches January 2020): Revolutionising the way we travel across the town a free to download and use ‘Travel Watford’ app will be available to bring together all of Watford’s transport options. It will let people choose the best options for a given journey based on cost, waiting time and environmental impact.

Hertfordshire County Council (HCC) Highways Service delivers a programme of transport improvement projects focusing on improving sustainable transport in the county – this is called the Integrated Transport Programme. The following schemes were in the delivery programme for 2018/19 in Watford:



- . Watford High Street ongoing works to improve the contraflow cycle route – including the installation of segregating wands to prevent vehicle parking and protect people cycling in that lane;
- . 20 mph zones completed covering the Nascot Wood Road area, north of Langley Road area, Greenbank Road area, Sandringham Road area and Bradshaw Road area. These schemes were started earlier in 2017/18.

HCC also provided funding contributions to Watford Borough Council’s High Street and Clarendon Road urban realm improvement projects, the main of which was delivered in 2018. The council also works with HCC through their support and administration of the Intalink Partnership of Hertfordshire bus and passenger transport operators and local authorities. HCC are currently considering the introduction of an enhanced partnership plan and scheme. The aim of this will be to have more control over the service providers and will also incentivise fleet modernisation. The plan will also be to introduce ANPR data, real time timetabling data, mobile apps etc. to enable a better customer experience, which should help increase the number of passengers using the service.

Herts Sustainable Town: The council is applying to HCC to become a [Sustainable Travel Town](#). This project aims to bring together all of the transport and transport related sustainability strategy projects into a single vision for the transport in the town. The council’s vision for this project is:

‘To improve the availability, awareness and choice of sustainable transport options to make Watford a greener and cleaner town for everyone’. The project has the following objectives:

- To facilitate the move to Active Travel
- To improve accessibility and mobility within the town
- To improve health and wellbeing
- To support sustained behaviour change with regards to travel choice
- To evolve suitable metrics to measure outcomes

## Indoor Air Quality

Increasingly, the awareness of indoor air pollution is being recognised. Recent studies have shown that air pollution can be [3.5 times higher indoors than outdoors](#). Public Health England state there are a number of sources of indoor air pollutants that can harm health including:

- CO, NO<sub>2</sub> and particulates from domestic appliances (boilers, heaters, fires, stoves and ovens), which burn carbon containing fuels (coal, coke, gas, kerosene and wood)
- VOCs from cleaning and personal care products, building materials and household consumer products (paints, carpets, laminate furniture, cleaning products, air fresheners, polishing)
- environmental tobacco smoke (ETS) and second hand smoke (SHS)

In light of these studies, Watford Borough Council is committed to creating awareness of Indoor Air Quality and solutions through engaging with businesses, homes, schools and community groups.

Further information can be found at:

[https://www.watford.gov.uk/info/20010/your\\_environment/196/local\\_air\\_quality](https://www.watford.gov.uk/info/20010/your_environment/196/local_air_quality)

<https://www.globalactionplan.org.uk/clean-air-hub/clean-air-information/the-basic-information>

[Watford Borough Council's Air Quality Strategy](#)

### Example Key Projects:

- Participate and develop the HCC Sustainable Travel Town application as part of a wider ranging strategy to cover low carbon transportation in the borough;
- Introduce Beryl Bikes - the first council bike share scheme in Hertfordshire. The scheme will comprise up to 200 pedal bikes and 100 e-bikes at 70 across the borough.



# REDUCING WASTE



recycle  
for Watford



## Reducing Waste

### Why is this important?

In [2017/18](#) Hertfordshire households produced average waste of 841kg per household. 44.3% of this was recycled, composted or sent to an anaerobic digestion plant to produce energy, leaving 468kg of residual waste being sent to landfill. By using less and then recycling saves energy and money by avoiding the need to use new materials to make products. It also prevents waste littering our natural environment. By keeping food waste out of landfill sites we prevent the emission into the atmosphere of methane, a greenhouse gas that is 28 times more powerful than CO<sub>2</sub>. We can do this by composting it or making energy through anaerobic digestion.

Reducing waste isn't just about looking at waste collection and disposal. It's also about the way we use and consume products. This has a corresponding impact on our use of energy and transport, as well as our impacts on the ecological world. It's easy to forget how much energy has gone into the products we consume; for example, in the extraction of materials, the manufacturing, the distribution and then through the sale. In some cases this process moves items all over the world, and the manufacture and distribution of clothing and footwear alone accounts [for some 8% of global GHG emissions](#). Moving towards a more circular economy can help save both energy and money.

The Government's vision is to eliminate all avoidable waste by 2050, eliminate food waste to landfill by 2030 and ensure that all plastic packaging is recyclable, reusable or compostable by 2025. The UK goal is to recycle at least 65% of municipal waste by 2035, with no more than 10% being sent to landfill.

Burying waste in landfill sites and burning waste has a negative impact on the environment. Harmful chemicals and greenhouse gasses are released and available sites for landfill are becoming harder to find. Waste that is not managed properly pollutes the environment. Locally we see the impact through fly-tipping and litter. But we are also becoming more aware of the global impacts of waste, for example through the images of an ocean ecosystem disturbed by decades of irresponsible and unmanaged plastic disposal.

