



LONDON BOROUGH OF RICHMOND UPON THAMES

Climate Emergency Strategy

2019-2024



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Very late in the day, the existential and urgent crisis posed by climate change, with the risk of “tipping points” or points of no return, has begun to be more widely appreciated. A revision of the Council’s Climate Strategy of 2008 has been overdue for strengthening for some time and what follows is an attempt, with targets, to set out, what the Council plans to do and some of things residents can do both to reduce climate change impact and to mitigate its effect. We have received a wealth of comment and suggestions from residents and from the many concerned groups active in the borough. To coin a phrase, we are all in this together and together we can do our very best to make our contribution towards the national, European and international efforts to limit and, if possible, roll back the very evident process now under way.

Martin Elengorn

Chair, Environment, Sustainability, Culture and Sport Committee



INTRODUCTION AND CONTEXT

There is a global consensus that we must take urgent action to tackle climate change before irreparable damage is done to our environment, which would have huge knock-on impacts for society and for the other species with which we share the planet. Successive reports published by the Intergovernmental Panel for Climate Change (the UN body charged with looking at climate change) as well as EU level reports, national reports and overwhelming scientific consensus have all highlighted the need for immediate and decisive action to address the causes of climate change and to plan for the impacts it will likely have on the planet and society. On the 1st May 2019 the House of Commons passed a motion declaring a

national climate change emergency, following on from climate change emergency declarations by both the Welsh and Scottish governments. On 28th November 2019 the European Parliament declared a global “climate and environmental emergency”, urged all EU countries to commit to net zero greenhouse gas emissions by 2050 and asked the European Commission to ensure that all relevant legislative and budgetary proposals are fully aligned with the objective of limiting global warming to under 1.5 °C.

We have committed to becoming a Council that takes robust action to tackle the local and global threat of climate change, both internally and in partnership with local organisations and residents, and to

minimise its environmental impact by cutting carbon emissions, waste and pollution.

On 9 July 2019, we declared a climate emergency.

While many solutions to climate change will need to be tackled at a national or international level, all levels of government, communities, businesses and individuals have a role to play in addressing climate change. In declaring a climate emergency, Richmond Council rejects the idea that such a declaration is a symbolic gesture and will give substance to its commitment. Richmond Council therefore resolves to become recognised as the Greenest London Borough. It will undertake the factual analysis, target setting,

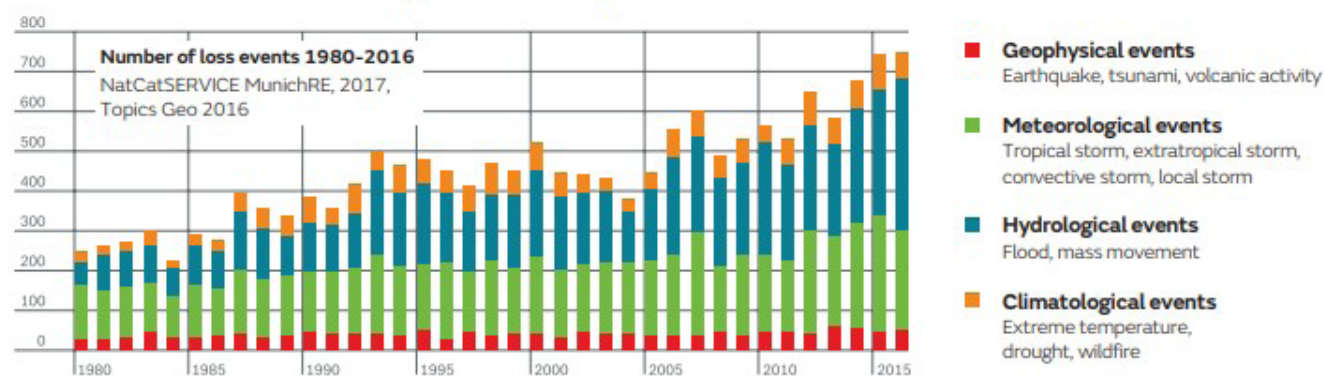
and produce the strategy and action plans necessary by January 2020, in order to realise this goal and become carbon neutral by 2030.

- Richmond upon Thames needs an ambitious Climate Emergency Strategy which can:
- Ensure that we have our own house in order and are doing all we can to prevent climate change
- Ensure our services are resilient and adaptable enough to respond to the impacts of climate change
- Provide community leadership so that residents and businesses are able to get involved in preventing and preparing for climate change
- Establish the actions we will take to support the community in the actions they need to take to prevent climate change

The threat of climate change

The threat of climate change is both local and international and, while the direct impact of climate change for Richmond may not be as severe as in developing countries or some coastal areas, there is a need to ensure that the borough is prepared for the adverse impacts of climate change such as extreme weather events, increased temperatures with risks to health from heat waves, greater pressure on water resources, damage to existing natural habitats, as well as demand for increasingly limited resources.

Are extremes becoming more frequent?



Climate change frequency chart¹

Extreme weather and climate events can inflict huge human and financial costs on society. A report by Christian Aid showed that in 2018 there were losses totalling \$84.8 billion from the 10 most expensive extreme weather-related events, which doesn't include the myriad other weather events and climate shifts that impact on people. The United Nations Framework Convention on Climate Change suggests that climate change will particularly affect poorer members of communities as they are more vulnerable to the negative impacts of climate change and have fewer resources to adapt².

Climate change is also a public health priority and should be a consideration for all health partners

of the Council. The possible adverse impacts of climate change on the health and wellbeing of the population is well known and becoming ever clearer (see the Health Protection Agency's report, "Health Effects of Climate Change in the UK 2012"). At a national level, Public Health England (PHE) evaluate the effects of climate change through their research programmes, feeding into national plans and policies such as the Cold Weather Plan and Heatwave Plan. People's health and wellbeing can be impacted by any of a web of interconnected factors, including increases in air pollution (which causes chronic conditions such as cardiovascular and respiratory diseases and lung cancer) and aeroallergens, water shortage and flooding, heatwaves and other adverse

¹ Observed changes in extremes. The Met Office. https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/climate/cop23/observed_changes_in_extremes_final_v1.0.pdf

² Combination of Climate Change and Inequality Increasingly Drives Risk. Article / 14 Jun, 2018 <https://unfccc.int/news/combination-of-climate-change-and-inequality-increasingly-drives-risk>

³ Health Effects of Climate Change in the UK, The Department of Health https://www.climateinthenorthireland.org.uk/cmsfiles/resources/files/Health-Effects-of-Climate-Change-in-the-UK_Department-of-Health.pdf

weather conditions (extreme cold spells), as well as increases in food and vector/ water-borne diseases. Worsening indoor environments (overheating buildings, including homes, care homes and hospitals) and heightened UV risks can also impact negatively on our health³.

While there is an undeniable need to reduce energy consumption and emissions of greenhouse gases, there are also a number of associated issues that need urgent action. Addressing climate change is not simply about reducing CO2 emissions, but is about looking at the needs of future generations as well as residents today and seeking to mitigate problems in the future by acting responsibly now. This includes looking at our capacity to support human activity and taking decisions that respect environmental limits as well making sure that there is a balance in decision-making between immediate financial needs for the borough and long-term sustainability. It is generally recognised that economic, social and environmental issues are interlinked and that tackling them in an integrated way will achieve the best solutions. Climate change increases health inequalities due to rising fuel and food prices and a reduction in access to cooling or heating, leading to cold related deaths in winter and heat related deaths in summer, as well as costlier insurance. These factors will have a greater impact on those who may already be disadvantaged or vulnerable in our communities⁴.

Sustainability

In addition to climate change, this strategy also deals with sustainability. Simply put, sustainability is about meeting the needs of the present without compromising the ability of future generations to meet their needs. The concept of sustainability is composed of three pillars: economic, environmental, and social, which can also be known informally as profits, planet, and people.

For the London Borough of Richmond upon Thames, this fits well with our approach as a public sector organisation. We have a responsibility to look after our local environment, we have a responsibility to look after the people in the borough, including those who are most vulnerable, and we have a duty to encourage a vibrant local economy. Our various responsibilities and powers means we are a key local driver for sustainability, from our role in planning and development, our environmental services, our support for vulnerable adults and children through to our significant procurement budgets. As an organisation, we need to ensure that sustainability is ingrained into everything that we do. It also presents an opportunity, as innovation, technology and new approaches develop, so we can make sure that we are well placed to take advantage of these and ensure that we are integrating sustainability into everything we do.

There is also a need for us to support our residents so that they are able to lead more sustainable lives. In order to avoid catastrophic impact on our environment, society and also our economy, all areas of society need to think about how they go about their daily business and look at ways to live more sustainably. This will mean a change in the people's lifestyles and a reverse of consumerism, which we should encourage and support our residents through. A good example of this is food, with the World Resource Institute estimating that 14.5% of human caused climate change comes from animal agriculture globally. United Nations scientists state that raising animals for food is one of the major causes of the world's most pressing environmental problems, with impacts including climate change, land degradation, air and water pollution, and loss of biodiversity. Growing crops to feed them to farm animals is inefficient, driving up the price of grains and legumes. Advocates for sustainable approaches promote a reduction in the current levels of consumption of meat.

⁴ Climate Change 2014. Impacts, Adaptation and Vulnerability- Part A; Global and Sectoral Aspects. IPCC <https://www.ipcc.ch/report/ar5/wg2/>

Impacts of Climate Change on Richmond upon Thames

The Intergovernmental Panel on Climate Change (IPCC) assesses the global risks from climate change and predicts the average global temperature in 2100 could reach 2.5°C to 7.8°C above late 19th century levels if no action is taken to reduce global greenhouse gas emissions. Climate change is already affecting the UK and other countries around the world. For example, in the UK:

- the average sea level is rising by 3mm per year and could increase by 12 to 76cm by the end of the century (compared to 1990 levels)
- the earlier onset of spring and summer is affecting plants and animals
- winter rainfall is arriving in more intense bursts⁵

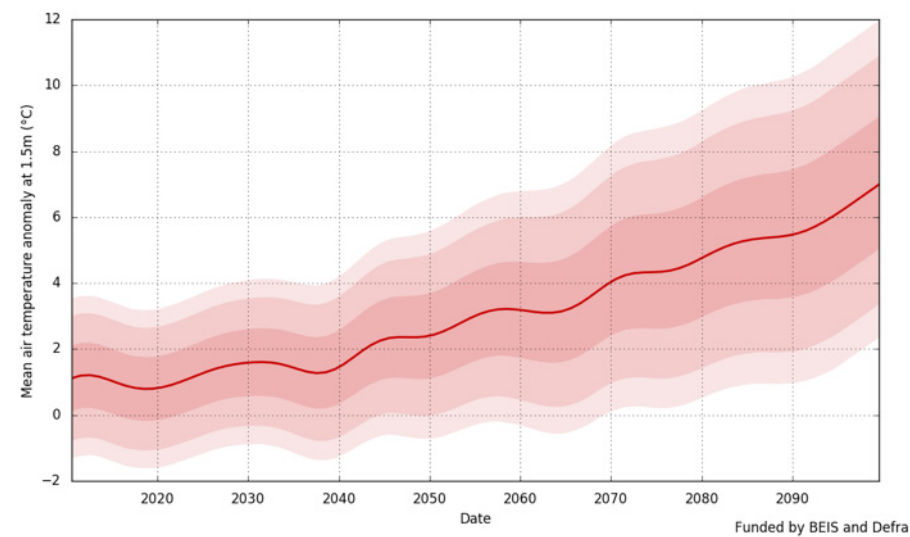
The four graphs represent South West London's climate projections from 2010 through to 2099 based on Met Office UKCP18 data. The data uses a baseline period from 1981 through to 2000 and is based on the future Representative Concentration Pathway 8.5 (RCP 8.5) scenario whereby greenhouse gas emissions continue to grow unmitigated throughout the 21st century.

Richmond's environment is a vital component of the character of the borough. More than two thirds of its land is protected by either open space or conservation area status and this contributes greatly to the quality of life for residents, workers and visitors. In addition, Richmond is the only London borough that straddles the Thames, making it at risk of flooding but also meaning limited crossing points and transport around the borough.

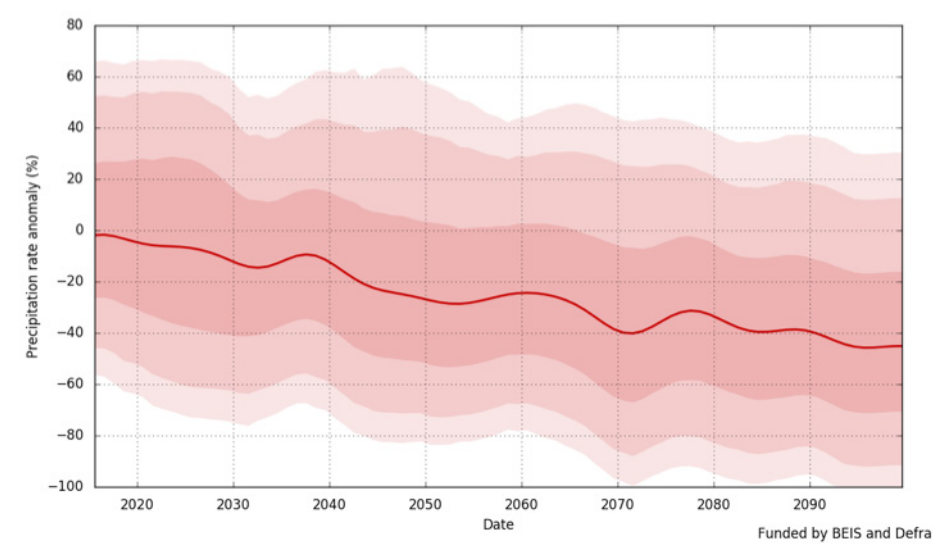


⁵ Global Warming of 1.5 °C. The Intergovernmental Panel on Climate Change. <https://www.ipcc.ch/sr15/>

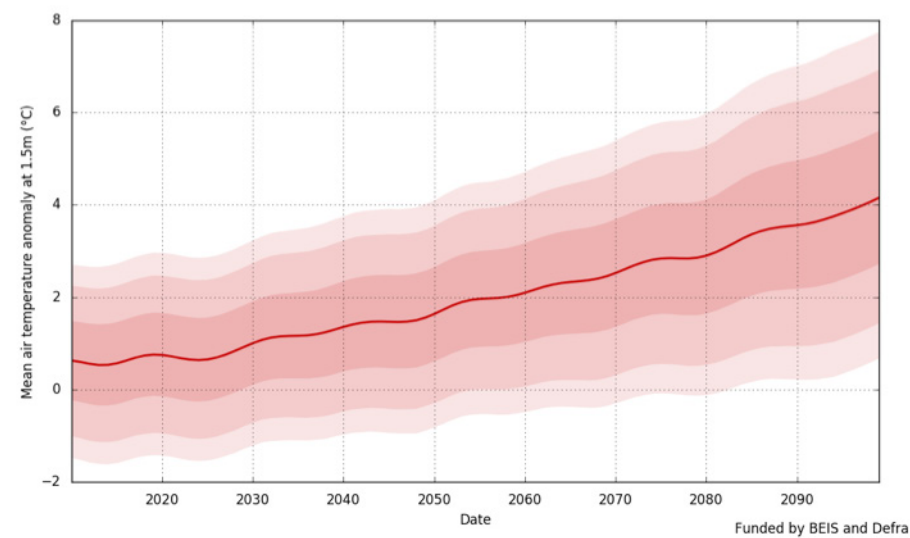
Summer Temperature



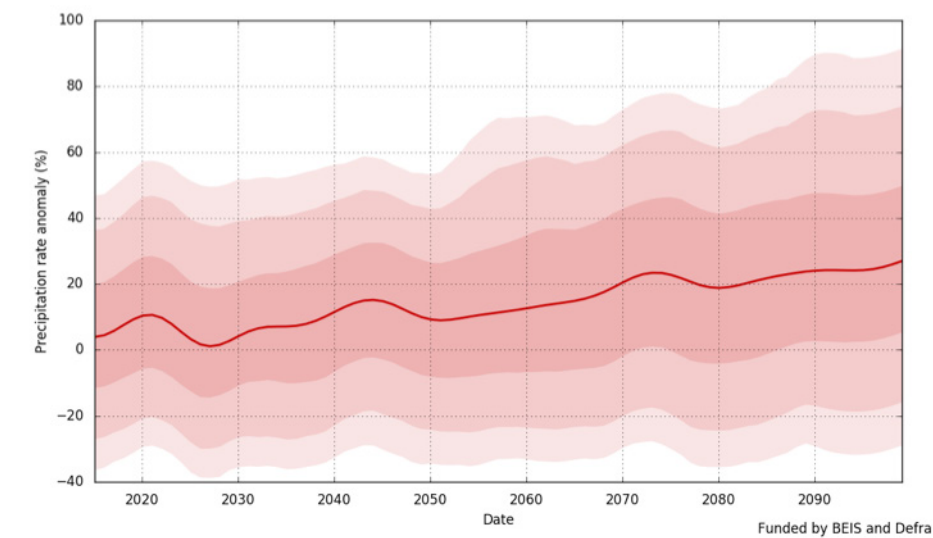
Summer Precipitation



Winter Temperature



Winter Precipitation



Climate Variable	Summary of change	Overview of anticipated changes	Potential impacts for Richmond
Temperature	Increase in average annual temperatures with noticeable changes in the number of hot days	<p>The UK is projected to experience temperature increases of up to around 2°C in the south of England.</p> <p>Average temperatures have increased by nearly 1°C since the 1980s. All of the top ten warmest years for the UK have occurred since 1990. This includes 2014, which was the warmest year on record in the UK.</p>	<p>Public transport links will be affected by the heat as temperatures on all modes of transport become harder to bear.</p> <p>There is a risk of severe disruption on roads (affecting cars, buses, and emergency services), rail and underground leading to transport difficulties.</p> <p>This can also impact services such as rubbish collection, schools and hospitals, which could postpone appointments and operations.</p>
Sea/ River Level Rise	Rise in sea / river levels and storm surges.	<p>The risk of fluvial and tidal flooding in Richmond can be expected to increase as a result of climate change and this increase in the number of properties at risk of flooding.</p> <p>LBRuT is very susceptible to surface water flooding, such as the summer 2007 flooding</p>	<p>The borough is vulnerable to surface water flooding which could cause disruption to transport (road closures, speed restrictions and lane restrictions) and damage to property.</p> <p>Surface water flooding is regularly contaminated with sewage which in turn causes the spread of disease.</p> <p>There will be a greater risk from tidal, pluvial and fluvial flooding throughout the borough. Increased flood risk will lead to a change in insurance provisions, with some areas prohibitively expensive to insure. Flood defences will need to be upgraded to cope with new parameters. If inadequately treated or in excessive quantities, sewage in the river effluent can damage the plant and animal life of a river by reducing the oxygen content of the water. In extreme cases, the river will support very little life and the entire ecosystem and will become foul smelling and grossly offensive.</p>