Watford Borough Council is part of the Herts Waste Partnership which was formed in 1992 bringing together the ten borough and district councils in their capacity as waste collection authorities and the county council as the waste disposal authority. It is one of 50 such partnerships throughout the UK. The aim of the Hertfordshire Waste Partnership is for all households to reduce the amount of waste they produce, as well as reusing or recycling as much waste as possible.

Watford borough's Waste and Recycling is managed by Veolia. The Council and Veolia consistently work to increase recycling rates through to education residents on recycling through regular communication, social media and school/community events. The council also recently undertook community engagement about the waste service and resident views on recycling. The main conclusions from the engagement are that local residents are keen to recycle, acknowledging its benefits to the local environment, the use of limited natural resources and generally seeing it as 'the right thing to do'. Overall, there is a willingness to try to increase food waste recycling through the introduction of a dedicated bin for households to recycle this waste and a weekly collection of mixed dry recyclables. The move to a separate food waste collection from a commingled garden waste bin is an industry standard which delivers improved capture of food waste for recycling which is better both environmentally and economically. Where separate food waste collections are rolled out successfully they also improve resident satisfaction due to improved ease of use. WRAP in their Household Food Waste Collections Guide have highlighted that food waste typically makes up about a third of the residual waste stream. Veolia in partnership with Watford Borough Council recently produced a Waste Compositional Analysis in July 2019, which supports this strategy as food waste was seen to be the major component of residual waste forming 30.5% of the total, equating to 1.4kg/hh/wk. By introducing a weekly separate food waste collection, food waste is encouraged to be diverted from the residual waste bin and into the correct stream for treatment.

In addition to food waste collection the council is proposing to reduce the general black bin waste to bi-weekly. Research shows that around 70% of household waste can be recycled and, to help improve recycling rates, 248 out of 326 local authorities (76%) across England now collect residual waste fortnightly or less frequently.

Plastic is fast being widely recognised as a key pollutant that needs to be tackled. The equivalent of one entire truck of plastic (8 tonnes) is dumped in the sea every minute. That's [12 million tonnes](#) of plastic each year. By 2050 we could have more plastic than fish (by weight) in the sea if we carry on as we are. The Great Pacific Garbage Patch is now [three times the size of France](#) and is rapidly getting worse. Of the 400 million tonnes of plastic produced each year, 40% of that is single-use; which is why the council is committed to eliminating its use of single use plastic. The council has joining up to the Hertfordshire County Council 'Leading By Example' project to eliminate single use plastic from council and its activities. In addition the council is encouraging local bars, cafes and restaurants to reduce their single use plastic by signing up to join the [Refill scheme](#), which is a mission to help both visitors and residents reduce plastic pollution by allowing everyone access to free refillable drinking water instead of buying single-use plastic.

#### **Example Projects for 2020-2023:**

- Introduce a scheme by which businesses are encouraged and rewarded for reducing single-use plastics - targeting takeaway premises/business
- Work towards becoming a single-use Plastic Free Council. This will involve auditing our use of single use plastics and replacing them wherever possible with more sustainable alternatives.



# NATURE RESTORATION





## Nature Restoration

### Theme 5: Nature Restoration – Biodiversity, Water & Sustainable Food

#### Biodiversity

Protecting and enhancing green space is important as it provides a habitat for wildlife and habitats are in [decline](#). Some 75% of the earth's land surface has been significantly altered and over the past 40 years [we have lost 60%](#) of mammals, birds, fish, reptiles, and amphibians. In the UK, 60% of the 3,000 species that have been studied have declined over the past 50 years. 97% of the UK's wildflower meadows have been lost since the 1960s and we have 44 million fewer breeding birds. Around [1 million species](#) face extinction within coming decades. This is not just a loss for the interconnected ecological systems that depend upon these species, it's a loss for us. Natural green spaces are important as they help to clean the air, absorb excessive rainwater to reduce flooding, absorb noise and reduce the 'urban heat island' effects. We also know that having easy access to natural greenspace such as parks and woodland brings [positive effects for mental and physical health](#) and has even been associated with increased longevity. Yet [research has shown](#) that around 12% of children in the UK do not spend any time in natural green space.

Changing temperature and rainfall patterns due to climate change are [part of the reason for this](#), as well as rapid urban and agricultural development. It's imperative that habitats are restored and protected wherever possible so that there is a net-gain in wildlife value.

Trees for instance, provide a vital habitat for birds, insects and small mammals. They also offer shade which will become increasingly important as temperatures increase. They also absorb carbon from the atmosphere. Trees are becoming more susceptible to diseases and pests due to the changing climate and effects of global imports. It is particularly important to retain and protect them wherever possible.

The way that food is produced also has an impact on wildlife as more and more land is given over to agricultural use. Food production, transport and processing is a major source of greenhouse gas emissions. Changing diets to eat less meat and more local and seasonal produce can have large positive impacts. Eating more seasonal fruit and veg isn't just good for the environment, it is also [good for people's health](#).

The Borough of Watford is just over 8 square miles, with an anticipated population of 100,000 people. It is a town with ongoing development and thriving economy. With its proximity to London, transport links and importance to Hertfordshire, it's a town with a great future. However, such growth, whilst having many positive outcomes, also has wider ranging impacts and negative outcomes, in particular the local environment.

Watford has been working for many years on enhancing green space and biodiversity in the borough. Currently it has around 30 well used parks and green spaces, 12 of which have been awarded the national green flag for excellence and Cassiobury Park has been voted one of the top ten parks in the UK. We want to protect and enhance these spaces and develop more as the town grows. There are opportunities to enhance green corridors and make use of the potential to improve verges. Watford has already invested in raising the quality of our parks, with Watford's green spaces have been granted more Green Flag awards than any other district in Hertfordshire. Our open spaces remain popular (for example over 2 million people visited Cassiobury park in 2019). In order to tackle the challenges caused by climate change along with a changing demographic and building infrastructure, Watford Borough Council



*“Building insect hotels with schools...”*

is committed to further enhancing our environment, including initiatives to the benefit of pollinators. Over the years there have been a number of initiatives nationwide that have tackled such issues including ‘Community Forests’, ‘Environment Cities’ ‘Pocket Parks’, ‘Millennium Green / Doorstep Green’ and ‘Wild-space’ projects. The Council had the aspiration to develop longer term and holistic projects that embraces the whole town.

Currently Watford has 5 Local Nature Reserves, 1 Site of Special Scientific Interest (SSSI) and 2 river corridors which we value highly. But we also have over 50 parks, over 500 hectares of amenity open space and a number of green corridors and grass verges. We know we are less fortunate than some more rural areas of the country in natural green space and access to Green Belt and we need to tackle this head on. The council have a number of strategies in place to address these issues, including [Watford's Green Spaces Strategy](#), Watford's Tree and Woodland Strategy ([information](#)), [Hertfordshire's Biodiversity Action Plan](#) and [Watford's Core Strategy](#).

These strategies comprehensively address Watford's strategic plan for nature restoration. However, a summary of key information is included below.

**Watford's Core Strategy:** The Core Strategy sets out the overall vision, strategy and strategic objectives for Watford to 2031 and beyond, including the broad locations in which new development will be accommodated. It also sets out the broad framework for the other documents in the Local Plan and has to be consistent with other strategies including Watford's Sustainable Community Strategy.

Underpinning policies related to green spaces is the Council's commitment to Green Infrastructure (GI), with a range of priorities identified. The council will seek a net gain in the quality and quantity of Green Infrastructure, as well as recognising the benefits of green infrastructure already present and how to enhance and improve it. Any proposals will seek to improve links between sites and not compromise the integrity of the Green Infrastructure network by causing fragmentation, damage to, or isolation of GI assets.

Priorities for Green Infrastructure focus on the projects identified in the Watford Green Infrastructure Plan:

1. Cassiobury Park Enhancement;
2. Whippendell Wood Enhancement;
3. Grand Union Canal Enhancement;
4. Colne Valley Wetland Enhancement;
5. Urban Greening and Legibility for Watford; and
6. Joint working on the Green Herts interactive map

The contribution a development makes to the Green Infrastructure network will be a key consideration when determining planning permission. New development should contribute to the delivery of new Green Infrastructure and the management of a linked network of enhanced open spaces and corridors.

The Woodland and Tree Strategy: Watford's trees within parks, woods, open spaces and the many tree-lined streets form an important component of our landscape, linking the urban area with the surrounding countryside and they contribute to long-term sustainability. They provide many benefits to people's wellbeing and for enhancing the quality of life in the following ways:

- Trees have a positive impact on mitigating the effects of climate change.
- Trees help improve air quality by absorbing pollutants such as ozone, nitrogen oxide, sulphur dioxide and carbon monoxide. Dust and other particulates are trapped by leaves, making the air healthier to breathe and minimising health risks.
- Over a single year, a mature tree removes about 22kg of carbon dioxide from the atmosphere.
- They reduce the "urban heat island effect" of localised extremes of temperature by absorbing radiation which would otherwise be stored and emitted by buildings and highways, leading to towns having a higher temperature than surrounding countryside.
- Trees can play an important part in water management, including safeguarding water quality and contributing to flood alleviation as part of Sustainable Urban Drainage Systems (4). Tree canopies intercept rainwater, helping to prevent localised flooding during flash floods.
- By screening traffic, trees can reduce noise pollution adjacent to busy roads.
- They provide a habitat for supporting local wildlife throughout the Borough and green corridors for wildlife migration.

The council is currently responsible for approximately 11,000 trees that are located on:

- Highway verges and streets (as part of a service level agreement with Hertfordshire County Council);
- Parks and public open spaces; and
- Cemeteries and churchyards.