Climate Variable	Summary of change	Overview of anticipated changes	Potential impacts for Richmond
Extreme events	Increase in frequency of extreme weather events	<p>Heat waves could have a major effect on mortality in the UK with greater frequency of record-breaking temperatures and longer consecutive days of higher than average temperatures being recorded.</p> <p>Rainfall extremes are generally projected to increase, particularly during winter but with drier long summers</p>	<p>Severe heat waves can impact on vulnerable residents in particular, such as the very young, very old and those who are severely ill. There has been an increase in damage to council infrastructure caused by weather events (e.g. trees, roads, pathways) and an increasing propensity for insurance claims against the Council. Severe winter weather events could cause widespread impacts throughout the borough with school closures and increased number of hospital admissions.</p> <p>Extreme events will mean that wildlife species displacement will become more common. Prevalence of disease, pests and non-native species will become more frequent</p>
Water Supply	Water shortages	<p>Changing rainfall patterns leading to unpredictable rainfall and water shortages. Water shortages will impact upon local biodiversity as well as food production nationally and regionally</p> <p>Recent simulations by the AVOID programme project that the UK could experience a moderate increase in water stress with climate change</p>	<p>London is within the driest part of the country and is potentially at risk of drought if reservoirs and groundwater aquifers are not re-filled by regular rainfall. The cost of a severe drought to London's economy is estimated by Thames Water to be £330m per day, and would have severe economic, social and environmental consequences.</p>

Climate Variable	Summary of change	Overview of anticipated changes	Potential impacts for Richmond
Biodiversity	Changes to the climate will change the biodiversity of the borough	. There is strong evidence that climate change is affecting UK biodiversity. Impacts are expected to increase as the magnitude of climate change increases. Many spring life-cycle events are likely to occur earlier in the seasons.	<p>Climate change increases the potential for non-native species introduced by people (including pests and pathogens posing a public health risk) to establish and spread. Temperature increases could result in migration of species or even loss of habitats. Reduction of summer precipitation could have an impact on flora growth and diversity.</p> <p>Changed growing seasons could result in some crops being unviable but could lead to other becoming viable.</p> <p>Various species of tree within the borough are particularly vulnerable to the effects of climate change, this was evidenced in 2018 where a long, hot summer resulted in high mortality rates of both native and non-native trees.</p>

6 Biodiversity climate change impacts. Report card 2015. <https://nerc.ukri.org/research/partnerships/ride/lwec/report-cards/biodiversity/>

7 Taken from; Climate; Observations, projections and impacts. The Met office. <https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/t/r/uk.pdf>

The Climate Emergency Strategy and how it fits with other strategies

In Richmond, work is under way in many areas related to climate change and sustainability. The Council has programmes in place to improve energy efficiency, reduce business mileage, increase recycling and capture good practice, among others.

This Climate Emergency Strategy is intended to provide an overarching framework around this issue, bringing together existing areas of work to provide more clarity and focus, to highlight linkages between approaches being taken across the organisation and to identify additional key future actions and approaches which have not previously been in place. The Strategy will focus attention on areas where we can have the most impact. Climate change and sustainability is a constantly evolving area, with huge technological leaps being made and the Strategy aims to place the Council in the best position to harness these and deliver the most impact for our residents.

The Council has set four priorities in its current 2018-2022 Corporate Plan which outlines how we aim to become a greener, safer, fairer borough for everyone. The Climate Emergency Strategy is linked to the 'Greener Borough' priority with the goal of becoming the greenest local authority in London by putting the environment at the heart of local decision making.

The activities identified within the strategy will

continue to drive change within a much more structured approach. Adopting a structured and measured approach to energy sourcing and use, waste production and disposal, travel and transport, and the purchasing of goods and services will help the Council prepare for the adverse conditions that may be faced due to the changing climate. At a time of intense pressure on resources the expanding green economy also presents an opportunity to set a positive agenda.

Successful delivery of the strategy will depend on integration with and implementation of other council strategies and action plans. These include:

- Active Travel Strategy (2020-2024)
- Air Quality Action Plan (2019-2024)
- Allotment Strategy (2018-2028)
- Asset strategy (2016- 2021)
- Biodiversity Action Plan (developed with SWLEN) (2019)
- Cycling Strategy (2016- 2026)
- Parks and Open Spaces Strategic Principles (2011)
- Procurement Strategy (2016-2019)
- The Local Plan (Adopted July 2018) including the Sustainable Design and other Supplementary Planning Documentation
- Tree Policy (2015)
- West London Waste Plan (to 2031)

While the Local Plan was only adopted in 2018,

preparations are already underway for its review and update. Its successor will need to take into account policy and legislative changes, especially with regard to the Mayor of London's London Plan. The next iteration of the Local Plan will strengthen our policies around climate change related issues, including low carbon design, renewable energy generation, parking, transport, flooding and biodiversity.



IMPLEMENTING THE STRATEGY

The strategy builds on existing progress and plans and acts as a framework to drive forward the delivery of the actions already identified in those plans as well as additional ones identified in the strategy. Action on climate change will not be deliverable without engaging and involving our partner organisations, local businesses and most importantly of all, our residents. The strategy has been developed with consideration of the roles that partners and our community play, and it will be delivered in collaboration with them.

We have identified six key areas of focus that will need to be addressed to meet our legislative requirements as well as contributing to reducing

our carbon emissions and mitigating the impacts of climate change. For each area we highlight the importance of the issues, current performance, immediate targets, and key measures and actions required to achieve the vision. Each area has overlapping issues that will need a comprehensive and holistic approach from several different Council departments and potentially partners as well.

Implementation of the strategy is scheduled to take place from the beginning of 2020 through to 2024. Actions set out in the Climate Emergency Strategy and associated action plan will be included in the Richmond Corporate Plan and in our key performance indicators, so that progress in delivery of our climate

change agenda is reported on regularly and given the full level of scrutiny it deserves. An annual Climate Emergency Strategy update will be brought to the Environment, Sustainability, Culture and Sport Committee, providing a detailed update on actions we have delivered and the progress we have made in achieving our target of becoming carbon neutral by 2030 as well as reducing borough-wide carbon emissions. The annual update will also include a refreshed action plan, allowing us to identify new and emerging priorities and take advantage of new developments in the rapidly changing arena of climate change.

A Climate Emergency Steering Group has been

formed, which includes a senior representative from all strategic areas and will ensure performance monitoring and strategic oversight of delivery of the Strategy. Its responsibilities will include:

- Identifying and shaping priorities for the Strategy.
- Leading on partnership working, creating links with public sector organisations and businesses to work jointly on climate change approaches
- Monitoring performance on key targets
- Monitoring progress on delivery of projects
- Promoting a consolidated Council-wide approach to climate change by reducing silo-based working

A Climate Emergency Action Group will also be formed, which will lead on more operational matters, ensuring that identified projects and approaches are being delivered on time. Its responsibilities will include:

- Project delivery
- Monitoring and delivering on performance indicators
- Identifying potential opportunities for new projects/developments and funding
- Ensuring information sharing on climate change is being spread throughout the organisation
- Ensuring up to date and relevant information is available for the public on climate change issues and delivering on community engagement
- Regular reporting to the Climate Change Steering Group





THE RICHMOND CLIMATE EMERGENCY VISION

We want to make Richmond upon Thames a greener, safer and fairer borough. Our goal is to become the greenest local authority in London by putting the environment back at the heart of local decision making.

Our Climate Emergency Strategy sets out six main areas of focus around climate change and sustainability, ensuring that we comply with current legislation, have a framework to set robust targets, have identified key actions we need deliver and have the resources in place to achieve these actions.

Our council: Becoming carbon neutral as an organisation by 2030 – We will embark on a radical change programme that encompasses our buildings, services and staff and ensure that we will become carbon neutral as an organisation by 2030. We will reduce the energy demands from our estate, generate our own renewable energy, minimise waste and eliminate single use plastics from our operations. We will purchase goods and services in a responsible and sustainable way, minimising the carbon impact of the money we spend and ensure that our staff have the knowledge, skills and resources needed to go about their work in a low carbon and sustainable way. [Our key target is to become carbon neutral as an organisation by 2030.](#)

Our legacy: Climate Change Mitigation and Energy Efficiency – We will work with our residents, communities, businesses and partners to engage, involve and support them in tackling the climate emergency. We will share knowledge and approaches with them, ensure that the built environment is sustainable and can support them as climate change occurs and that they can live their lives in ways that reduce carbon emissions. We will ensure Richmond is able to plan, measure and respond proactively to the effects of climate change and the implications of resource scarcity. [Our key target is to create an environment where Richmond is able to be sustainable and low carbon by default.](#)

Our waste: Waste and Plastics and the Circular Economy

– We will embed reduce, reuse, recycle into everything Richmond does around waste. We will work with our residents, businesses and schools to reduce the overall amount of waste generated in the borough and will aim to be one of the top performing boroughs in London for recycling. We are committed to supporting residents to reduce the amount of single use plastic they consume and to promote the Circular Economy across the borough.

[Our key target is to reduce the amount of waste generated in the borough](#)

Our air: Improving Air Quality – We will develop and deliver an ambitious air quality plan that will make a meaningful change to air quality in the borough with an emphasis on reducing air pollution particularly around schools and town centres. By 2024, we aim to have less polluting traffic on our roads, contributing to an improvement in air quality across the borough.

[Our key target is to improve the air quality in the borough.](#)

Our nature: Green Infrastructure and Biodiversity

– We will improve and protect the biodiversity and ecology of our green spaces and protect them against the negative impacts of climate change. We will facilitate and support quality networks of green infrastructure capable of supporting biodiversity and resilience against climate change and ensure the consideration of biodiversity both in policy

and practice across the Council's services. We will maintain the parks and open spaces of Richmond as centres of excellence, make them fully accessible, ensuring high standards across all parks and opens spaces managed by the Council.

[Our key target is to plant more trees.](#)

Our water: Water Management and Flood Abatement

– We will ensure that development across Richmond addresses flood risks and promotes sustainable drainage. We will promote and encourage development to be fully resilient to the future impacts of climate change in order to minimise vulnerability of people and property, including risks of flooding, water shortages and the effects of overheating.

[Our key target is to be fully prepared for flooding.](#)





OUR COUNCIL: BECOMING CARBON NEUTRAL AS AN ORGANISATION BY 2030

Our Ambition

We will embark on a radical change programme that encompasses our buildings, services and staff and ensure that we will become carbon neutral as an organisation by 2030. We will reduce the energy demands from our estate, generate our own renewable energy, minimise waste and eliminate single use plastics from our operations. We will purchase goods and services in a responsible and sustainable way, minimising the carbon impact of the money we spend and ensure that our staff have the knowledge, skills and resources needed to go about their work in a low carbon and sustainable way.

The Context

Key Drivers and the Richmond Context

The Climate Emergency offers a substantial challenge to Richmond upon Thames as an organisation.

We own, operate and lease to others a wide range of buildings, encompassing large municipal buildings such as the Civic Centre in Twickenham, libraries across the borough and small community buildings leased to or used by small community and voluntary sector groups. All these buildings require energy to run, which is currently a major source of carbon emissions.

There are a great number of historic buildings in Richmond. These listed buildings form an intrinsic and unique characteristic of the Borough, but they also present a challenge for executing energy improvement measures. We will need to improve the efficiency of the buildings owned and managed by the Council while respecting their cultural significance.

We also provide street lighting across the borough which requires a significant amount of electricity to ensure our streets are well lit and safe. We operate vehicles for many different functions, including transport for adults and children, service vehicles for building maintenance, for parks and for waste

collection. Most of these are not run on electric or renewably sourced fuels.

Our operations inevitably generate waste, but how much waste we generate, whether this is recyclable and is recycled is something that we can influence and control. As inevitable as the waste we generate is our use of plastic and of single use plastic in particular. Reducing the amount of plastic we consume and eliminating single use plastic from our operations and facilities is another challenge that we must overcome if Richmond is to do its part in tackling the climate emergency.

Richmond has an annual revenue spend of £316m and we therefore spend significant amounts of money every year purchasing goods and services. Spending our money in a way that minimises carbon emissions and uses sustainable approaches is a key challenge for us, whether it's the way we purchase energy, commission services for residents and the community or purchase supplies we need for our organisation to run effectively. Procurement will play an important role in developing and promoting a Circular Economy, with a greater emphasis required on minimising the environmental impact from resource use including procurement and supply chain, use and lifecycle and end of life management. Taking these approaches should ultimately deliver improved cost management.

In addition, the Council controls a substantial investment portfolio as part of its reserves and actively manages short, medium and long-term investments to make best use of our finances. The Pension Fund administers a significant sum of money on behalf of current and former Richmond employees and the Joint Pensions Committee has a responsibility to detail how it approaches environmental, social and governance issues.

Richmond Council is served by the staff in the Shared Staffing Arrangement (SSA), which employs over 3000 people. Our staff are at the heart of delivering our services and ensuring our organisation is effective, efficient and well managed. Ensuring that our staff have the knowledge, skills and resources needed to carry out their jobs well and in a low carbon way is another key challenge for us.

Legislation and Policy

While there is no legislation that directly obliges local authorities to decrease their emissions or set a target for being carbon neutral, local authorities are plugged into a dense network of overlapping policy requirements and frameworks that require us to have due regard to and take action on preventing and adapting to climate change in areas around. Our place shaping role is key, as are our myriad commitments to providing services to our residents, communities and businesses.

In the Clean Growth Strategy (2017), the government introduced a voluntary target for the wider public and higher education sectors in England. This target aims to reduce greenhouse gas emissions across these sectors by 30% by 2020 to 2021, compared to a 2009 to 2010 baseline. This target is voluntary and there is no requirement to report on it.

The Home Energy Conservation Act 1995 ('HECA') requires all local authorities in England to submit reports to the Secretary of State demonstrating what energy conservation measures they have adopted to improve the energy efficiency of residential accommodation within that area.