In addition, the council manages thousands of trees across 506 hectares of public open space including the woodlands of Whippendell Wood, Harebreaks Wood, Albans Wood and woodland areas in Oxhey Park, and Orchard Park. Tree and woodland canopy cover is defined as the area of leaves, branches, and stems of trees covering the ground when viewed from above, and is 18.2% across the borough against the average tree canopy cover figure of 16% in England.

The council's trees are managed by Veolia as part of the Parks and Open Spaces maintenance contract and a Service Level Agreement with Hertfordshire County Council. The ownership of trees brings certain legal responsibilities and obligations as to how they should be managed. Watford Borough Council seeks to be a good and responsible manager of trees, to fulfil its duty of care by delivering a programme of tree management aimed at keeping the public and property safe from harm, and by preserving the health and future sustainability of its tree stock.

## Water

As well as reducing carbon emissions to reduce the impacts of climate change, we need to make sure we are prepared for the climate changes that are predicted to take place, some of which are already happening. The latest Met Office [Climate Projections](#) provide the most up-to-date assessment of how our climate is likely to change. This highlights key risks such as: surface water flooding, heatwaves and drought for the Borough. In 2018 we witnessed the hottest summer ever recorded, leading to excess summer deaths and an adverse impact on [Hertfordshire's chalk streams](#) (chalk streams are important habitats for species such as [salmon and kingfishers](#)).

Heatwaves can lead to issues like buckling rail tracks, higher demands on water resources, subsidence of houses and buildings, pipe movement and breakages due to soil shrinkage and fires. By the middle of the century we could see summers as hot as in 2018 occurring with a 50% probability. If emissions are not reduced this could rise to 90% probability in the second half of the century, with many summers being much hotter.

In the UK and Europe, flooding is one of the most economically and socially disruptive natural hazards with impacts on transport, housing, infrastructure and energy supply. The River Colne runs through Watford and Water Lane, Lower High Street and Waterfields Way has had [several incidents of flooding during heavy rainfall](#).



The South East of England is classified as a severely water stressed area. This means it gets less rainfall than other parts of the country. In conjunction with this, across the Colne Catchment (which includes Watford), the area uses on average [20 litres per day](#) more than the rest of the UK average. The UK average is also higher than anywhere else in Europe, ([142 litres per person per day](#)). Population is projected to increase 12% by 2025 and 27% by 2045 at the same time climate change is likely to reduce the supply of water (in the Affinity Water area a reduction of 39 million litres of available water per day is expected by 2080). Further risks come from “urban creep” (the loss of permeable surfaces through the continued installation of non permeable patios and/or driveways). The [impact](#) of urban creep on the sewer system is thought to be similar in magnitude to the impact of both population growth and climate change.

Over coming years, households will likely face more [significant restrictions](#) in water usage as we all have to work together to use our resources more wisely. Affinity Water’s aim is to reduce consumption to 129 litres per person per day by 2025.

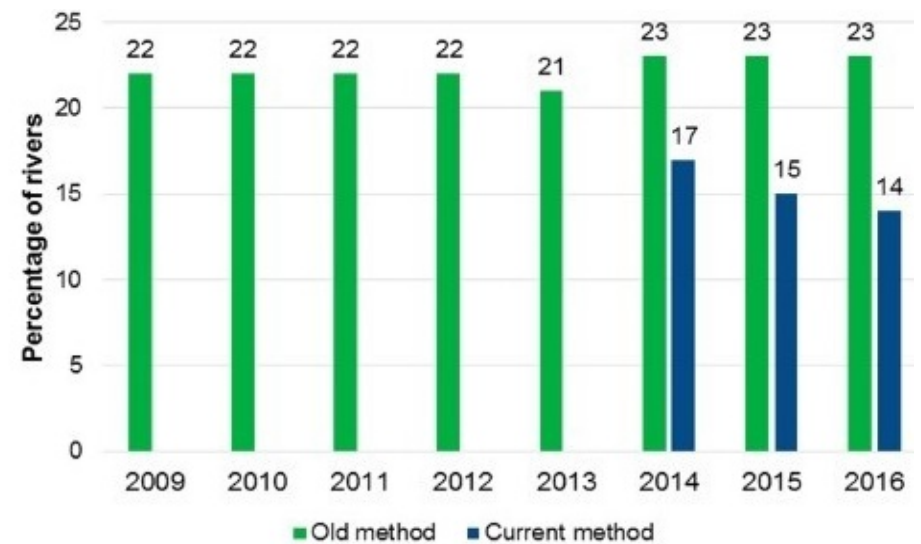
**Chalk streams:** The chalk streams in England are estimated to account for 85% of the world’s chalk stream habitats. Chalk streams are unique to the world’s ecology that supports a wide array of wildlife and flora and provides a greater biodiversity in England. They depend upon a healthy flow of water and a variety of natural habitats to thrive. Currently the chalk streams are at risk from over abstraction, pollution and climate change.