⁸ 2017 UK greenhouse gas emissions: final figures (Department for Business, Energy & Industrial Strategy). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776083/2017_Final_emissions_statistics_one_page_summary.pdf

Where Richmond is now

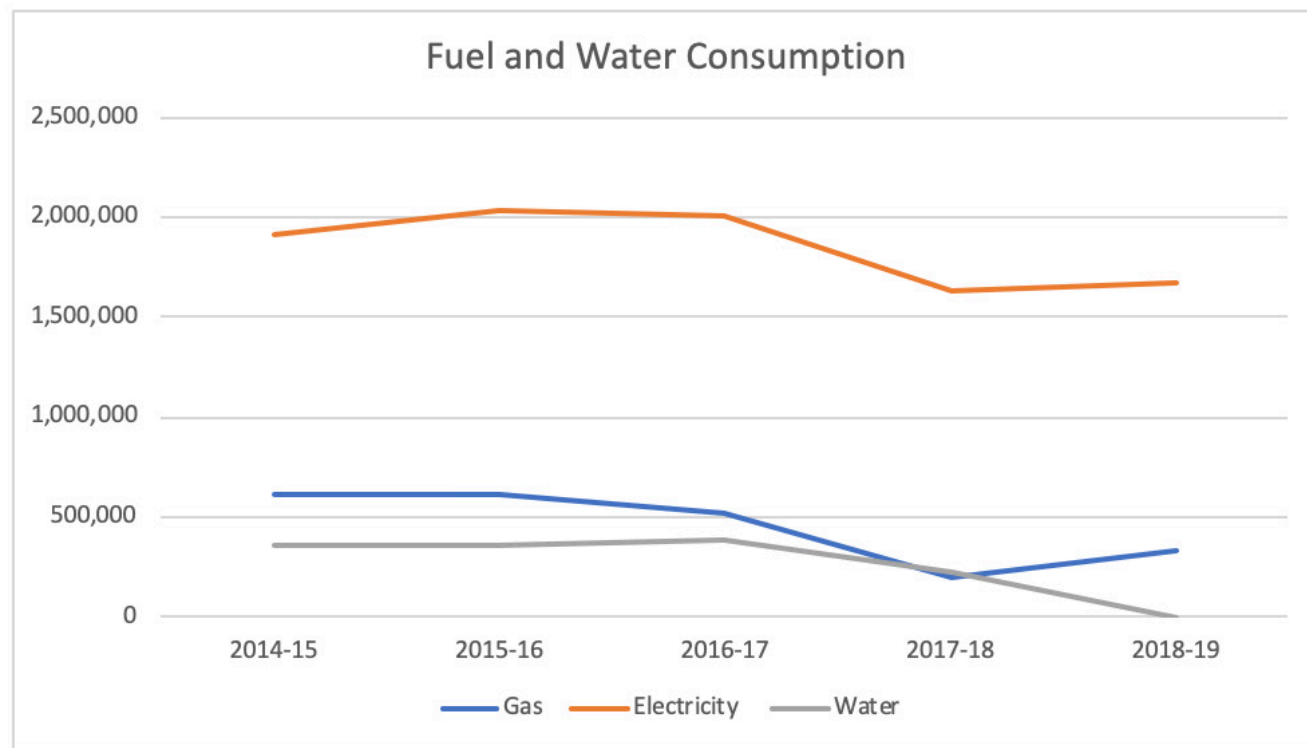
Calculating CO2 emissions accurately is a challenge as data on emissions from every aspect of the Council's activities is not readily available, therefore it is difficult to give a true and accurate picture of the overall emissions from the Council as an organisation. We have data on emissions from our buildings, which shows a reduction in our gas and electricity consumption and spend and resulting decrease in carbon emissions. The reduction in CO2 emissions from 2014/15 to date is largely due to improvements in staff knowledge and behaviours and management of Council buildings, technological improvements that have allowed flexibility in working practices (remote working) and greater decarbonisation of the electricity grid.

Our total spend on fuel and water is shown right:

Our energy supplies are generally purchased corporately on a centrally managed contract. These contracts allow for competitive tariffs, improved data management services and reduced administration costs.

Our emissions from transport can be seen below:

	2017/18	2018/19
CO2	1,184,253.71	1,210,357.23



This shows an increase in CO2 emissions from transport. Factors behind this has been a growth in the fleet size as additional vehicles have been added for the Facilities Management team, as well as the relative age of the vehicles being used, with older vehicles being less efficient and generating more emissions. In addition, our waste contractor uses dustcarts to collect missed collections, where this was previously carried out by smaller vans.

Responses from residents and community groups have highlighted that it is important for us to produce a baseline for our carbon emissions so that we can show the level of our emissions, where they are generated from within the organisation and also to set ourselves targets for their reduction. Our approach involves:

- defining the sources of emissions that are to be included (benchmarking against technical advice and guidance that is available)

- ensuring that we are in compliance the Greenhouse Gas (GHG) protocols for measuring emissions
- gathering data from across the organisation on fuel and energy usage directly paid for by the Council (covering multiple contracts, suppliers and service delivery areas)
- then using this data in our own developed calculation tool to calculate what our carbon emissions are

This will ensure that templates and reporting mechanisms for future use are developed so that reporting and data requirements are simplified and more straightforward. The next step in the process will be measuring emissions from services that are contracted by the Council, which ultimately count as part of our carbon neutral target for 2030. Gathering data on these is difficult as it may not be collected by contracted providers and is unlikely to be a current contractual requirement. Going further and measuring the embedded carbon (that is, the greenhouse gas emissions from the manufacturing of a product, in terms of CO2 equivalent, calculated using a life cycle analysis) in the products and services we purchase, and the cumulative impact is currently very difficult and there are a lack of reliable measuring tools for an organisation as complex as a local authority.



Linked Strategies

Our approach to climate change will be embedded across the organisation, with a link into all strategies that we develop and deliver. Details of these are listed in the 'Climate Emergency Strategy and how it fits with other strategies' section previously.

Key Actions

Our short term goal is to drastically reduce our carbon emissions, with the long-term goal of being a carbon neutral organisation by 2030 and zero carbon by 2050.:

Our estate

We will ensure that the energy hierarchy is embedded in the way we approach managing our facilities, so we reduce our emissions as much as possible:

Our partners

We will develop a Richmond Climate Charter, outlining a commitment to reducing emissions through improved energy efficiency, reduced use of vehicles emitting CO2 and particulates and a commitment to sustainability through the integration of environmental, social and economic considerations into all aspects of the activities. We will encourage schools and colleges, key businesses, visitor attractions (such as Kew Gardens, Hampton Court Palace and sporting venues like Twickenham Stadium and the Stoop) and social housing providers in the borough to sign up to Richmond Climate



1. ENERGY CONSERVATION

Reducing demand by changing behaviour to reduce demand

2. ENERGY EFFICIENCY

Use energy efficient systems such as boiler insulation and more efficient appliances

3. RENEWABLE ENERGY

Generate heat and electricity from renewable resources (solar PV, biomass, thermal etc)

4. LOW CARBON RESOURCES

Use of low carbon technologies (heat pumps, CHP etc)

5. CONVENTIONAL RESOURCES

Source from conventional resources

Charter and actively encourage members to conduct their activities in an environmentally, socially and economically responsible manner.

We will work with private sector landlords to improve standards. We will work with key housing partners, including the Greater London Authority (GLA), Private Registered Providers (PRPs) and the local voluntary sector.

In order to help address Fuel Poverty, our Richmond Climate Charter will establish a sustainability charter that will encourage housing providers within the borough to help the most vulnerable members of our community. We will continue to offer a household winter fuel grant to those on low income including pensioners to protect residents who are at risk from living in fuel poverty during the winter.

We will evaluate the Council's current energy consumption and cost with an energy audit to identify opportunities for energy conservation, efficiencies and cost savings. The energy audit will enable the Council to develop a long-term investment strategy for its facilities, which will be monitored to ensure continuing viability, carbon reduction and cost savings. These will be 'invest to save' projects, and will use funding from the existing Climate Change Fund, the recently established Carbon Offset Fund and other sources such as Salix.

We will ensure consistency in how we manage our buildings. All Council buildings will:

- Have building specific energy plans and/or targets to ensure council owned buildings minimise excess energy use
- Be installed with a Building Energy Management System (BEMS) and automatic meter readers to monitor and control services such as heating, ventilation and air-conditioning, ensuring the building operates at maximum levels of efficiency and removing wasted energy usage.
- Only operate offices between the hours of 7am to 8pm, unless otherwise required
- Ensure building heating systems run to match office peak occupancy hours
- Have Display Energy Certificates (DEC) to show the public how well the building is performing year on year and as a means of auditing building performance.

We will review all buildings that we currently lease to ensure that we are using energy efficient properties and will develop a long-term plan for reducing emissions and improving the energy efficiency in Council owned properties which we currently lease to or are used by other organisations/tenants.

We will continue to work to replace all our street lighting with LED and also use photo-electric control unit (PECU) arrays which will accurately calculate energy consumption. We will deliver £11m of improvements to our street lighting across the borough.

We will develop local energy generation on Council buildings, including developing a decentralised energy network for Council buildings if that is the appropriate and most viable route to take. We will investigate energy generation opportunities for all Council buildings to see where these can be installed and create a long-term plan for investment in energy generation, so the Council is generating as much of its own energy needs as is possible, using renewable energy generation techniques.

We will make sure that where the Council is designing and building its own buildings, we are using sustainable and low carbon construction practices and approaches.

We will decrease the amount of water that is used by the Council. We will install smart water meters across our estate so we can monitor and verify our water usage, ensuring that we are able to identify leaks quickly and fix them. We will implement water saving measures wherever possible, and investigate water reuse approaches, such as reusing rainwater and grey water, and adopt these wherever we can.

Our waste

We will minimise the amount of waste we generate as an organisation, starting with developing an Office Waste Management and Recycling Strategy that will set out the steps we need to take to minimise the amount of waste we produce. We will revise the

current waste system and approach that operates within our buildings, including upgraded recycling facilities, introduction of green waste composting and the redesign of the contracts for cleaning municipal buildings.

We will eliminate single use plastics from all Richmond Council sites and achieve single use plastic free accreditation by 2022, delivering on the motion passed by Richmond Council to remove single use plastics from its operations. We will look at single use plastic in all Council operations and remove single use plastics from waste streams from municipal buildings and all buildings owned and managed by the Council. We will establish an officer working group to undertake an audit of the Council's single use plastics items and packaging to establish baseline of single use plastics consumption and identify actions to take. We will take a 3 step approach:

- Step 1. Prevention – We will reduce and eliminate single-use items through behaviour change, such as removing items from our buildings or making non-single use items more available and convenient, and by engaging staff and visitors.
- Step 2. Disposal/Recycling – We will reduce the amount of recycling and improve the way these items are disposed of, again through staff engagement and education, as well as by working with cleaning contractors and identifying specific mitigation measures around challenging items.
- Step 3. Replacement – Where specific single-use items cannot be easily removed, more sustainable

alternatives will be identified and replaced.

Our vehicles

We will replace all our fleet vehicles, so they are ULEZ compliant before October 2021, including purchasing or leasing of electric vehicles.

We will develop long-term plans to ensure all Council vehicles are powered by electric or renewable fuels sources by 2030 at the latest, with at least 50% of our fleet electric or renewably powered by 2024 and encourage the use of cycles and cargo bikes as work vehicles.

While we are working to replace our fleet, we will improve and make more robust the management of our whole contract fleet to increase efficiency in usage and reduce emissions, including our vehicles covering waste, highways, grounds maintenance, street cleansing, engineering, building contractors, school buses, day care transport. We will maintain the borough's Fleet Operator Recognition Scheme (FORS) Bronze accreditation, which focuses on good driver behaviour such as avoiding speeding and harsh braking and establish improved monitoring of fuel consumption.

Our purchasing

We will purchase all our electricity from 100% renewable energy sources as soon as is practicable and possible.

We will develop a phased plan to purchase our gas from low-carbon sources, with 100% low-carbon gas purchased by 2030 at the latest and as much as possible low-carbon gas purchased by 2024.

Development of a more sustainable approach to procurement will be an essential component of developing a Circular Economy in Richmond. We will develop a Sustainable Procurement Strategy using social value approaches which will provide a framework against which we have set measurable aims and objectives for integrating environmental and social considerations into our procurement policies and practices allowing the continuous process of accessing our products and suppliers. It will detail the mechanisms that will be used to keep resources in use for as long as possible, extract the maximum value from them whilst in use, then recover and regenerate products and materials at the end their life. We will provide training and guidance to staff involved in procurement, purchasing and commissioning on sustainable and low carbon purchasing.

We will also work with current suppliers in our supply chain and commissioned providers to ensure they are considering climate change and working towards reducing their environmental impact, giving us more confidence that our supply chain is not contributing to climate change.

We will increase the number of deliveries of goods and supplies to the Council can be made using

sustainable methods such as electric vehicles and, where feasible, use of cargo bikes will be encouraged.

We will work with contracted providers to ensure that carbon emissions data is provided where it counts towards the Council's carbon neutral target, which will give us a more accurate picture of our carbon emissions as an organisation.

We will work with the Joint Pensions Committee to look at investment options for the Pension Fund that emphasises sustainability. The legal requirement for the Pension Fund to detail how it approaches environmental, social and governance issues is currently being actively reviewed by the Joint Pensions Committee, who have engaged consultants to look at options for enhancing the current arrangements and have tasked officers with procuring services which will evaluate the Fund's current carbon footprint. Low carbon investment options will be reviewed ahead of the triennial Strategic Asset Allocation Review.

Our approach to the way we work

We will develop robust carbon emissions measurements to establish a baseline of carbon emissions for the Council as an organisation, allow us to monitor our emissions and map when, where and by how much our emissions will reduce by as we deliver our target of being carbon neutral by 2030.

We will roll out a programme of Carbon Literacy

training to Richmond staff, increasing the knowledge of staff across the organisation around climate change and low carbon approaches. We will achieve Gold level accreditation from the Carbon Literacy Project by April 2022, with over half of our staff being registered as Carbon Literate by this time.

We will encourage staff to use more sustainable and low carbon forms of travel and to switch to active travel. We will introduce staff groups to promote sustainable travel, improve cycling related facilities, map and share low traffic and safe cycle routes between Council sites. We will use car clubs and electric vehicle pool cars for work related travel where public transport or active travel is not possible. We will invest in smart technology that will enable colleagues to work remotely and reduce the need for unnecessary journeys.

We will look at the energy consumption of our IT service, carrying out an audit and establishing where energy use can be reduced, ensure we are in line with best practice in this area and following DEFRA guidance.

We will increase the amount of external funding gained by the Council to deliver climate change related projects and approaches. We will seek out any capital funds that are available to deliver infrastructure and investment based actions around climate change, including CIL, SALIX, the minimum energy efficiency fund, Carbon Offset Fund and

any other funding streams made available by the government.

We will also develop a communications strategy around climate change, which will steer our communication initiatives within the organisation to increase staff awareness and promote the take-up of new approaches.

A full list of actions we will undertake is attached at Appendix A

WHERE WILL WE BE IN 2024

Where we will be in 2024

We will have made significant progress in reducing our emissions as an organisation and will have a clear, funded, monitorable and deliverable pathway towards achieving our goal of being carbon neutral by 2030.

Our estate will have drastically reduced its energy demands, with negligible emissions from our electricity use, increased low carbon gas use and a significant portion of our energy demands being met from on site or local renewable sources.

We will be single use plastic free and have significantly reduced the waste we generate as an organisation.

The majority of our vehicles will be electric or renewably powered, with a clear plan on how to fund the conversion of all remaining vehicles.

The circular economy will be embedded as an approach in our purchasing, with suppliers and providers clear that if they wish to work with Richmond Council, they will need to be working in low carbon ways and actively reducing their carbon emissions.

Our staff will be one of the most carbon literate local authority workforces in the country. We will have delivered a sea-change in how we as an organisation deliver our services, with low carbon impact and sustainability at the heart of how we design and deliver services to the community.



OUR LEGACY: CLIMATE CHANGE MITIGATION AND ENERGY EFFICIENCY

Our Ambition

We will work with our residents, communities, businesses and partners to engage, involve and support them in tackling the climate emergency. We will share knowledge and approaches with them, ensure that the built environment is sustainable and can support them as climate change occurs and that they can live their lives in ways that reduce carbon emissions. We will ensure Richmond is able to plan, measure and respond proactively to the effects of climate change and the implications of resource scarcity.

The Context

Key Drivers and the Richmond Context

Greenhouse gases (GHGs) are the gases emitted by human activity that contribute to the greenhouse effect which drives climate change. There are many gases that contribute to this, among them methane, nitrous oxide, chloro and hydro fluorocarbons and Sulphur Hexafluoride. Carbon dioxide (CO₂) is the most common greenhouse gas emitted by human activities, in terms of the quantity released and the total impact on global warming, accounting for about 81 per cent of the UK greenhouse gas emissions in 2017. As a result, the term “CO₂” or “carbon” is sometimes used as a shorthand expression for all greenhouse gases.