**Groundwater:** Most of Hertfordshire’s water comes from sources deep below ground level called aquifers (an underground area that holds water), from which water is extracted through boreholes. Groundwater levels vary throughout the year dependant on the amount of rainfall penetrating through to the aquifer to “recharge” it. It can take as long as 6 months for rainwater to filter through to the aquifer but this is dependent on the location and the amount of rain received. Most recharge is made in the autumn and winter months, during this period less rainfall runs off into rivers, is lost from evaporation or used for plant growth. This gives rise to the highest groundwater levels around April, and lowest levels usually in October.

[Groundwater contributes to around 30% of our drinking water.](#) Ground waters have been deteriorating in quality over the last 60 years. Only [53%](#) achieved good chemical status in 2016. Due to peak nitrate application being between 1980 and 1990 and nitrates taking upwards of 20 years to travel through unsaturated rock (and much longer in some areas) this is expected to continue to deteriorate over the coming years.

**River health:** Within the UK, the health of the water environment is assessed using the Water Framework Directive. Under this Directive the aim is for all rivers, lakes, reservoirs, streams, canals, estuaries, coastal and groundwater (known as water bodies) to be in good ecological health by 2027.

In 2016, [86%](#) of river water bodies had not reached good ecological status. The main reasons for this are agriculture and rural land management, the water industry, and urban and transport pressures. Although water quality in rivers has improved markedly in recent decades, these improvements have slowed, or not continued in recent years. There was a [1%](#) decline in the number of rivers that were at 'good or better' biological or chemical status in 2016 compared to 2015.



Note: Assessment method changed in 2014

Figure 7: Percentage of rivers achieving good or better ecological status 2009 to 2016

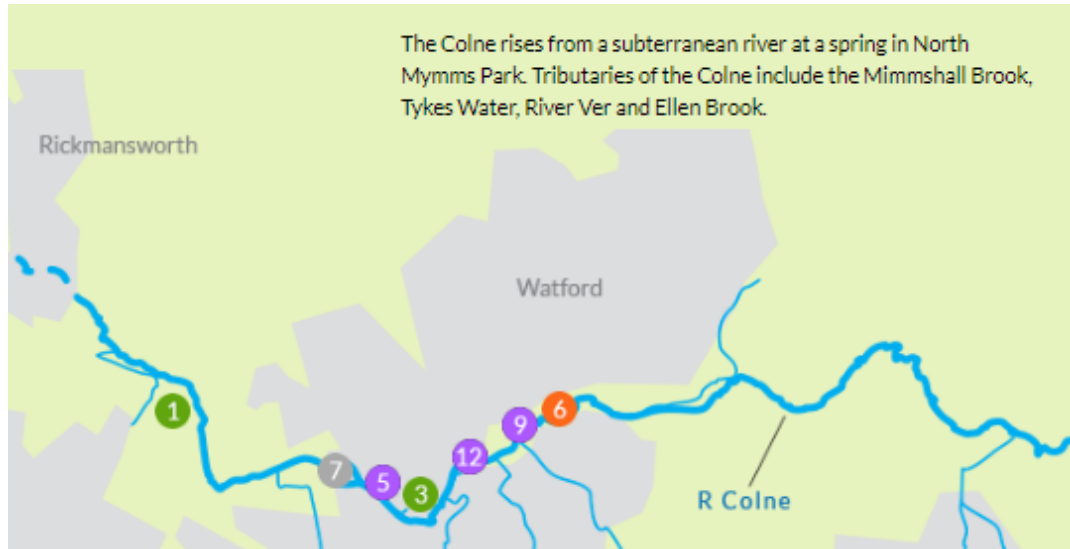
## Water conservation

Conserving water is a key part of creating and maintaining environmentally sustainable practice. Currently water generation and wastage emits more than 60kg of CO<sub>2</sub> per person per year. This accounts for 3% of the U.K's total carbon emission per year. The average family use [330 Litres](#) of water a day, which generates almost a tonne of CO<sub>2</sub> emissions per household each year. Even in normal times in southern and eastern England there's less water available than many Mediterranean countries due to [low rainfall and density of population](#). The East of England is the UK's driest region and Hertfordshire is one of the [driest counties](#) with average rainfall returning only two thirds the national average. On average water consumption has dramatically [increased over the last 25 years](#) partly due to power showers and other household appliances such as sprinklers and hoses becoming more common. Residents in Hertfordshire use more water than any other county in the UK ([8% above the national average](#)).

## Example Projects for 2020-2023:

- [Rediscovering the river Colne](#): Habitat improvement along the river Colne – 10 year project to bring the Colne into the public realm (example at Oxhey park - introducing marginal berms to encourage scouring flows that clean the river bed).
- Continue to work with HCC/Affinity Water on roll out of water meters, providing local knowledge when needed
- Use the Green Spaces strategy for Watford to increase climate resilience and biodiversity where possible.

## Progress so far: River Colne Catchment Action Network – Projects Map



regular river clearance events and finding, supporting and co-ordinating stakeholders to help improve, monitor, understand and enjoy our rivers amenity and wildlife, and understand and deal with pollution events, invasive species, misconnections and other river and waterway issues.

**3. Litter Boom at Oxhey Park:** The installation of litter boom on the Colne in Oxhey Park to trap rubbish, allowing clearance where the river enters the park.

**5. Habitat improvement at Oxhey Park:** A project proposed to introduce a series of brushwood berms along the South bank and undertake maintenance works along the existing berms on the North Bank. The aim of which is introducing a greater abundance of this habitat to benefit local wildlife as well as increase channel sinuosity, helping to promote scouring flows that will help clean the river bed.

**6. Japanese Knotweed management:** A management plan to treat Japanese Knotweed (an invasive non-native species) on Knutsford Park and other areas of the councils land.

**9. Watford in the Water:** an on-going plan aimed at establishing

**Tree planting:** Example of the Clarendon Road Project, the High Street Public Realm Project and Church Street where trees have been planted and replaced to provide a total net gain of 11 trees.

### Key Project Examples:

Increasing biodiversity in the borough; summarised as follows:-

- 1- A reassessment of all our open spaces, from local nature reserves, SSSI, historic parks (e.g. Cassiobury, Oxhey, King George V, Watford Fields), our 1930s recreation grounds (e.g. Callowland, Waterfields, Lea Farm), river corridors (Colne and Gade), amenity and play spaces, playing fields, grass verges, woodlands, allotments, street trees, historic cemeteries and churchyards and civic space looking at current wildlife value leading to a Green Infrastructure Plan and 'Enhancing Biodiversity Action Plan';

- 2- Establishing a partnership including Herts and Middlesex Wildlife Trust, Natural England, Watford Community Housing, TCV, Groundwork, Herts County Council, Environment Agency, Countryside Management Service, Veolia to Friends Groups, Residents Associations, Environmental Groups active in the town – creating a ‘Wild About Watford’ Forum led by a ‘dedicated Wild About Watford’ project officer(s) and team;
- 3- Develop and deliver improvement plans and projects for key strategic areas and increase the number of Local Nature Reserves from 5 to 10 (River Colne corridor; Oxhey Park Dell; King George V Nature Space; Ebury Way; and North Watford Cemetery);
- 4- Increase space for nature focusing on parks, grass verges and green space in housing areas as well as enhancing the value of street trees;
- 5- Involving communities in Wild space and increasing the number of friends groups, residents groups, schools and non-interested groups in the value of Wild space;
- 6- Evaluate the project and promote as an exemplar UK wide initiative.

Our project will involve a wide range of people in heritage, and in particular natural heritage. We will engage with all communities in Watford, but with an emphasis on groups who have no or limited access to natural green space. The project will significantly improve the condition of the towns green infrastructure, from historic parks to cemeteries to grass verges. Natural heritage will be identified and better valued by the Watford community through direct and indirect involvement. People will have an opportunity to develop skills whether leading or managing groups to conservation work. People within current organisations will be better equipped in management techniques. Through the project, people will have learned about their natural heritage and the value of natural spaces, value to local heritage but to their own wellbeing. Finally, the town of Watford will be a better place to live, work and visit, for people but for wildlife.



**People  
Power**



## We are all in this together

It is our hope that local businesses, organisations, schools and groups will recognise the scale of the task required and support this strategy by developing their own priorities and plans to improve the sustainability of their day-to-day activities.

A key part of our strategy depends upon residents taking their own action to reduce their carbon footprint and make the right choices. Currently we promote better recycling and reuse practices, help households improve sustainability in their homes and initiate schemes like refill and the new green transport options; but our plan is to devise and deliver an extensive and consistent programme that encourages and supports behavioural change to benefit our environment.

Our campaign will be informed by our community. We plan to survey residents and partners asking for their views on things like what would encourage them to travel more sustainably, get an ultralow emission vehicle, improve the energy efficiency of their homes, recycle more..... We will look to include resident representation to our sustainability projects so that we can all benefit from shared ideas and resources.

We will help residents and business transition to become low carbon. Further information and updates to this strategy will be available on our web page: [www.watford.gov.uk/sustainability](http://www.watford.gov.uk/sustainability).

We invite you to email us a link to your own sustainability strategies so that we can learn about what you are doing to help create the healthy, low carbon and sustainable future we all aspire to. You can also e-mail the council sustainability team on [sustainability@watford.gov.uk](mailto:sustainability@watford.gov.uk) or write to the team at Sustainability, Town Hall, Watford, Herts, WD17 3EX.

### How to get involved and learn more:

We will be publishing a newsletter which you can subscribe to through your [MyWatford](#) account. You can also join our social media accounts.

We will continue to let all residents know what we are doing through our About Watford magazine that is sent to every property in Watford.