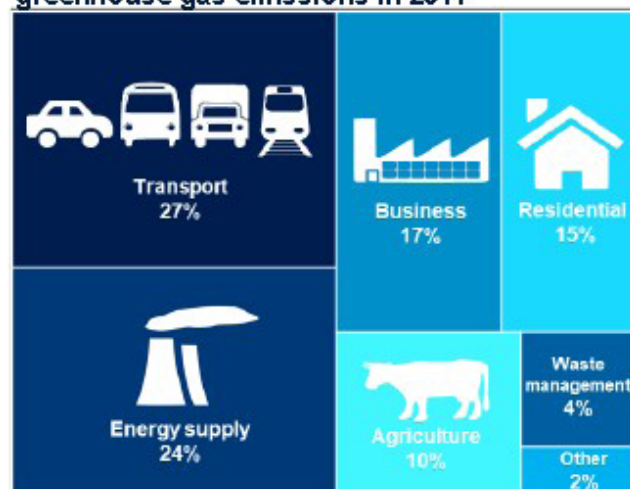
On a global level, the UK’s carbon impact is not as high as some other countries. The table below (based on International Energy Agency data from 2016) highlights how the UK compares to other countries in terms of per capita CO₂ emissions:

Country	Per capita Co2 emissions (metric tonnes)
United States	14.95
Canada	14.91
South Korea	11.50
Russia	9.97
Japan	9.04
Germany	8.88
China	9.04
UK	5.65
Italy	5.37
France	4.38
Brazil	2.0
India	1.57
OECD average	9.02

Based on International Energy Agency data from 2016 the US is the largest per capita contributor to global warming with emission of 14.95 tonnes per person. Canada is high on the list due to the vast distances between population centres leading to proportionally higher emissions from transport, industry and energy. South Korea is third highest with much of their energy still produced from burning coal and an economy with a higher proportion of high energy manufacturing operations than comparative G20 countries. The UK, Germany, Italy and France

have CO₂ emissions per capita below the OECD average. However, China is the biggest emitter overall contributing 9430 Mt Co₂e (amounting to 21.5% of all greenhouse gas emissions), followed by US with 12.5% and EU28 with 9.66%.

Transport was the largest emitting sector of UK greenhouse gas emissions in 2017



Other includes Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors (note that LULUCF acts as a net sink of emissions). The percentages may not sum to 100% due to rounding.

UK Greenhouse gas emissions; final figures⁸

In the UK in 2017, transport and energy supply were the biggest areas of greenhouse gas emissions, making up over half of UK emissions:

Energy supply and the residential sector delivered the largest reductions in emissions from 2016 to 2017

	2016-2017 % change	1990-2017 % change
Transport	↔ 0%	↓ 2%
Energy supply	↓ 8%	↓ 60%
Business	↓ 2%	↓ 30%
Residential	↓ 4%	↓ 16%
Agriculture	↑ 1%	↓ 16%
Waste management	↑ 1%	↓ 69%
Other	↓ 2%	↓ 88%

The energy supply sector has accounted for around half of the overall reduction in UK emissions since 1990, at which point it accounted for 35% of all emissions in the UK. It was the largest emitting sector until its emissions fell below transport in 2016.

⁸ 2017 UK greenhouse gas emissions: final figures (Department for Business, Energy & Industrial Strategy). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/776083/2017_Final_emissions_statistics_one_page_summary.pdf

Climate Change Mitigation is the reduction or prevention of greenhouse gases, which are the gases fuelling global climate change. Mitigation approaches can include using newer technology, renewable energy, changing consumer behaviours (either our own or persuading others) and reducing energy use through energy efficiency.

While many of the drivers for climate change operate at a national and at a global level, there is still influence that the Council have on these. A Local Authority has a powerful local voice that enables it to campaign and lobby on vital social issues, indeed this is part of the history and tradition of local government within the UK. Therefore, the Council can be a campaigner on climate change on behalf of and in conjunction with its residents and communities. Likewise, joining up with other local London Boroughs and with all London Boroughs can create an even more powerful voice in terms of lobbying and campaigning around climate change for our residents.

As a trusted source of information, the Council can encourage changes in consumer habits, highlight practical information and advice that people can act on and be supportive of action that residents wish to take on climate change. The role of community is key in dealing with Climate Emergency. The wholesale change that is required in the way that the economy and society is organised cannot come simply through the local authority trying to shout loudly; it requires action from people to pressure all levels of government, as well as businesses and corporations big and small to change the way they operate.

The buildings across the borough are a key driver in climate change, as will be seen in a following section our buildings are a major source of carbon emissions through their energy use. Local planning policies and regulations that are decided by the Council and are enforced by the Council can have a big influence on the future of the buildings in the borough. In terms of planning, the Local Plan is key, setting the framework on which all other planning policies hang.

The Council does not own or directly manage social housing but works in partnership with social housing and private landlords to address housing issues and ensure compliance with legislation such as the Energy Efficiency Regulations. Likewise, privately owned houses will need to be improved in order to ensure we are driving down the energy requirements for the borough.

Around transport, the Council has less direct control due to many responsibilities around transport lying with national government and Transport for London. However, there are direct challenges that include:

- Influencing the behaviour of residents in the borough and encouraging 'modal shift' away from the highest emitting forms of transport towards the lower emitting forms of transport where possible, following the transport hierarchy, below:
- Addressing socio economic factors, such as the impact of climate change on the most vulnerable in society. We will ensure changes and improvements will have lasting benefits for the whole community.



Legislation and Policy

The UK has ratified the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol, and the Paris Agreement, which are international treaties and frameworks designed to tackle climate change. As a current EU member state, the UK is covered by the EU's Nationally Determined Contribution for the reduction of greenhouse gases (GHGs) under the Paris Agreement. This obligates the EU to reducing its GHGs by 40 per cent by 2030 compared to 1990 levels.

The UK is currently bound by EU climate change legislation which includes the Energy Efficiency Directive 2012, the EU Emissions Trading System and the Renewable Energy Directive 2009. The EU's climate and energy package requires member states to achieve the following:

- improvements in energy efficiency and savings
- reductions in GHG emissions from 1990 levels via the EU Emissions Trading Scheme
- increases in the share of energy from renewable sources

The Mayor of London's Environment Strategy was published in May 2018 and sets out a number of key aims for London, including making London a zero-carbon city by 2050, with energy efficient buildings, clean transport and clean energy. Key actions and approaches within the strategy include improving

energy efficiency in all buildings, increasing communal heating networks using local energy sources, increase solar power energy generation, ensure new developments are zero carbon and trialling low carbon technologies like heat pumps and batteries.

The Climate Change Act 2008 established the longstanding framework for the UK's plan on dealing with climate change. The act encourages the transition to a low carbon economy in the UK through setting national targets. Under the Climate Change Act 2008, local authorities are committed to an 80% emissions reduction by 2050 compared to 1990 levels and to build the UK's ability to adapt to climate change. To ensure that regular progress is made towards this long-term target, the Act also established a system of five-yearly carbon budgets. The current carbon budgets commit the UK to 17% emissions cut by 2020 on 2010 levels (34% emissions cut on 1990 levels) and a 50% cut by 2025. In June 2019 the government amended the Climate Change Act and set a new target of zero carbon by 2050.

The Committee on Climate change was formed under the Climate Change Act 2008 and is an independent, statutory body. Its purpose is to advise the UK Government and Devolved Administrations on emissions targets and report to Parliament on progress made in reducing greenhouse gas emissions and preparing for climate change. The

committee provides independent advice for setting and monitoring carbon budgets and targets. It also conducts independent analysis into climate change science, economics and policy and engages with a wide range of organisations and individuals to share evidence and analysis.

The UK Government's 2017 Clean Growth Strategy outlines the policies that are intended to meet the UK's carbon budget. The key policies in the Clean Growth Strategy focus on:

- green finance capabilities
- improving the efficiency of homes and rolling out low-carbon heating
- accelerating the shift to low-carbon transport delivering clean, smart, flexible power (including the phase out of unabated coal in energy production by 2025 and improving the route to market for renewable technologies such as offshore wind)
- leading in the public sector (with tighter targets for 2020 for central government)
- government leadership in driving clean growth (including annual reporting on performance).

The Mayor of London's environment strategy was published in May 2018 and sets out a number of key aims for London, including making London a zero-carbon city by 2050, with energy efficient buildings, clean transport and clean energy. Key actions and

approaches within the strategy include improving energy efficiency in all buildings, increasing communal heating networks using local energy sources, increase solar power energy generation, ensure new developments are zero carbon and trialling low carbon technologies like heat pumps and batteries.

Where Richmond is now

The Department for Business, Energy & Industrial Strategy (BEIS) produces a breakdown of carbon dioxide emissions by Local Authority area as a subset of its annual inventory of greenhouse gas emissions. The BEIS data shows that Richmond's per capita emissions have reduced significantly over the past 12 years, from 5.7 tonnes per capita in 2005 to 3.3 tonnes per capita in 2017. The BEIS data also offers a sectoral analysis, which shows that 49% of emissions for the borough originate from domestic sources, including domestic electricity and gas usage. By analysing different sectoral reductions from 2005 to 2017 it is possible to see that biggest areas of emissions reduction came from Industry and Commercial Electricity use (63.93% reduction) as well as Domestic Electricity use (55.16% reduction). This can be attributed to the progress that has been made in the decarbonisation of the national electricity supply.

The SCATTER (Setting City Area Targets and Trajectories for Emissions Reduction) tool has been developed by Anthesis, a sustainability consulting

company, in partnership with the Department for Business, Energy and Industrial Strategy, Nottingham City Council, Greater Manchester Combined Authority and The Tyndall Centre for Climate Change Research (a partnership between 6 universities and a world leader in climate change and emissions measurement). The SCATTER tool allows local area to identify and calculate the main sources of emissions in their local area and better understand carbon reduction scenarios. Analysis of the data shows that the biggest area of emissions by far is that of stationary energy (emissions from the combustion of fuel in buildings, manufacturing industries, construction processes and power plants) at 67.7%, followed by transportation (combustion of fuel or use of electricity during journeys travelled by road, rail, air or water for inter-city and international travel) at 30.3%. For stationary energy, the largest area of emissions is from residential buildings at 66.35%, with the rest spread between Institutional, Industrial and Commercial buildings and facilities. In terms of transportation, emissions from this sector are dominated by on-road (60.94%) and aviation (39.05%). The data shows that the largest source of emissions in the borough is from energy consumption (gas and electricity) used in people's homes.

It should be noted that the emissions calculated from the BEIS data and SCATTER tool is focused on the direct activity carried out in the borough (for example the power requirements for homes, offices and factories and transport attributable) but does

not reflect the consumption patterns of the populace (for example the carbon footprint of our residents' consumption of food, purchasing of clothes or electronics). Calculating carbon footprints on this scale and in a reliable way to measure impact from interventions by a local authority is not currently possible.

Further analysis from the Tyndall Centre has also been carried out that calculates climate change targets for Richmond that are derived from the commitments made in the Paris Agreement and are informed by the latest science on climate change. The report provides Richmond as a borough with budgets for carbon dioxide (CO₂) emissions from the energy system for 2020 to 2100. It sets out that Richmond will need to deliver cuts in emissions averaging a minimum of -12.4% per year to deliver a Paris aligned carbon budget, with zero or near zero carbon reached in 2043.

At 2017 CO₂ emission levels Richmond upon Thames would use this entire 80 year budget within 7 years from 2020.

This highlights the scale of the challenge that faces the borough as a whole if we are to be aligned to the Paris accord and reduce our greenhouse gas emissions to try and keep below 1.5c of warming. It also brings into stark focus the need for an immediate and rapid programme of decarbonisation.

59% of residents use active and sustainable methods of transport such as walking, cycling or public transport. This compares to an average of 63.5% for London boroughs. There is a marked difference between inner and outer London boroughs, with outer London boroughs such as Richmond having a lower level of sustainable travel. Access to public transport varies across the borough, with Public Transport Accessibility Levels (PTALs), which capture the availability of public transport options, ranging from 6a (the second highest level) in Richmond and 5 in Twickenham, to PTAL 2 and below in most of the borough. There is some correlation between car ownership and PTALs, with lower car ownership levels in Richmond and Twickenham. Overall, car ownership in Richmond is 79,704, compared to a London average of 87,344 and an outer London average of 108,159, and a car per head ratio of 0.40, compared to a London average of 0.31 and an outer London average of 0.39.

Linked Strategies

The London Borough of Richmond upon Thames Local Plan sets out policies and guidance for the development of the borough over the next 15 years and includes how the borough can minimise and mitigate the effects of climate change by requiring high levels of sustainable design and construction including reductions in carbon dioxide emissions by minimising energy consumption, promoting decentralised energy and the use of renewable energy as well as requiring high standards of water efficiency. The Local Plan also promotes safe and

sustainable transport choices, including public transport, cycling and walking, for all people, including those with disabilities. It encourages improvements to public transport, including quality and connectivity of transport interchanges, and the use of Smart City technology and practices.

In addition, our Cycling Strategy supports measures to support the development of an integrated, comprehensive and high-quality cycling network and encourage cycling as a sustainable form of transport.

The Richmond Active Travel Strategy aims to make the best use of the streets in Richmond and to provide a basis for prioritising the needs of different users above others. It has a focus on supporting space efficient, non-polluting forms of transport that underpin Council actions to encourage healthy lifestyles for all citizens. The strategy includes a range of measures which aim to enhance local walking and cycling trips and to provide safe connections between local areas. This strategy has been developed to support and build on complementary approaches to different areas of traffic, transport and air quality policy and practice.

Our Approach Our communities

We will develop a wide ranging communication and engagement programme that is climate science based and will encourage a change of consumer habits. We will support residents, communities and

businesses with information on what they can do to reduce their carbon impact and showcase local examples of good practice.

We will encourage and support community action in dealing with the climate emergency, including community energy schemes, climate cafes and local community action events.

We will continue to engage directly with the community on climate change, listening to what people want from us as a Council and ensuring we are doing all we can to support and enable action on climate change.

We will increase our lobbying on key issues around climate change, including opposing fracking and other fossil fuel extraction and campaigning for cheaper and cleaner public transport. We will work on a London-wide and South-West London basis with local authorities and other public sector bodies to lobby London and national government for action and funding to deal with the Climate Emergency.

We will establish a Richmond Offsetting Fund, into which residents can pay voluntary contributions will be used to fund carbon offsetting projects within the borough.

We will continue our work on fuel poverty, targeting energy efficiency measures for vulnerable residents' homes and continue to offer a household winter fuel grant to those at risk of living in fuel poverty.

Our buildings

We will ensure that the high standards of sustainability, low carbon design and climate change resilience set out in our Local Plan and in national planning guidance are adhered to, so that new development in the borough properly takes into account climate change. Increased priority will be given within planning applications to climate change impacts and carbon emission reductions. We will include robust Construction Management Plans that minimise carbon emissions during construction.

While developing the next iteration of the Local Plan we will further strengthen sustainability, low carbon design and climate change resilience. We will look to go even further beyond London Plan / Building Regulations standards, reducing carbon, promoting on-site heat and electricity generation and designating Heat Network priority Areas.

We will increase the Borough's carbon offset price for its Carbon Offset Fund of £60/tonne to £95 per tonne of CO2 in line with the proposed new London Plan target.

Our streets

We will develop an electric vehicle infrastructure by ensuring a faster roll-out of electric vehicle charging points for residents and continue to install lamp column charging points across the borough.

We will change our approach to travel in the borough, encouraging a shift away from cars towards more sustainable, low carbon and active forms of travel. To do this we will review our policies around parking, including consulting on differential parking permit charges for higher polluting vehicles and pilot reallocation of kerbside on street parking to alternative uses such as cycle storage, parklets, trees and sustainable drainage such as rain gardens. We will improve access to car clubs for residents and businesses and further encourage cycling, including e-bikes.

Our partners

We will work closely with key partners across the borough to share information and approaches on climate change, work together to develop joint approaches and support each other in our efforts to reduce carbon emissions.

This will include the development of a Richmond Climate Charter, outlining a commitment to reducing emissions through improved energy efficiency, reduced use of vehicles emitting CO2 and particulates and a commitment to sustainability through the integration of environmental, social and economic

considerations into all aspects of the activities. We will encourage schools and colleges, key businesses, visitor attractions (such as Kew Gardens, Hampton Court Palace and sporting venues like Twickenham Stadium and the Stoop) and social housing providers in the borough to sign up to Richmond Climate Charter and actively encourage members to conduct their activities in an environmentally, socially and economically responsible manner.

We will work with housing providers to promote energy efficiency and retrofit in their properties across the borough as well as opportunities for renewable energy generation on their estates, alongside promoting activity to reduce fuel poverty.

We will work with private sector landlords and homeowners to promote energy efficiency and retrofit in their properties as well as opportunities for small scale renewable energy generation.

We will work closely with schools on promoting sustainable travel for pupils travelling to and from school, as well as approaches such as School Streets. We will also work with schools on promoting energy efficiency and renewable energy generation within their estates.

A full list of actions we will undertake is attached at Appendix A

WHERE WILL WE BE IN 2024

Where we will be in 2024

We will have engaged in a deep and meaningful way with local residents and communities so that their views on climate change have been taken into account and action taken to address them. We will have residents and communities who are fully aware of what action is required to tackle climate change, are active in taking individual and collective responsibility for living in low carbon ways and are comfortable in demanding that the Council, public sector bodies and businesses are taking the Climate Emergency seriously while also being supportive to fellow residents.

Our planning policies will be at the forefront of sustainability, so that developers seeking to build in Richmond know that any design will need to be of the highest standards in terms of sustainability and low-carbon.