[Things you can do about climate change](#), Adapted from Imperial College, London, by the Grantham Institute



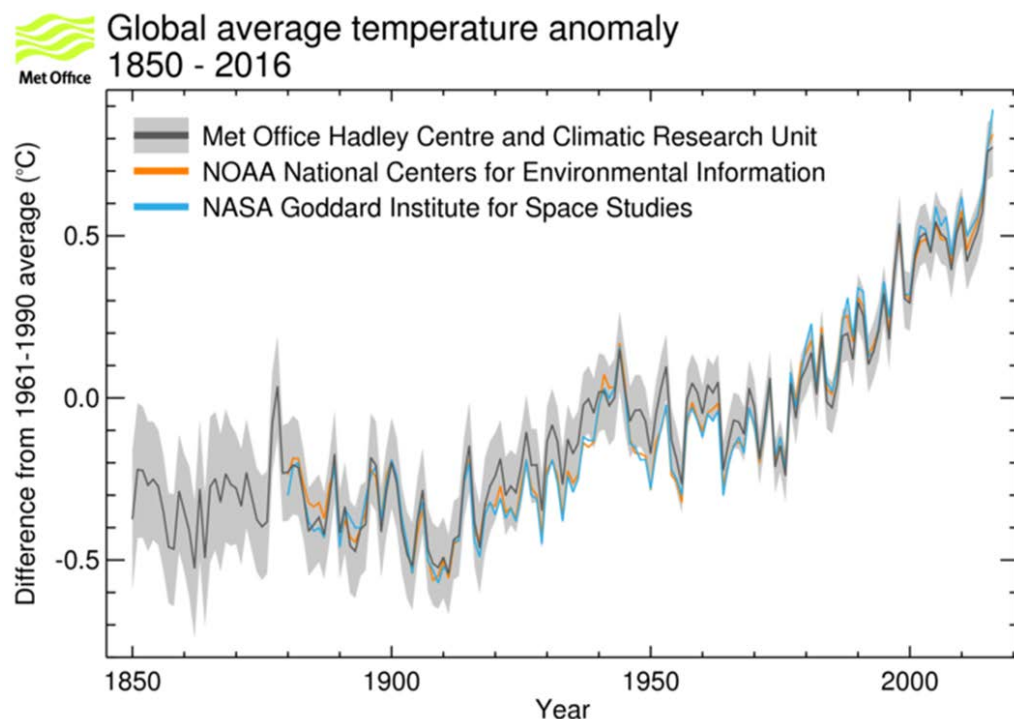
Watford is the happiest place in the south east, and the 14th happiest place to live in the UK ([annual Office for National Statistics \(ONS\) survey](#)). Together we care about our environment and want to strive to continue to make Watford a sustainable and great place to work and live for ours and for future generations.

*“Informing our next generation...”*

# Appendix 1

## Climate Change: Compelling us to take action

Climate change is one of the most significant challenges facing us today. [Extensive scientific information](#) tells us that human activities are the primary cause. Burning fossil fuels for energy and releasing other gases such as hydrofluorocarbons (HFC's) from refrigeration and methane from landfill sites, into the atmosphere - are a large part of the problem.



Global temperatures have increased by around 0.9°C since the late 19th century, and continue to [increase by about 0.2°C per decade](#). UK temperatures are increasing even faster. Nearly half of permanent Arctic sea ice by volume has [melted since 1979](#).

Levels of planet-warming carbon dioxide rose by a near-record amount in 2019. Levels of CO2 in the atmosphere have not been as prevalent on Earth for at least 3 million years – a period when the seas were 10-20 metres higher.

The main risks from climate change include extreme heat, flooding, sea level rise, impacts to food and water supplies, and associated economic and migratory impacts.

Figure 8: Global average temperature anomaly. Source of chart: [Met Office](#)



The effects of global warming are being felt in the UK. Met Office scientists found that the probability of extreme weather such as [UK winter flooding](#) has increased due to climate change. Several indicators in the latest [UK State of the Climate report](#) show that the UK's climate is becoming wetter. For example

the highest rainfall totals over a five day period are 4% higher during the most recent decade (2008-2017) compared to 1961-1990. Furthermore, the amount of rain from extremely wet days has increased by 17% when comparing the same time periods.

There has been growing political pressure on governments, cities and organisations to act by cutting emissions. The 2018 Intergovernmental Panel on Climate Change (IPCC) [Special Report on Global warming of 1.5 degrees](#) says that reducing emissions to net zero by around 2050 is needed to prevent the most destructive impacts. The report states that 'climate-related risks to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.

In the UK the Committee on Climate Change (CCC) sets legally binding science-based carbon budgets and recommends policies and actions to drive change. The CCC estimates that UK emissions will need to be reduced by [at least 3% per year](#) from now on, and local councils have [a vital role to play](#).



Lower High Street, Watford 2014

In the wake of the IPCC 1.5 degree report, the CCC recommended a 'net zero' emissions target for the UK by 2050. 'Net Zero' means that we reduce emissions to as low as we can and then offset any remaining emissions. In response, the UK passed the [Climate Change Act 2008 \(2050 Target Amending\) Order 2019](#) which commits the UK to reducing emissions to net zero by 2050. While details regarding how the UK plans to reach net-zero emissions remain to be set out, the Government has confirmed that it will, broadly, follow the [CCC's framework](#).

The council wish to support this net zero ambition and in line with many other councils, organisations and lobby groups our ambition is to reach net zero by 2030.

Both the costs and benefits of deep decarbonisation are unknowable with any precision. The [CCC state](#) that the costs of this decarbonisation are “[unknowable](#), because they depend on deeply uncertain outcomes, such as the damages from climate change in the long term, and the evolution of the costs of low-carbon technology over several decades”.

The [Green Finance Task Force](#) estimate that investments in infrastructure to meet the fifth carbon budget (spanning 2028-32) will need to be around 1% of GDP (£22 billion) per year, of which public investment would be about £2.2 billion and that approximately 10% of the investment needed to be from public funds. Much of this would be a redirection of, rather than additional, investment. It includes investments in electricity generation (renewables, nuclear, carbon capture and storage), transmission and distribution networks, smart grids (with storage), heat delivery (electric heat pumps, district heating networks or possibly hydrogen-fuelled boilers) to energy-efficient buildings, electric vehicles, using batteries or hydrogen fuel cells, with the associated recharging and refuelling infrastructure, active and public transport infrastructure and carbon capture and storage (CCS).

The costs of climate changes are likely to be substantially more expensive. [Estimates](#) suggest that the damage caused by going beyond 1.5°C, would cost USD 15-38.5 trillion by 2100 (2.3-3.5% of Gross World Product).

 Met Office

## UK annual temperature

5 coolest years

1892, 1888, 1885, 1963, 1919

5 warmest years

2014, 2006, 2011, 2007, 2017

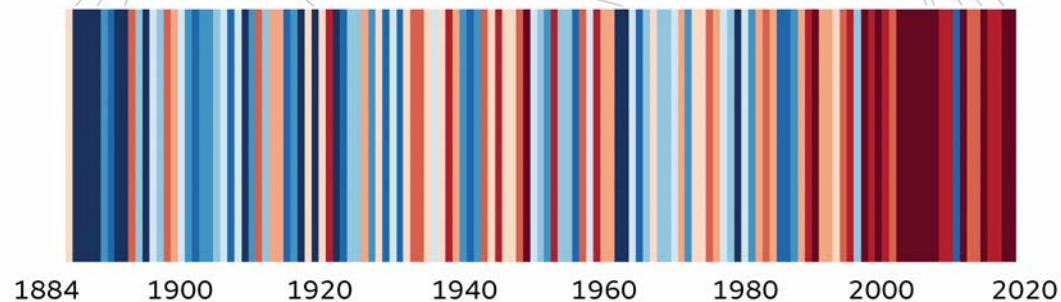


Figure 9: UK annual temperature 1884 to 2020



[Watford Observer reports](#) on Watford’s flooding 2014

CO2 emissions for the borough are detailed later in the Reducing Energy and Emissions section, broken down for the domestic sector, the industrial & commercial and for transport. Figures are also available per capita (as an individual everyone's average carbon footprint has been estimated) by the Department for Business Energy & Industrial Strategy (BEIS). In Watford per capita emissions for 2017 are estimated at 3.65tCO2. This compares well against the UK as an average. Per-capita emissions in the UK fell to 5.4tCO2 in 2018, the lowest since 1858, when the population was less than half its current level. On this measure, the UK now ranks alongside France and well below China (around 7tCO2 per capita), but roughly three times the level in India (1.8tCO2).

However although emissions per capita allow comparison between areas of different population size reasons for variances are not straight forward. For example Wales, Yorkshire and the Humber and Northern Ireland have the highest emissions per capita. This is mainly due to higher emissions per capita from the industrial and commercial sector reflecting the industrial base present in these regions. Similar to Watford Greater London has the lowest per capita emissions, as the urban nature of the transport system and the high population density results in lower emissions than the UK average when total emissions, including non-domestic emissions, are spread across residents. Since 1990, the UK has cut its emissions faster than any other major economy in the world, even as its GDP has continued to grow. This has mainly been due to the rapid change from using coal fired power stations to using renewables (for example energy generated by off shore wind turbines).

## Carbon Offsetting

Carbon offsetting allows individuals and organisations to compensate for any emissions they cannot avoid or reduce, by paying for an equivalent amount of emissions to be removed elsewhere. Emissions saving projects range from planting trees to installing solar panels, often, but not exclusively, in developing countries.

Whilst this approach is positive because it allows polluters to pay for remedying their impacts, there are also complexities which need to be considered. For instance, is the project verified, reliably and permanently absorbing CO<sub>2</sub> from the atmosphere? Is it 'additional' meaning that it wouldn't have happened otherwise? One of the concerns of carbon offsetting is that it can allow large polluters to continue business-as-usual operations whilst reporting environmental improvements.

Offsets which meet the Government criteria can be included within the Council's greenhouse gas emissions report. Reductions would be noted as part of the net CO<sub>2</sub>e figure. The gross figure would still need to be reported.

There is also the possibility of offsetting some of the council's emissions outside of the borough but remaining in the UK. An example of this would be the council installing a solar farm. As Watford's available land space is more limited this could be a purchase of a farm outside of the borough.