We will have reduced the demand for car parking as our residents increasingly switch to more sustainable and active forms of travel, so that owning a car is no longer felt to be necessary.

We will have created a borough where if people do own a vehicle, an electric vehicle is the default due to the ease with which people are able to run them.

We will be working closely with partners across the borough and beyond on carbon emissions work and sustainable approaches that are impactful.

Housing providers, private landlords and homeowners will have retrofitted a significant number of properties in the borough to improve their energy efficiency and include renewable energy generation, with even more making plans to do the same.



OUR WASTE: WASTE AND PLASTICS AND THE CIRCULAR ECONOMY

Our Ambition

We will embed reduce, reuse, recycle into everything Richmond does around waste. We will work with our residents, businesses and schools to reduce the overall amount of waste generated in the borough and will aim to be one of the top performing boroughs in London for recycling. We are committed to supporting residents to reduce the amount of single use plastic they consume and to promote the Circular Economy across the borough.

The Context

Key Drivers and the Richmond Context

Richmond's challenges include a growing and diverse population, increasing numbers of visitors and population, as well as increasing pressure on resources such as parks, open spaces and infrastructure. All these pressures contribute more waste into the borough, which needs to be collected and disposed of appropriately. Litter, flytipping, graffiti, flyposting and dog fouling are all forms of "Envirocrime" that affect us all, causing damage to our environment, our neighbourhoods and our economy.

As a Council, we are responsible for providing a wide

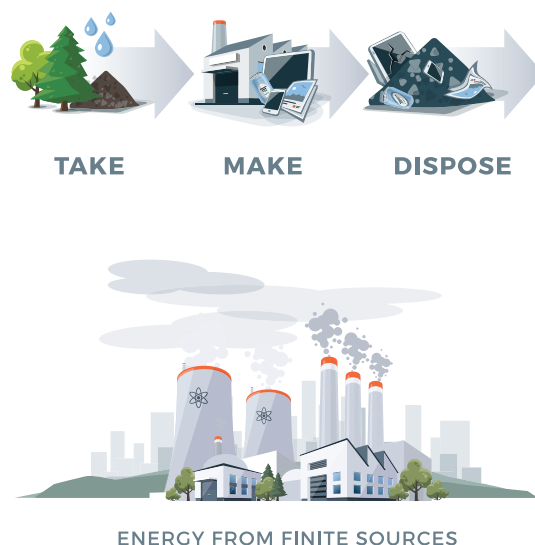
range of refuse collection services to our residents and businesses, including recycling and the collection of food, garden and residual waste. The challenges associated with providing such a varied service will need to be tackled using a mixture of measures which include increasing awareness of recycling practices and encouraging residents to reduce overall waste produced. Richmond's new waste contract is due to start on April 1st 2020 and provides the opportunity to ensure our focus and emphasis is upon recycling and improving public recycling facilities within our streets and parks.

The positive environmental impacts of waste prevention and increased recycling have long been

realised. However, there is now a greater focus on (and growing understanding of) greenhouse gas emissions (such as carbon dioxide, methane and other greenhouse gasses) associated with waste management activities.

There are over 150 million tonnes of plastics in oceans and rivers worldwide. This is of great importance to Richmond because the River Thames runs for over 10 miles through the borough, linking Hampton Court Palace, Richmond Town Centre and Kew Gardens with London. In January 2018, Richmond passed a cross-party motion to combat the problem of plastics by removing single use plastics from Council operations by 2022 and supporting our residents and business to do the same. Plastics are harmful to the environment because they take a long time to biodegrade and can harm wildlife if not disposed of properly. Also, it is very difficult to recycle many types of plastic, meaning they may be more likely to be disposed of via incineration. Plastic is made from oil, a fossil fuel, so is a direct contributor to fossil fuel extraction and a driver for climate change. However, there is complication in the use of plastic. While single use plastic can mostly be seen as harmful, as can plastic, it is important to note that the carbon footprint of a plastic object may actually be less than that of a non-plastic object, due to the need for more energy or water use, or maybe intensive farming practices to grow a natural material that is then processed. But the balance in this may be that a more carbon intensive product that is non-plastic is overall less 'harmful' to the environment.

LINEAR ECONOMY



The main areas where single plastics are currently prolific are single-use food and beverage packaging and tableware. However, one of the most significant challenges with eliminating single use plastics is that they are so ingrained into daily activities the scale is hard to realise.

The Circular Economy is an alternative to the traditional linear economy (make, use, dispose) in which resources are kept in use for as long

CIRCULAR ECONOMY



as possible, we extract the maximum value from them whilst in use, and recover and regenerate products and materials at the end of each service life. The Circular Economy integrates sustainability from sourcing raw materials through design and manufacture to end-of-life re-use as part of the input to the next generation of products. Today's economy is built on a "fast turnover" principle, where the faster we replace our goods and products the better; the Circular Economy moves away from fast turnover

towards a more sustainable model.

In the context of a circular economy, reducing and recycling waste should become less important as waste is designed out of the system. In the shorter-term, it will continue to be important for residents and businesses to reduce their waste and recycle as much of it as possible. Tackling behaviour change is essential to shifting the way we as a society consume products and the demand consumers place on producers and retailers. The Council’s role in this process is to encourage and inform residents about what they can do and ensure that we are putting these practices into action through our own purchasing.

Legislation and Policy

The Mayor of London’s expectation for local authorities is for them to develop Reduction and Recycling Plans (RRPs) by 2020 and be hitting the 65 per cent recycling target by 2030, which should include local reduction and recycling targets that contribute to the Mayor’s London-wide targets within the London Environment Strategy 2018.

The Council has very little control over the quantity or recyclability of plastics in the household waste stream and/or how that is likely to be affected by “Extended Producer Responsibility” proposals contained in the Government’s waste strategy published in December 2018, although it does have full control over its own procurement and contractors.

DEFRA has published its 25 Year Environment Plan, presenting their target of “achieving zero avoidable plastic waste by the end of 2042”. During the 2018 Budget, the government announced that from April 2022 it would introduce a new tax on the production and import of plastic packaging with less than 30% recycled content, subject to consultation.

The London Waste and Recycling Board Circular Economy roadmap is designed to accelerate London’s transition to become a Circular Economy city. The Route Map is an action-orientated document that recommends actions for a wide range of stakeholders, including London’s higher education, local authorities and community sectors.

Where Richmond is now

According to the DEFRA 2018 annual report, Richmond is ranked 6th in London for the highest percentage of waste sent for recycling, composting or reuse:

	Local Authority	%
1	Bexley LB	52%
2	Sutton LB	50%
3	Bromley LB	50%
4	Ealing LB	49%
5	Royal Borough of Kingston upon Thames	48%
6	Richmond upon Thames LB	42%
DEFRA, 2018		

Richmond undertakes circa 293,000 household waste collections per week with the most significant source being waste collected from households. The Waste Management Team have been able to decrease municipal waste from approximately 89,234 tonnes in 2015/16 to 88,785 tonnes in 2017/18. Our performance in terms of residual household waste per household can be seen below:

The drop in residual household waste per household experienced in 2011/12 and 2012/13 was due to a revised approach to quantifying the tonnage of flytipped waste, which is deducted from the total household waste figure used as the denominator for the average calculation.

In addition, Richmond collected 1332.65 tonnes per annum of plastic waste from collections 2017/18.

We currently do not collect any monitoring information or performance data on the Circular Economy

We currently have water fountains in Hatherop Park and Carlisle Park in Hampton, Kneller Gardens in Twickenham, North Sheen Recreation Ground in Kew, Kings Field in Hampton Wick and Palewell Common, East Sheen with fountains in Richmond Green, Buccleugh Gardens and Barnes Green to follow in summer 2019.

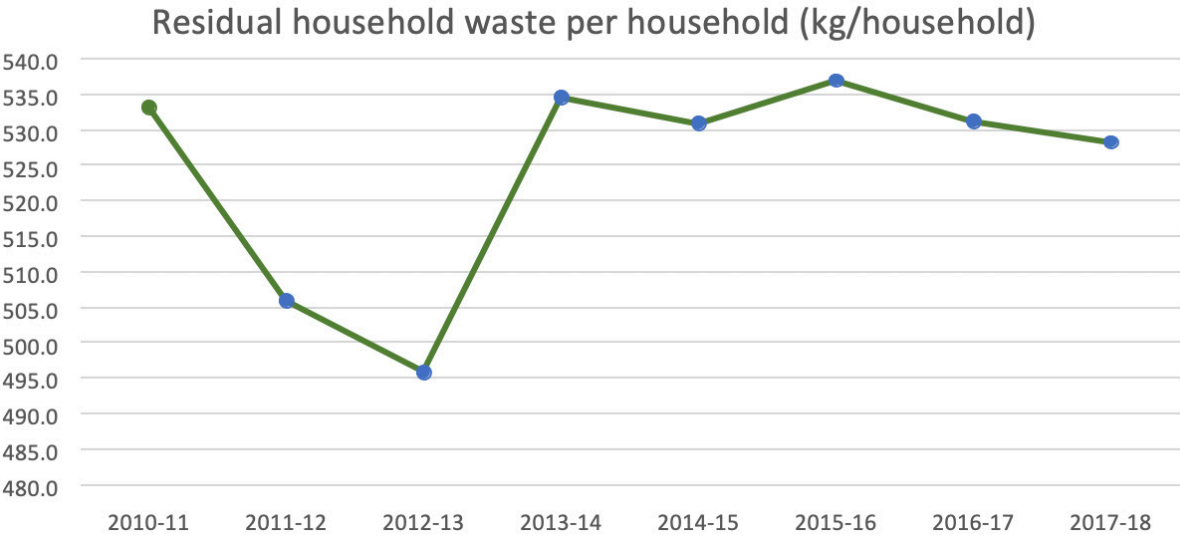


Fig. 1

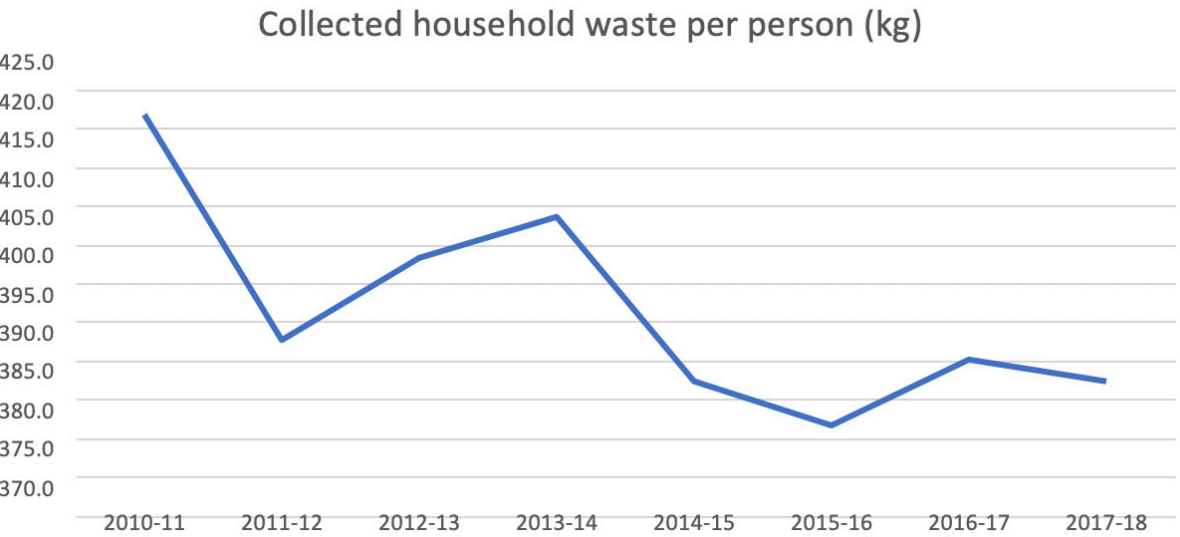


Fig. 2

Linked Strategies

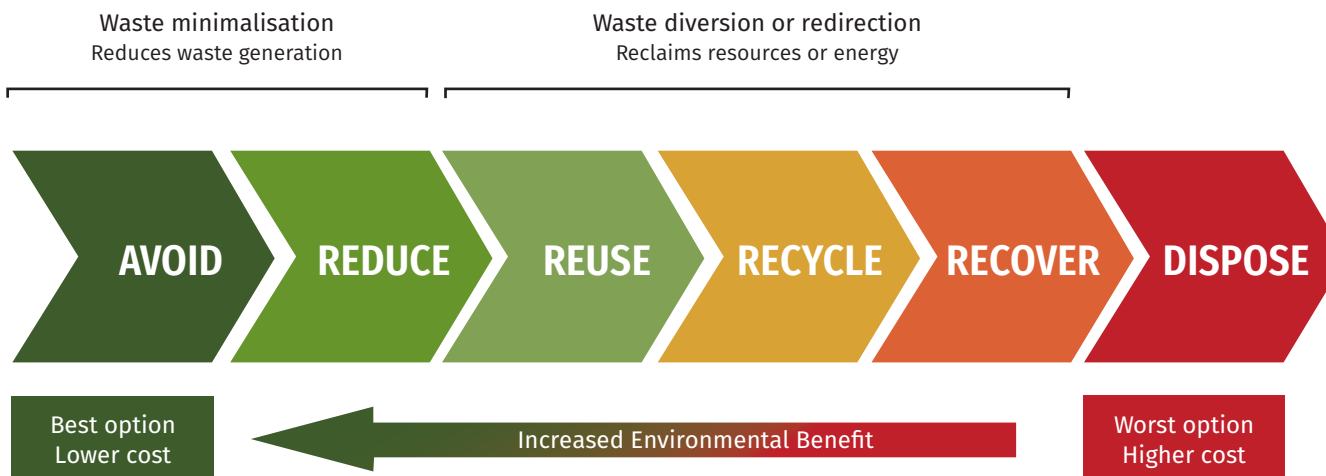
The 2015 West London Waste Plan acts as a framework for all waste in six West London Boroughs (Brent, Ealing, Harrow, Hillingdon, Hounslow and Richmond upon Thames) and the Old Oak Common and Park Royal Development Corporation (OPDC) up to 2031. The Plan contains policy to support site development and promote sustainable waste management and has been designed to ensure consistency and compliance with national government policy and general conformity with the London Plan (2011).

The Local Plan 2018 forms part of the development plan for the borough. The plan will guide decision making on planning applications and inform investment in social and physical infrastructure and cover a number of areas including protecting the local character of the borough, looking towards a sustainable future and meeting the needs to the local residents all of which are interlinked to the issues around waste management and the Circular Economy.

Our approach

The Waste (England and Wales) Regulations 2011 requires the application of the waste hierarchy in priority order:

Our approach will be to embed this hierarchy within the delivery of waste services and promote the



The waste hierarchy

hierarchy to the wider public, avoiding waste where possible as well as reducing and reusing waste and improving recycling and recovery.

Our waste

We will review the suite of policies and contracts that deliver on our environmental objectives, including the separation and disposal of waste and reduction of single use plastics.

We will put in place a new waste and recycling contract in 2020 that will include:

- A vehicular fleet that meets ULEZ standards
- Improved household refuse and recycling collections, improved food waste collection and

provision for food waste from flatted properties

- Enhancement to the existing garden waste collections
- Enhanced commercial waste collections, including recycling options and food waste
- Reuse and recycling opportunities for household bulky waste and electronic items
- Collections from borough-wide Public Recycling Sites

We will undertake a number of changes and trials to the service provided to residents and businesses, including:

- A new contract for textile collections

- Increased participation of schools and educational establishments
- Future options for operation of the Civic Amenity site

We will discourage littering and flytipping by adopting a zero-tolerance approach to enforcement, ensuring that the Fixed Penalty Notice is a first warning for flytipping and exploring increasing fines for littering, as well as increasing awareness of the issue to drive behaviour change.

Our plastic

We will publish a vision for how the borough can be single use plastic free, providing further information and analysis on how deep-rooted the consumption of plastic is within society. As a Council we acknowledge that there is a difference between consumer-driven SUP consumption and need-driven consumption. Single use plastics have a number of uses where alternatives do not match the usefulness of plastic products, including low-cost hygienic medical plastics and flexible plastic straws to assist or enable drinks and liquid food consumption in older adults and disabled groups. We will work towards helping to raise awareness across Richmond of the ten most common consumer single use plastics items and how to reduce their use, including working with Surfers Against Sewage local champions, supporting plastics free community campaigns, encouraging community events to have 'green plans' to minimise waste including plastics and encourage local businesses to

offer refill points to reduce plastic consumption.

We will seek funding to deliver new public drinking fountains in Richmond in appropriate locations where people can access safe and free water. We aim to continue the roll out of fountains by continuing to look for opportunities of funding and suitable locations.

We will work with schools around how they can reduce the amount of plastic that they purchase and consume, including how to work more closely with pupils, who feel very strongly that the reduction in consumption of SUP is a key priority.

We will work with authorities across London to encourage big businesses and corporations to reduce the amount of plastic used in the goods and services that they provide.

Our parks

We will improve the location and signage for bins across the parks, making correct waste disposal easy for park visitors and trial the introduce recycling bins to our parks. We will review our events policy for parks to promote sustainable practices and reduce single use plastics.

Our communities

Improved recycling rates and reduced waste collection cannot be achieved without the help of residents, communities and businesses, so we will

improve our communication, knowledge sharing and promotional materials to ensure that everyone understands what they can do to reduce the amount of waste they produce and increase the recycling rate amongst waste that is produced.

We will work closely with schools to decrease the amount of waste they generate

We will encourage the use of reusable nappies in the borough to decrease this significant source of waste, including looking at the viability of reintroducing a reusable nappy scheme by examining cost, waste reduction and carbon impact of this approach.

We will encourage and support a circular economy within the community by promoting information about what the circular economy is and approaches that encourage it. We will encourage local businesses to adopt low waste approaches to food and packaging, support and encourage the community to set up lending/sharing clubs to reduce consumption and support and encourage mending workshops to stop the waste of old clothes and appliances, promoting an increased focus on repair and reuse.

A full list of actions we will undertake is attached at Appendix A

WHERE WILL WE BE IN 2024

Where we will be in 2024

We will have decreased the amount of total waste per household (tonnes) and increased the percentage of household waste sent for reuse, recycling and composting.

The amount of plastic consumed in the borough will have drastically reduced, with noticeably less plastic pollution in the Thames and single use plastic all but eliminated as a result of increased knowledge among residents and communities and reduction in single use plastic available to purchase from shops and supermarkets.

There will be drinking fountains across the borough, so residents have access to clean fresh water at all times.

The circular economy will be firmly embedded as a concept and approach for the residents and communities across the Borough, with an increasingly thriving community approach to the circular economy driving down the generation of waste.



OUR AIR: IMPROVING AIR QUALITY

Our Ambition

We will develop and deliver an ambitious air quality plan that will make a meaningful change to air quality in the borough with an emphasis on reducing air pollution around schools and town centres. By 2024, we aim to have fewer polluting vehicles on our roads, contributing to an improvement in air quality across the borough.

The Context

Key Drivers and the Richmond Context

The whole of Richmond has been declared an Air Quality Management Area (AQMA) for both nitrogen dioxide (NO₂) and particulate matter (PM₁₀). Air pollution is currently a significant challenge facing London and a high priority issue for residents. In Richmond 51.3% of nitrogen dioxide (NO₂) comes from transport. It is important to remember that when thinking about air pollution, especially that from internal combustion engine vehicles, not all of it is climate active and contributing to climate change. CO₂ emissions from burning fossil fuels is extremely

harmful to the climate but is not generally classified as an air pollutant, whereas particulate matter is extremely harmful in terms of air pollution, but does not cause global warming.

In addition to the AQMA, Richmond has four Air Quality Focus Areas (AQFA). An AQFA is a location that has been identified as having high levels of pollution and human exposure. The focus areas are on the main transport links along Hammersmith Bridge Road at Castelnau; the road between Richmond Circus and Richmond Bridge up to Sheen Road; Chalkers Corner and King Street, Twickenham.

⁹ London Atmospheric Emissions (LAEI) 2016 <https://data.london.gov.uk/dataset/london-atmospheric-emissions-inventory--laei--2016>

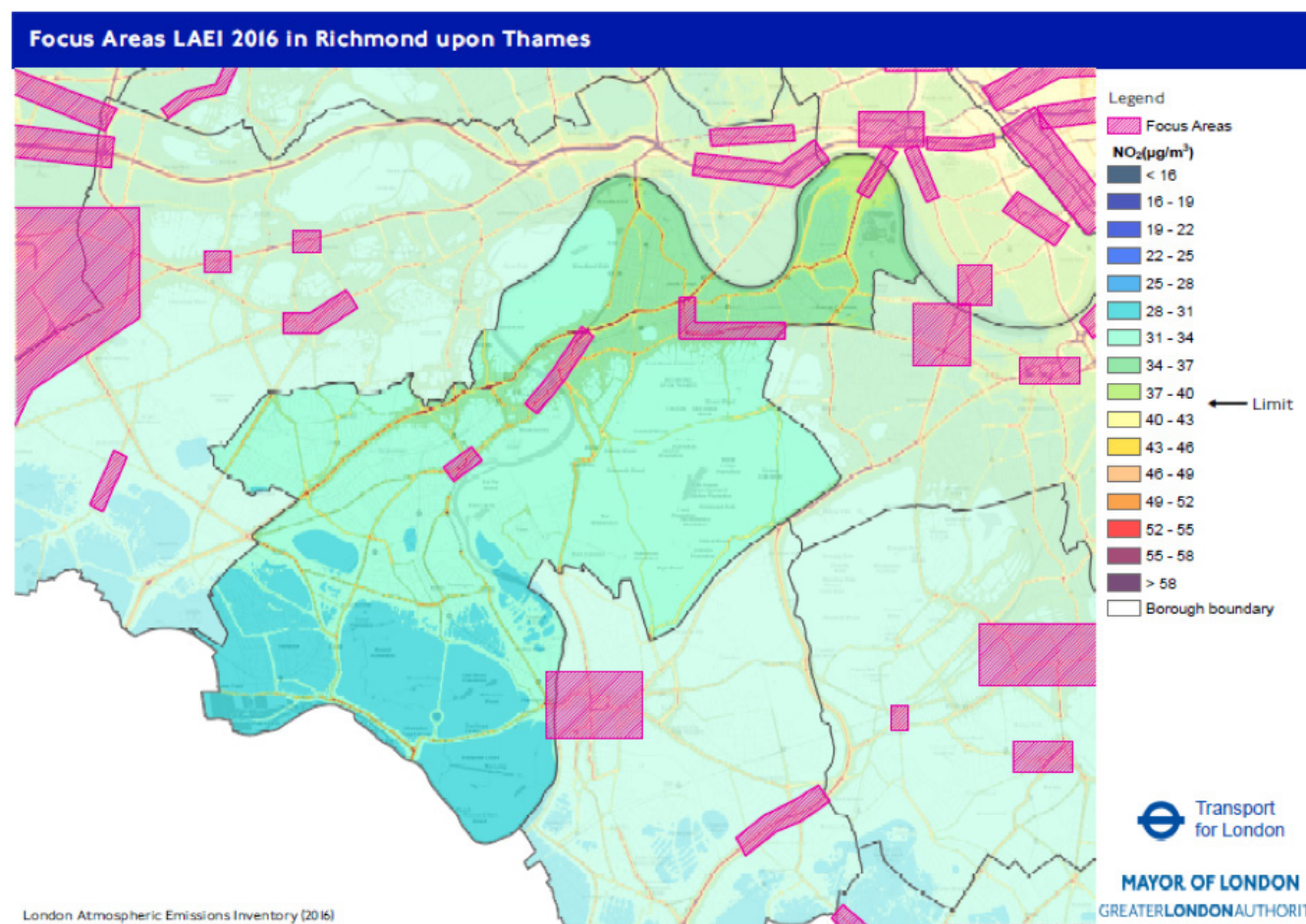
Air quality and climate change are closely interrelated with many common air pollutants being 'climate active'. A warming climate also threatens to make air quality worse with the prevalence of harmful photochemical smog likely to increase throughout longer and hotter summers.

Air pollution in Richmond comes from a variety of sources. This includes pollution from sources outside of the borough, and, in the case of particulate matter, a significant proportion comes from outside of London and even the UK. For these sources the Council has limited control. However, local sources are primarily from road transport and from development and buildings, which Richmond may be able to influence.

Sources of air pollution in Richmond include:

- Buildings; heating and cooling of homes and workplaces
- Construction; dust and emissions from construction and demolition activities including non-road mobile machinery
- Road transport; private vehicles, public transport, taxis and private hire vehicles, HGVs (delivery and service vehicles)
- Wood burning, such as garden waste bonfires and domestic wood burning (open fireplaces and stoves)

Long term exposure to air pollution can cause chronic conditions such as cardiovascular and respiratory diseases as well as lung cancer, leading



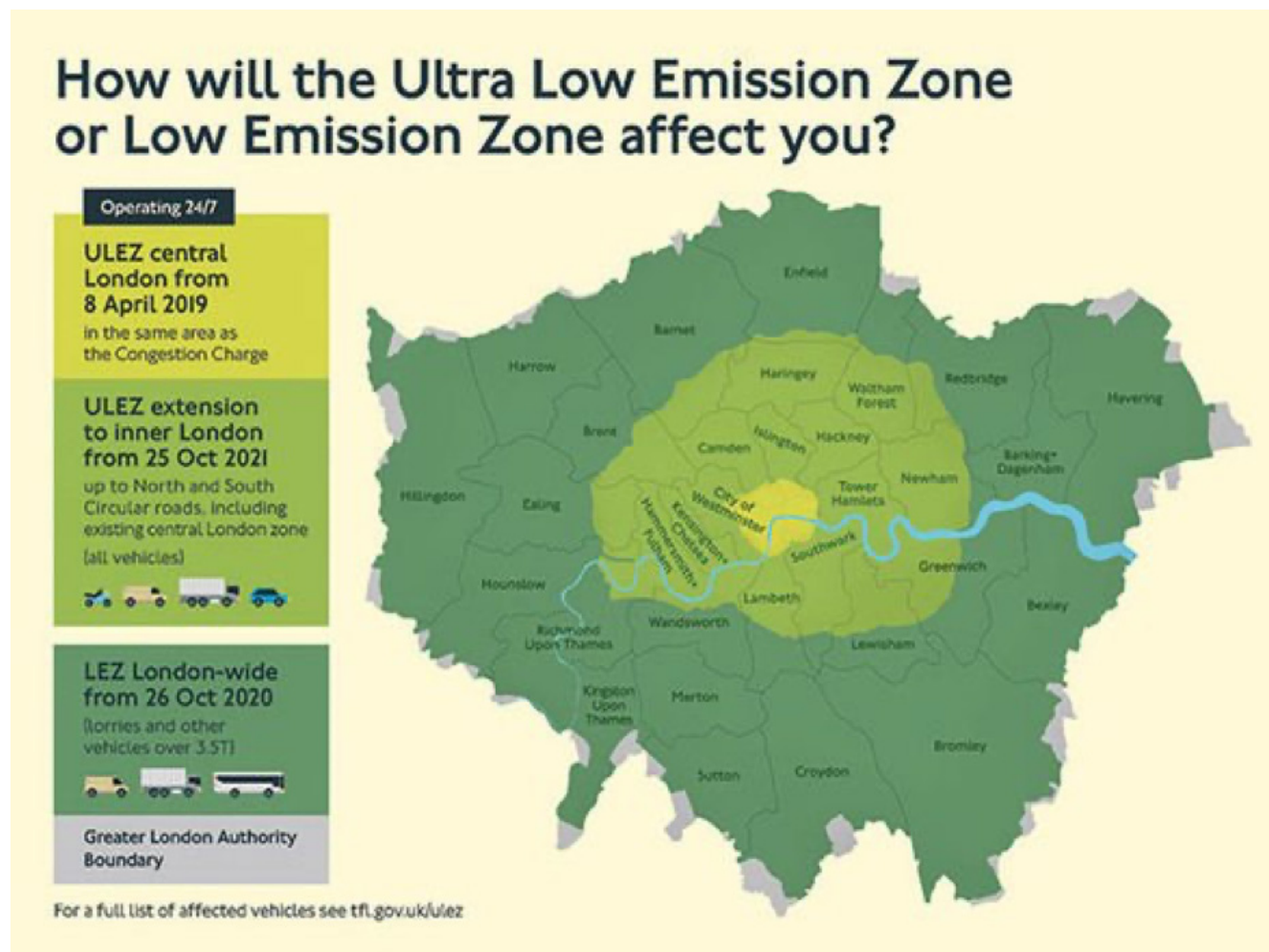
Map of London Borough of Richmond upon Thames - Air Quality Focus Areas (GLA 2013)

to reduced life expectancy. Short-term exposure to elevated levels of air pollution can also cause a range of health impacts, including effects on lung function, exacerbation of asthma, increases in respiratory and cardiovascular hospital admissions and mortality.

From 8 April 2019 the ULEZ replaced the T-Charge and operates within the current Congestion Charging Zone (CCZ). From 25 October 2021 the ULEZ will expand to the inner London area bounded by the North and South Circular roads. The ULEZ expansion will dissect Richmond along the south circular and the part of the borough within the zone will have to adhere to the standards set. For those areas that fall outside of the ULEZ we can use policies under our control to tackle vehicles in the borough through the use of parking permits and charges. In those areas of highest pollution, we can create Clean Air Zones that can directly tackle the individual type of vehicle passing through these areas.

Legislation and Policy

Air Quality Management is a statutory responsibility for local government and Part IV of the Environment Act 1995 sets out the legal requirements upon local authorities to assess air quality and act to reduce pollution where it is in excess of the EU Limit Values. The government's Clean Air Strategy 2019, sets out how UK's plans for dealing with all sources of air pollution, making air healthier to breathe, protecting nature and boosting the economy. The strategy covers improved monitoring, targets for reducing exposure



ULEZ Map, TFL, 2019

to particulate matter, protecting the environment, clean growth and actions for different sectors of the economy.

The Mayor of London’s Environment Strategy sets out a roadmap of how London is to become a zero-carbon city by 2050, and includes the aim for London to have the best air quality of any major world city by 2050, going beyond the legal requirements to protect human health and minimise inequalities. The Mayor’s actions include phasing out fossil fuels in London’s transport system, introducing and expanding the ULEZ, seeking additional powers to enforce air pollution controls and working in partnership.

Where Richmond is now

Richmond has developed an Air Quality Action Plan (AQAP) as part of our duty under the London Local Air Quality Management statutory process and in recognition of the legal requirement on the local authority to work towards air quality objectives under Part IV of the Environment Act 1995, where local authorities are required to assess air quality and act to reduce pollution where it is in excess of the EU Limit Values.

The latest monitoring results for 2018 confirm that air pollution in Richmond still exceeds the EU Limit Values, and therefore there is still a need for Richmond to be designated as an Air Quality Management Area and to pursue improvements in air quality. The Council routinely monitors nitrogen dioxide (NO2), particulate

matter (PM10) and Ozone (O3).

In Richmond, based upon the average percentage contribution of sources to NOx concentrations, transport contributes an average of 55%, other local sources including gas heating an average of 21.2%, non-road transport an average of 3.4%, with regional background sources (pollution from neighbouring areas carried by the wind) contributing an average of 20.2%..

The current Public Health Outcomes Framework (PHOF), produced by Public Health England, provides an indication of differences in life expectancy and healthy life expectancy between communities. The fraction of mortality attributable to particulate air pollution (Indicator 3.01) for Richmond upon Thames is as follows:

Region/community	Particulate air pollution
Richmond upon Thames	5.1
London Region	5.6
England	4.7

Source: Public Health Outcomes Framework – Public Health England (website accessed May 2017)

The PHOF data indicates that the fraction of mortality attributable to particulate air pollution is slightly below the average value for the London region but is

higher than the average for England.

Data from the London Atmospheric Emissions Inventory also provides an estimate of proportion of the total population of Richmond that are subject to NO2 concentrations in excess of the annual mean UK AQ objective of 40µg/m3. Based on modelled data for 2013 this was slightly in excess of 13%. The table below provides a comparison of this statistic against other boroughs in the South London Sub-Region and indicates that Richmond has the second highest population exposed to NO2 in excess of the objective.

Borough % Population in borough > 40µg/m3 (LAEI 2013)	
Wandsworth	33%
Lewisham	17%
Ealing	16%
Richmond upon Thames	7%
Kingston	6%
Croydon	4%
Merton	6%

The air quality team have been working on a comprehensive body of work with the aim of improving air quality in the borough. This includes a robust borough-wide monitoring programme to measure and assess air quality and a series of awareness-raising programmes at schools in hotspot areas over the last 24 months. There has been tree

planting alongside St Stephen's Primary School (Twickenham) plus green screening in Winchester Road, installation of a green screen in East Sheen Primary School (Sheen) and school travel plans have been encouraged through the TFL Sustainable Travel: Active, Responsible, Safe programme (STARS). The Council's team of instructors offer training that is in line with National Standards bikeability standards all year round to Year 6 pupils in all borough and some independent schools. The Council will also work with any school that requests air monitoring in the immediate area.

"No idling" signage has been erected at the following hotspots: level crossings at Manor Road, Sheen Lane, White Hart Lane, Vine Road; level crossing at Percy Road, Hampton; Richmond taxi ranks; and other hotspots identified around the borough. Successful idling action events have been held with help from the Mayor's team with more action events planned. Enforcement against idling vehicles commenced on March 1st 2019 with a fine applicable if drivers refuse to switch off their idling engine when asked to by an 'authorised person'. Action on idling targets local air pollution incidents, although it does not address wider air pollution across the borough.

Richmond upon Thames aspires to be cyclist friendly. Cyclists are welcome on cycle paths along many roads, on traffic-free cycle paths in Richmond Park and on much of the Thames Path. Improved air quality will result from more travel being undertaken

by bicycle; at the same time, it is acknowledged that current air quality levels may deter some people from cycling.

Linked Strategies

The Air Quality Action Plan examines the key pollutants of concern and the health risks associated with them and reviews the concentrations of these pollutants in the borough looking at the legal framework which can protect health, along with actions that can, and are, being taken at national, regional, local and individual level to improve air quality and protect individuals.

The borough's Cycling Strategy and Active Travel Plan, and School Travel Plans that are produced by schools working with the Council, promote sustainable travel.

The Local Plan adopted in 2018, sets out policies and guidance for the development of the borough. Air quality improvement is a key feature within the Local Plan as the whole borough is an Air Quality Management Area. The Local Plan ensures that air quality impacts are duly considered, and that specific requirements or limitations be placed on new development particularly in areas of existing poor air quality and Air Quality Focus Areas.

Richmond's Electric Vehicle Recharging Strategy 2016-2026 realises the latent and potential demand and addresses the concerns of EV users. Our vision is that, by 2026, Richmond's residents and businesses will

be able to use electric vehicles every day and for any purpose. They will be confident that they will be able to recharge them quickly and conveniently, taking advantage of their lower cost operation and in doing so helping to improve air quality in the borough.

Our approach

The Council will deliver an Air Quality Action plan (AQAP) to tackle all sources of pollution borough wide over the next 5 years 2019 – 2024 which will help the Council continue to meet its statutory obligations for managing air quality, provide a framework for how the Council teams will work to minimise emissions from transport, from existing buildings and new developments, including regeneration projects and how the Council will continue to raise awareness of air quality issues to the public and help them to both do their bit to reduce levels of pollution and help them reduce their exposure to poor air quality.

Our data (monitoring)

We will maintain our extensive monitoring regime in the borough and present quarterly updates through the Air Quality Action Plan

We will continuously review and improve the Air Quality Network, roll out monitoring to schools in area of high pollution and invest in new monitoring equipment

We will encourage and support citizen science activities that actively contribute to identifying and

tackling air pollution in the borough

Our streets

We will introduce approaches that minimise air pollution from roads, including a borough wide 20 mph speed limit, speed reduction measures on key A roads and independent assessment of the air quality impacts of these approaches.

We will introduce a new Clean Air Zone for Richmond Town Centre to reduce polluting vehicles from the most polluted area of our borough.

We will produce an Air Quality Supplementary Planning Document, ensuring that developers focus on air quality throughout the build and life of the development.

We will lobby TfL for cleaner, less polluting models of buses in the borough.

We will develop plans to place restrictions on delivery vehicles in busy high streets and identify funding opportunities and suitable areas for piloting cargo bike deliveries.

Our communities

We will develop a new communications strategy to highlight air quality initiatives and campaigns, actively lead on awareness raising campaigns throughout the borough and share the progress we have made in improving air quality.

We will continue to promote the fact that the whole borough is covered by a smoke control order and continue to enforce the ban on bonfires in council-run allotments.

We will commission an independent report on the nature of diesel parking in the borough to review and evaluate experiences of other boroughs who have trialled diesel surcharges, draw on lessons learned and inform next steps in consulting on the introduction of a diesel surcharge on CPZ parking permits.

We will continue to oppose the expansion of Heathrow Airport, its third runway and further night flights. We will work with other councils, Greenpeace and the Mayor of London to draw attention to the significant impacts an extra 250,000 flights per year and accompanying surface level traffic will have on residents' live.

Our pollution

We will tackle engine-idling as a priority, including increased awareness, enforcement and introducing conditions to reduce emissions food vans.

We will lobby for additional powers on the burning of unauthorised fuels and the use of wood burning appliances and campaign for a Clean Air Policy that is fit for the future

Our schools

We will audit schools in areas of poor air quality and incorporate them into our monitoring and review regime.

We will reduce traffic around schools at drop off and pick up times by piloting 'School Streets', tackling idling vehicles and promoting other approaches such as school travel plans and walking buses..

We will trial Green Wall installations around nurseries and primary schools in the borough.

A full list of actions we will undertake is attached at Appendix A and in the Air Quality Action Plan

WHERE WILL WE BE IN 2024

Where we will be in 2024

We will have improved the air quality in Richmond so that people living, working and travelling through the borough are less exposed to pollutants. In particular our schools will have improved air quality. Our data monitoring will continue, so we are able to clearly show how much air quality has improved and in what areas.

Air pollution from traffic in particular will be greatly reduced thanks to the investigation and possible implementation of Clean Air Zones, less polluting buses and increased delivery by cargo e-bikes.

Our communities will be aware of air pollution and its dangers, and be taking active steps to ensure they minimise their exposure as well as encouraging others to do so. Residents will be clear that if they own a higher polluting vehicle they will pay more for parking.



OUR NATURE: GREEN INFRASTRUCTURE AND BIODIVERSITY

Our Ambition

We will improve and protect the biodiversity and ecology of our green spaces and protect them against the negative impacts of climate change. We will facilitate and support quality networks of green infrastructure capable of supporting biodiversity and resilience against climate change and ensure the consideration of biodiversity both in policy and practice across the Council's services. We will maintain the parks and open space of Richmond as centres of excellence, make them accessible, ensuring high standards across all parks and open spaces managed by the council.

The Context

Key Drivers and the Richmond Context

Richmond upon Thames is one of the richest boroughs in London in terms of the total area of green space, the quality and diversity of parks, open spaces and conservation areas and the wealth of different habitats and species these areas support. The borough is also very rich in both private and publicly owned trees, all of which are key in providing ecosystem services that benefit society and biodiversity. These ecosystem services include cooling of the local environment through evapotranspiration, providing refuge from harmful

solar radiation through shade, sequestering and storing carbon, alleviation of storm water through rain interception and capture within canopies and through root system uptake as part of the trees natural process, reducing the cost of heating and cooling requirements of buildings through insulation and shade, reduction of the urban heat island effect, interception of harmful pollutants and providing habitat for a wide range of biodiversity¹⁰.

Within development sites, protection of existing trees and provision for sustainable tree planting, that includes sufficient soil volume to support mature specimens, is essential in ensuring that the current

¹⁰ GLA: www.london.gov.uk/press-releases/mayoral/air-quality-audits-to-protect-school-kids Hill A. C. (1971). Vegetation: a sink for atmospheric pollutants. Journal of the Air Pollution Control Association, 21, 341–346

population of trees in private property is sustained and enhanced.

In Richmond, like other London boroughs, there are ever-increasing demands on land for new housing, schools, industry, commerce and recreation which could potentially threaten habitats and species. Biodiversity and sustainable development are inextricably linked, as the wealth of species and habitats can be seen as an indicator of our environment and general wellbeing.

Regional climate has a major influence on biodiversity and a potentially changing climate could have a major impact on the borough's biodiversity. Richmond is biodiversity rich, however managing biodiversity in the borough is challenging due to a number of competing factors, including:

- The demand from key infrastructure requirements such as transport and utilities
- Shortage of available land for development in the borough potentially puts pressure on existing green space to be developed, a pressure which has generally been resisted
- Increasing usage of existing green space and parks and the need to protect from over use
- The social value and benefit of access to parks and open spaces upon the health and wellbeing of our population
- The borough has the largest amount of public

open space per head of population of any London Borough, which is hard to maintain in terms of effort and cost

- More than two thirds of Richmond is protected by either open space or conservation area status, resulting in the highest land values of any outer London borough¹¹.

There is considerable evidence that there has been a decline in biodiversity on a global, national and local scale over the years. Therefore, there is a need to conserve the complex and dynamic systems in Richmond which support a wide range of fauna and flora, many of which, such as the Skylark, are threatened on a local and global scale. This is why local Biodiversity Action Plans are considered so important, as they are an aid to reverse this decline and help conserve, protect and enhance species and habitats that are rare, in decline, of importance locally.

Green infrastructure (sometimes in the form of wildlife corridors) provides important movement and feeding resources for plants and animals, strengthens gene pools, provides better species resilience from climate change and can improve resistance to invasive non-native species. Research on urban vegetation suggests that it can help reduce the impact of pollution on people and buildings by acting as a pollution sink. Furthermore, the transport of pollutants from nearby traffic sources

in urban areas can be effectively reduced by using green barriers. Thus, green infrastructure might be a cost effective and easy way to reduce the impact of pollution in near road environments. This is especially important for vulnerable members of the population, such as children, whose lung growth is slowed in areas with high pollutant concentrations. Therefore, a measure to reduce pollution levels at schools situated at roadsides will be of particular benefit

There are at least 1500 species of insect pollinators in the UK. Insect pollinators are very important for food production and biodiversity. The most commonly known pollinators are bumblebees, mason bees, wasps, mosquitoes, flies, beetles, bats and to a lesser extent butterflies and moths. Pollinators transfer pollen from plant to plant while they forage for food, allowing plant fertilisation and the production of seeds in many nuts and fruits that are essential for a healthy diet. Crops such as blueberries, raspberries and grapes need insect pollination to produce good yields of high-quality fruit. The declining numbers of pollinators will make it harder and costlier for farmers to produce crops at the scale that is required for today's demands. Insect pollinators are also responsible for the diversity of plants and wildflowers, creating pleasant countryside and gardens.

¹¹ <https://data.london.gov.uk/dataset/average-house-prices>

Doctors are now prescribing gardening over drugs and it is benefiting people's mental health. Healthy food along with dietary and nutritional improvements can be had from seeking healthier and more sustainable catering through to switching from intensive farming methods to types of local permaculture/ agroecology and re-wilding farming methods. Creating greater access to nature improves both health and wellbeing. Moving from a fossil fuel dependent economy to an inclusive, restorative and Circular Economy as well as protecting natural resources enables people and the environment to flourish sustainably. There needs to be increased understanding of the importance of the health-related risks and impacts of climate change and wider environmental determinants of health within the council so that this strategy and future strategies dealing specifically with Public Health issues of climate change can be effectively taken forward.

Legislation and Policy

Richmond has a duty under the Natural Environment and Rural Communities Act 2006 (NERC Act 2006) to consider biodiversity conservation within all its functions as a public body. The Council is committed to meeting its statutory obligations which govern the protection of biodiversity.

The 2011 publication 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' sets out the biodiversity approach for England, which provides a comprehensive picture of the national

actions needed to improve biodiversity and includes responsibilities for Local Authorities to implement international and EU commitments.

The Mayor of London's Environment Strategy was published in May 2018. It specifically highlights green infrastructure and that London will be the world's first National Park City, where more than half of its area is green, where the natural environment is protected, and where the network of green infrastructure is managed to benefit all Londoners.

The DEFRA 25 Year Environment Plan sets ambitious targets for an increase in the number of trees within the UK. The recently announced Urban Tree Challenge Fund will support the planting of trees in urban areas. The London Plan, Policy 7.21 (Trees and Woodlands) states that trees should be protected, maintained and enhanced. The Town and Country Planning Act 1990 provides a legislative framework for the protection of trees.



Where Richmond is now

Richmond upon Thames is the only London Borough on both sides of the River Thames, containing both tidal and non-tidal river habitats, and contributes to over 50% of the Lowland Acid Grassland in London, a National Priority Habitat.

The London Borough of Richmond upon Thames is one of the greenest London boroughs with over 57% of the borough as green open space, including over 130 Council owned and managed parks. 27 Council owned sites are managed primarily for nature conservation and many more are partially managed for biodiversity and wildlife. The Council Parks Service is directly responsible for the management of over 25% of this land.

The borough is responsible for over 26,000 trees within Highways, Parks & Open Spaces, Cemeteries and Corporate Property. Within private property the population and composition of trees is not known. However, the borough is host to some large land owners such as the Royal Botanic Gardens at Kew, Royal Parks, Historic Royal Palaces and many golf clubs, all of which are rich in canopy cover. Various species of tree within the borough are particularly vulnerable to the effects of climate change: this was evidenced in 2018 where a long, hot summer resulted in high mortality rates of trees both native and non-native, including Rowan (*Sorbus aucuparia*) and the common horse chestnut (*Aesculus hippocastanum*).



Whilst we are able to quantify the number of trees within Richmond Council's ownership we are not able to state the ecosystem services that are being provided, so an ecosystem study should be a key ambition for the borough as it will help to identify services that are currently being provided (for example how much carbon is sequestered and stored) and identify areas that are vulnerable to the effects of climate change (for example areas susceptible to flooding, pollution and heat extremes).

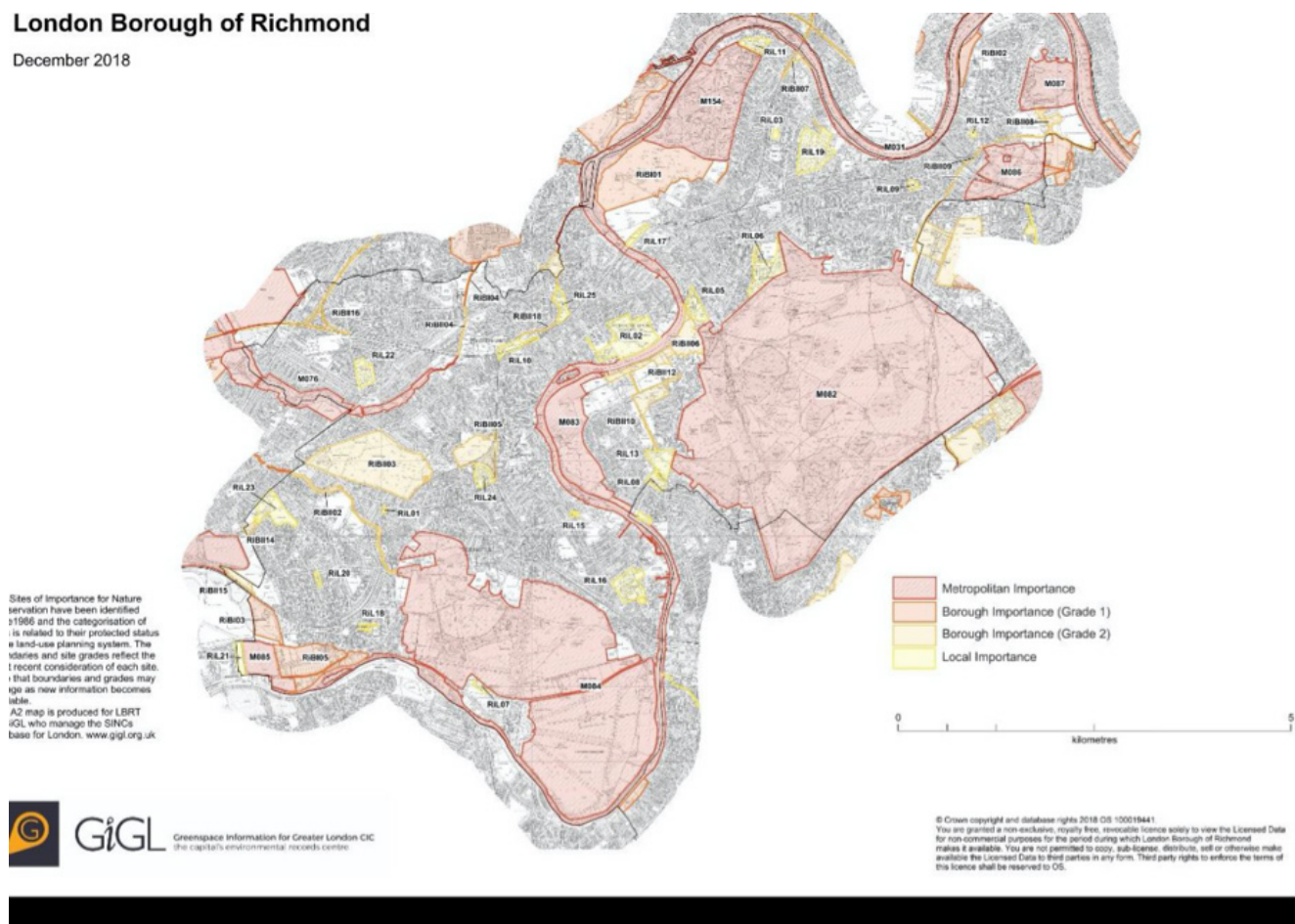
A period of significant investment has seen the standard of parks and facilities improve to be amongst the best in the country, as recognised by a series of prestigious awards including the Green Flag award. There are currently over seventy Friends' groups in the borough, and it is important that the Council continues to harness and develop these groups to deliver upon the environmental agenda.

There are twenty-four allotment sites across the Borough which provide a number of environmental benefits including the support and regulation of ecosystem services. Allotment gardening also results in more sustainably produced food, promotes healthy eating and acts as an educational resource

The London Borough of Richmond is a population 'hotspot' for bats and Stag Beetles and the only place in London where the rare Tower Mustard (*Arabis galabra*) can be found.

London Borough of Richmond

December 2018



Linked Strategies

Richmond's Nature Conservation Policy Statement 2019 sets out Richmond Council's policies for the protection and enhancement of nature conservation in the borough, with a specific emphasis on maintaining and improving biodiversity and wildlife habitats. This includes a biodiversity consideration for all planning applications, the creation of new opportunities for wildlife to thrive, encouraging landowners to manage their green space well, raising awareness of local nature and importantly working in partnership with others including the Richmond Biodiversity Partnership.

The Richmond upon Thames Biodiversity Action Plan was launched in May 2019 and sets out the framework for the protection, conservation and enhancement of wildlife within the borough. Its three main aims are to conserve and enhance the variety of habitats and species in the London Borough of Richmond upon Thames; to ensure that Richmond upon Thames' residents become aware of, and are given the opportunity to become involved in, conserving and enhancing the biodiversity around them; and to raise awareness and increase stakeholder involvement in maintaining and enhancing species and habitats of importance.

Other Council policies include the Tree Policy, which clearly identifies the value of trees and sets out how the Council meets and will continue to meet its

statutory duties in relation to tree management and protection.

The Local Plan sets out the strategic vision and objectives for the borough as a whole when it comes to planning and development. This includes improving the borough's parks and open spaces to provide a high quality environment for local communities and provide a balance between areas for quiet enjoyment and wildlife and areas to be used for sports, games and recreation. In addition, the Local Plan highlights how we the Council will protect and enhance the borough's network of green infrastructure that performs a wide range of functions for residents, visitors, biodiversity and the economy, as well as protecting and enhancing the borough's biodiversity, including trees and landscape, both within open spaces but also within the built environment and along wildlife corridors. The Supplementary Planning Document for front gardens and other off-street standards places an emphasis on tree retention ahead of the creation of cross overs.

Our Parks and Open Spaces Principles are a set of eight principles that govern the way in which the borough manages the parks and open spaces in the borough and keeps the 'parks culture' embedded as a strong contributing factor in much of the policy and decision making within the Council.

The Allotment Strategy 2019 seeks to optimise the use of allotment sites for existing and future plot holders. It puts in place a framework to develop and manage allotments in partnership with users.

Our approach

Our biodiversity

We will ensure the rich biodiversity in the borough is supported through the delivery of the Local Biodiversity Action Plan (LBAP). In addition to individual habitat action plans and species action plans which provide specific actions for addressing these specialisms, the LBAP identifies a set of general actions and approaches required, including:

- Promote available grant schemes to encourage appropriate habitat management.
- Improve public engagement and publicly available information by updating and distributing biodiversity leaflets, including publishing them on the RBP/SWLEN website and promoting and supporting a programme of guided walks, events, talks and articles, posts and blogs.
- Contribute to database of species records in London
- Prepare a connectivity strategy and map of LBRuT identifying key habitats, known features (e.g. bat roosts), good/poor connectivity, light pollution etc.
- Commission and develop arrangements with Friends' groups and organisations to promote and ensure sustainable management of our green

spaces.

- Seek alternative soil treatments and work towards withdrawal of the use of peat.
- Encourage planning applications to preserve/enhance wildlife corridors within their scheme. Promote encouragement of species that have not been found during surveys, if within their range, as well as maintaining species already found to be present.
- Ensure that all planning applications are accompanied with appropriate information as requested by the LBRuT validation checklist.
- Require mitigation for increased urban surfaces in any development: green roof, green wall etc. to offset increased urbanization.

We will work with schools to promote the 'rewilding' of playing fields, and support the Thames Landscape Strategy's Rewilding Arcadia project.

We will cease the installation of artificial grass at Council facilities (except for at purpose built sports facilities)

Our trees

We will identify areas of opportunity for planting more trees across the borough as a whole, with a focus on areas where they may mitigate the effects of climate change, for example incorporating sustainable urban drainage systems (SUDS) to minimise flooding and providing shaded avenues to enable elderly residents to travel to and from

amenities without suffering from heat stress. We will encourage the planting of trees in private gardens.

We will launch a Tree Warden Scheme to help the community support and nurture trees in their local area. We will also continue to support management of our canopy by suitably qualified and experienced tree professionals and partnership organisations, such as the London Tree Officer Association.

Veteran and Heritage trees will be identified and celebrated through the creation of educational material and walks.

Our parks

We will continue to encourage residents and visitors to not only access parks for recreation and leisure but to also become a part of their day to day life within the borough. We will continue to maintain the Parks Strategic Principles, maintain and increase the standards of parks and associated facilities, maximise investment and ensure high quality sustainable solutions will be specified for parks and open spaces.

We will identify improvements to existing facilities and opportunities for new facilities in partnership and consultation with borough residents.

We will improve the environmental practices within parks, including increasing non-chemical weed treatments, increasing the area of meadows in parks, naturalising existing meadows and reducing our use

of peat.

Our green infrastructure

We will promote green infrastructure through our planning policies, recognising the critical role it plays in increasing the borough's capacity to adapt to climate change impacts such as droughts, heatwaves and heavy rainfall events.

Adopt new approaches to the design and management of green space (i.e. drought resistant vs native plants etc.)

Commission an Ecosystem Services Study to better understand the composition of the borough's tree stock, identify vulnerabilities associated with climate change and plan for the future

Work with TfL and National rail to identify opportunities for installing green walls near railway lines

Investigate the creation of an urban farm for education purposes

A full list of actions we will undertake is attached at Appendix A

WHERE WILL WE BE IN 2024

Where we will be in 2024

We will have delivered the actions set out in the Local Biodiversity Action Plan and seen a resulting increase in the biodiversity across the borough

We will have planted thousands more trees across the borough in targeted locations to maximise climate change mitigation effects and more trees will have been planted in private gardens, creating an environment that is adapted to the future and drawing down carbon from the atmosphere. We will have created an environment where trees are valued and protected.

Our parks will be central to the life of the borough, with high quality facilities and environmental practices that are sustainable and low carbon.

Green infrastructure will be a cornerstone of our planning policies, with many examples of innovative and impactful green infrastructure either in place or due to be in place across the borough.



WATER MANAGEMENT AND FLOOD ABATEMENT

Our Ambition

We will ensure that development across Richmond addresses flood risks and promotes sustainable drainage. We will promote and encourage development to be fully resilient to the future impacts of climate change in order to minimise vulnerability of people and property, including risks of flooding, water shortages and the effects of overheating..

The Context

Key Drivers and the Richmond Context

Climate change is likely to lead to increasingly erratic weather patterns, meaning less certainty over river flows and rainfall, and more floods and droughts. This casts doubt on the assumptions around the reliability of traditional water sources like groundwater abstraction or reservoirs. An increasing population also means a greater demand for public water supply now and in the future as the way in water is used is changing, and some of these ways use more water and sewage resources.

In addition to concerns around water supply, the borough is susceptible to a number of different types of flooding. Fluvial flooding occurs when excessive rainfall over an extended period of time causes a river to exceed its capacity but can also be caused by heavy snow melt. Surface water flooding is caused when heavy rainfall creates a flood event independent of an overflowing water body. Also known as pluvial flooding, this results from overland flow before the runoff enters a watercourse or sewer. It is usually the result of high intensity rainfall but can occur with lower intensity rainfall when the land has a low permeability and/or is already saturated, frozen or developed. Typically, this type of flooding

is localised and happens very quickly, making it very difficult to predict and give warnings.

Surface water flooding is becoming a regular issue. With large impermeable surfaces and with climate change predicting more frequent short-duration, high intensity rainfall and more frequent periods of long-duration rainfall, coupled with an ageing Victorian sewer system and increasing pressure from growing populations, surface water flooding is likely to be an increasing problem. Surface water quality is already under pressure from increasing development and population growth. Climate change is likely to alter the frequency and distribution of rainfall.

Reductions in river flows would impact their ability to dilute pollutants, in turn lowering water quality. It is likely that this will increase the costs of water treatment services to meet increasingly tighter effluent discharge standards and to prevent deterioration of water quality. Higher water temperatures increase the risk of eutrophication and algal blooms, which harm aquatic flora and fauna. Increased and intense rainfall will mean more sewage effluent entering waters, affecting bathing water quality. Construction of the Thames Tideway Tunnel will prevent millions of tonnes of sewage entering the River Thames, meaning cleaner water for river users and a healthier environment for wildlife.

Legislation and Policy

The Department for Environment, Food and Rural Affairs (DEFRA) is the policy lead for flood and coastal erosion risk management in England. New or revised policies are prepared with other parts of government such as the Treasury, the Cabinet Office (for emergency response planning) and the Ministry of Housing, Communities and Local Government (for land-use and planning policy). These national policies are then delivered by Risk Management Authorities (RMAs) which are Environment Agency, Lead Local Flood Authorities, District and Borough Councils, Coast protection authorities, water and sewerage companies, Internal Drainage Boards and Highways authorities

The Flood and Water Management Act 2010 requires these Risk Management Authorities to co-operate with each other act in a manner that is consistent with the National Flood and Coastal Erosion Risk Management Strategy for England and the local flood risk management strategies developed by Lead Local Flood Authorities exchange information.

The FWMA and the Flood Risk Regulations 2009 gives Richmond Council, as the LLFA for Richmond Borough, a strategic role in overseeing the management of local flood risk within its area. As an LLFA, Richmond Council is required by the Act (2010) to produce a LFRMS ("Strategy") which must be maintained, applied and monitored.



Linked Strategies

A Surface Water Management Plan (SWMP) assesses the surface water flood risk across an area using both historical information and undertaking pluvial modelling to determine the future flood risk for a range of rainfall events. These identify the areas of significant surface water and groundwater risk and options to address the risk of flooding. A SWMP has been produced for the London Borough of Richmond upon Thames, along with the Preliminary Flood Risk Assessment, as part of the Drain London project which a GLA-led, £3.2m DEFRA-funded, London-wide programme to identify, prioritise and manage areas and assets at surface water flood risk.

Richmond's Local Plan highlights that all developments should avoid, or minimise, contributing to all sources of flooding, including fluvial, tidal, surface water, groundwater and flooding from sewers, taking account of climate change and without increasing flood risk elsewhere. Flood risk assessments (FRA) will be required in line with national policy and guidance, this will help minimise vulnerability and provide resilience to flooding in the future.

We are required to carry out a Strategic Flood Risk Assessment (SFRA) for our area, which assesses the risk of flooding from all sources, now and in the future, taking account of the impacts of climate change. The SFRA supports and informs the Local Plan, including the site allocations, by assessing the

impact that land use changes and development in the area will have on flood risk. The SFRA provides the basis for applying the Sequential Test to development sites, thereby directing development away from areas at highest risk. In March 2016 the Council updated its SFRA. The report includes a series of maps that define areas of flooding in the borough according to various levels of risk from the River Thames, its tributaries and other sources such as surface water.

The Local Flood Risk Management Strategy, Strategic Environmental Assessment - Environment Report (2015) considers of all areas within the Richmond Borough administrative boundary, as these areas are covered by the main LFRMS document. The SEA also takes into consideration the wider environment around and in close proximity to Richmond Borough, since environmental boundaries and margins do not necessarily follow man made administrative boundaries.

Our approach

Our resilience

We will use our Local Plan to apply planning solutions to flood risk management wherever possible by steering vulnerable development away from areas affected by flooding in accordance with the NPPF Sequential Test. Specific planning recommendations have been provided for all urban centres within the Borough which include tree planting and discouraging the replacement of soft landscaping and lawns by paving or decking in front and rear gardens.

We will continue to promote green infrastructure to act as flood storage areas, holding large volumes of water in temporary ponds to protect built up areas from flooding.

We will continue to identify flooding threats, utilising assessment tools to identify those people most at risk of climate change related flooding.

Our communities

We will work with residents and businesses to identify opportunities for reducing runoff and improving water storage capacity across the borough, seek out funding for and promote these approaches.

Our streets

We will pilot the installation of rain gardens, reducing rainwater runoff and promoting biodiversity.

Our partners

We will provide Sustainable Drainage Systems (SuDS) to avoid rapid rain run-off into drains and rivers and improve water quality.

We will continue to work with key partners, including the South West London Flood Group, the Environment Agency and Thames Water as well as other organisations such as the Local Resilience Forum and the Drain London Forum.

A full list of actions we will undertake is attached at Appendix A



WHERE WILL WE BE IN 2024

Where we will be in 2024

We will be fully aware of the flooding threats to the borough arising from climate change and have planning policies and solutions in place that take full account of this, including new Sustainable Drainage Systems that minimise the chance of flooding

We will have decreased the potential for flash flooding in the borough by working with residents, communities and businesses to capture rainfall through the creation of blue and green roofs and rain gardens.

GLOSSARY

Term	Definition
AMR	Automatic meter reading (AMR) is the technology of automatically collecting consumption, diagnostic, and status data from water meter or energy metering devices (gas, electric) and transferring that data to a central database for billing, troubleshooting, and analysing.
AVOID	AVOID is a climate change research programme funded by the Department of Energy and Climate Change and the Department for Environment, Food and Rural Affairs.
Building Energy Management (BEMS)	Building Energy Management Systems monitor and control services such as heating, ventilation and air-conditioning, ensuring the building operates at maximum levels of efficiency and removing wasted energy usage
	Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and is also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity
Carbon dioxide (CO2)	Carbon dioxide is a gas in the Earth's atmosphere. It occurs naturally and is also a by-product of human activities such as burning fossil fuels. It is the principal greenhouse gas produced by human activity
Carbon Neutral (also known as net zero carbon)	Carbon neutral, also called carbon neutrality, is a term used to describe the action of organizations, businesses and individuals taking action to remove as much carbon dioxide from the atmosphere as each put in to it. The overall goal of carbon neutrality is to achieve a zero-carbon footprint
Carbon offset	Carbon offset is a way to compensate for your emissions by funding an equivalent carbon dioxide saving elsewhere.
Climate Active	
Climate change	A pattern of change affecting global or regional climate, as measured by yardsticks such as average temperature and rainfall, or an alteration in frequency of extreme weather conditions. This variation may be caused by both natural processes and human activity. Global warming is one aspect of climate change.
Display energy certificate (DEC)	DEC's show the energy performance of a building based on actual energy consumption. For certain types of building, they must be displayed prominently in a place visible to the public and are intended to raise public awareness of the energy use of buildings.
EU Emissions Trading Scheme (EU ETS)	The trading greenhouse gas emissions allowances. Launched in 2005, it covers some 11,000 power stations and industrial plants in 30 countries, whose carbon emissions make up almost 50% of Europe's total.

Term	Definition
Evapotranspiration	Evapotranspiration, Loss of water from the soil both by evaporation from the soil surface and by transpiration from the leaves of the plants growing on it. Evapotranspiration accounts for most of the water lost from the soil during the growth of a crop.
GHG	Greenhouse gases, or GHGs, are compound gases that trap heat or longwave radiation in the atmosphere. Their presence in the atmosphere makes the Earth's surface warmer. The principal GHGs, also known as heat trapping gases, are carbon dioxide, methane, nitrous oxide, and the fluorinated gases. Carbon dioxide composes 64.3% of GHGs.
IPCC	The international body for assessing the science related to climate change. It was set up in 1988 by the World Meteorological Organization (WMO) and United Nations Environment Programme (UNEP) to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation
LED	Light Emitting Diodes - are a form of energy efficient lighting that offers greater efficiency and effectiveness than traditional incandescent and high intensity discharge (sodium) based lamp technology.
Local Plan	The Local Plan sets out the Council's local planning policies and identifies how land is used, determining what will be built where providing a framework for development across the whole borough.
Minimum Energy Efficiency Fund	The Mayor of London's Energy Efficiency Fund (MEEF) is a new £500m investment fund established by the GLA with funding from the European Commission, which will help achieve London's ambition of being a zero-carbon city by 2050.
SALIX	Salix Finance Ltd. delivers 100% interest-free capital to the public sector to improve their energy efficiency and reduce their carbon emissions.
STARS	TfL's accreditation scheme for London schools and nurseries. STARS inspires young Londoners to travel to school sustainably, actively, responsibly and safely by championing walking, scooting and cycling.
T-Charge	'Toxic' charge. It is a levy aimed at improving air quality in the capital and mainly applies to diesel and petrol vehicles registered before 2006
ULEZ	Ultra-Low Emission Zone (ULEZ) Charging zone in which vehicles that do not comply with emissions standards for air pollutants will be subject to a daily charge.
United Nations	The UN is an intergovernmental organization that was tasked to maintain international peace and security, develop friendly relations among nations, achieve international co-operation and be a centre for harmonizing the actions of nations.