



Net Zero Strategy  
2023 – 2030  
(DRAFT)



**DARTFORD**  
BOROUGH COUNCIL

# Contents

1. Foreword	3
2. Executive Summary	4
3. Background	6
4. Policy Context	9
5. Baseline	11
6. The Path to Net Zero:	17
7. DBC Organisational Emissions	20
8. Transport	22
9. Built Environment	24
10. Energy Generation	27
11. Waste	28
12. Land Use & Biodiversity	30
13. Governance and Finance	32
14. Collaboration & Engagement	33
15. Delivering & Monitoring	34
16. Glossary of Terms	35

DRAFT



# Foreword

Dartford Borough Council recognised that we are facing a Climate Change Emergency on 7 October 2019 and set ourselves the target of reaching Net Zero by 2030. The purpose of this strategy is to explain how the Council intends to step up to meet the challenge and turn the climate emergency declaration into a plan of action that will refocus the Council's activity, operations and spheres of influence to reduce emissions, increase sustainability and benefit the wider environment.

The Council believes that the drive for modern, greener and more environmentally sustainable communities is both welcome and achievable. We do not measure sustainability only in terms of the discrete 'green' policies we implement but as something to be embedded in every aspect of our council and community.

The Environment continues to be an issue of central importance, both globally and locally. The Council is seeking to reduce local emissions through a series of policies, including: seeking improved public transport, cycling and walking routes. Encouraging the use of electric vehicles. Locating new developments in areas which are well served by public transport and local facilities, thus reducing the need for car use. Supporting the provision of decentralised energy and heating facilities and low carbon energy schemes as well as Increased water efficiency in new developments.

The Council recognises that all governments (national, regional and local) have a duty to act but feels that progress in Dartford should not be constrained by the actions of the slowest. Our town and its people have a part to play in securing a sustainable future and this Council must not only be a force for change in itself, but must inspire and encourage change in others.

Cllr Jeremy Kite, Leader of the Council

Cllr Carol Gale, Cabinet Portfolio Holder for Climate Change



# Executive Summary

## Our Vision: Planet Dartford



Dartford Borough Council has pledged to take practical steps to tackle climate change and to encourage the whole community to do the same.

The Council has been working for many years to improve sustainability in the borough through the following strategic work; Dartford Local Plan, Air Quality Action Plan, Decarbonising our corporate estate, energy efficiency improvements to our housing stock and private sector housing and many more.

The Council has already started several local environmental initiatives too, including; planting more trees, establishing community orchards, seeking to manage its open spaces to improve biodiversity, reducing waste and spreading the word about greener ways to live, work and travel.

We're bringing these initiatives together under one banner - Planet Dartford.

### Our Aims

#### **Change Ourselves**

We've set ourselves a target of reducing Council emissions to Net Zero by 2030. This will mean looking at the services we provide, the vehicles we use, how we use energy and how we manage events and facilities for residents.

We want to lead from the front on Climate Change.

#### **Help Others To Change**

Actions to tackle climate change more widely will need action from all of Dartford's communities, businesses, groups and households as well as other stakeholders. The council will support others to make good choices.

We will also need to work with national government, Kent County Council and other agencies to work to reduce emissions and mitigate against climate change.

#### **Spread The Word**

We will support the message that climate action is important and seek to influence millions of choices taken by tens of thousands of people in dozens of communities.

Planet Dartford aim to take our climate change message to every part of the community.



# Our Strategy

This Net Zero Strategy sets out the approach and actions that Dartford Borough Council will need to take to meet our ambitious net zero by 2030 target for Council emissions. It sets out how the Council will respond to the climate emergency and how we will work together with all stakeholders to tackle climate change.

The Strategy will focus on eight key priorities:

## **Dartford Borough Council Organisational Emissions**

Focus: The Council aims to reduce its organisational carbon emissions to net zero by 2030

## **Transport**

Focus: Support the shift towards cleaner modes of transport and reduce car dependency with co benefits to air quality and health.

## **Built Environment**

Focus: Improve the energy efficiency of buildings and support the shift away from fossil fuel powered heating systems to low-carbon technologies.

## **Energy Generation**

Focus: Support the generation of renewable energy across the Borough.

## **Waste**

Focus: Support the Borough to reduce waste, reuse, recycle, compost and encourage a circular economy.

## **Land Use & Biodiversity**

Focus: Protect, enhance and increase green space for the benefit of people, wildlife and carbon capture

## **Governance and Finance**

Focus: Embed climate change in all decision making and governance at the Council

## **Collaboration & Engagement**

Focus: Empower residents, businesses and communities to make informed decisions on climate change and access relevant grants.



This Strategy flows from, and will influence, other corporate plans and activities that address climate change. This includes the Dartford Local Plan, which has a vision and strategic objectives for the sustainable environmental, economic and social development of the Borough to 2037. Local Plan policies - which are by law the starting point for deciding planning applications - include a strong focus on locating new development in areas with local facilities and public transport within easy walking and cycling distance, reducing car dependency and carbon emissions. Produced and agreed by the Council and central government, and following local consultation and national legislation and policy, it provides strong principles to guide the activities that the Council and its partners, and the private sector, should undertake to tackle climate change.

The Action Plan that will accompany the Climate Change Strategy will provide further details of the actions to be taken; this will be a living document that will be under regular review to account for changes in policy, technology and funding opportunities.

This strategy will be delivered through services across the council, co-ordinated through the Council's agreed plans and strategy, collaboration with service providers and our Climate Change Team working with groups and organisations in different sectors.

An annual monitoring report will be prepared; we will use this to track progress towards the Council's net zero target for our own emissions and to inform the actions we need to collectively take to make progress. We will publish our progress on an annual basis and in doing so coordinate borough-wide efforts on carbon reduction. Publishing progress will also demonstrate transparency so that residents can ensure we are delivering against our commitments.

The council will use a range of funding sources to develop and deliver its programme of activity. Every opportunity will be explored to meet the challenges.

## Background

### **What is Climate Change?**

Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas.

Burning fossil fuels generates greenhouse gas emissions that act like a blanket wrapped around the Earth, trapping the sun's heat and raising temperatures.



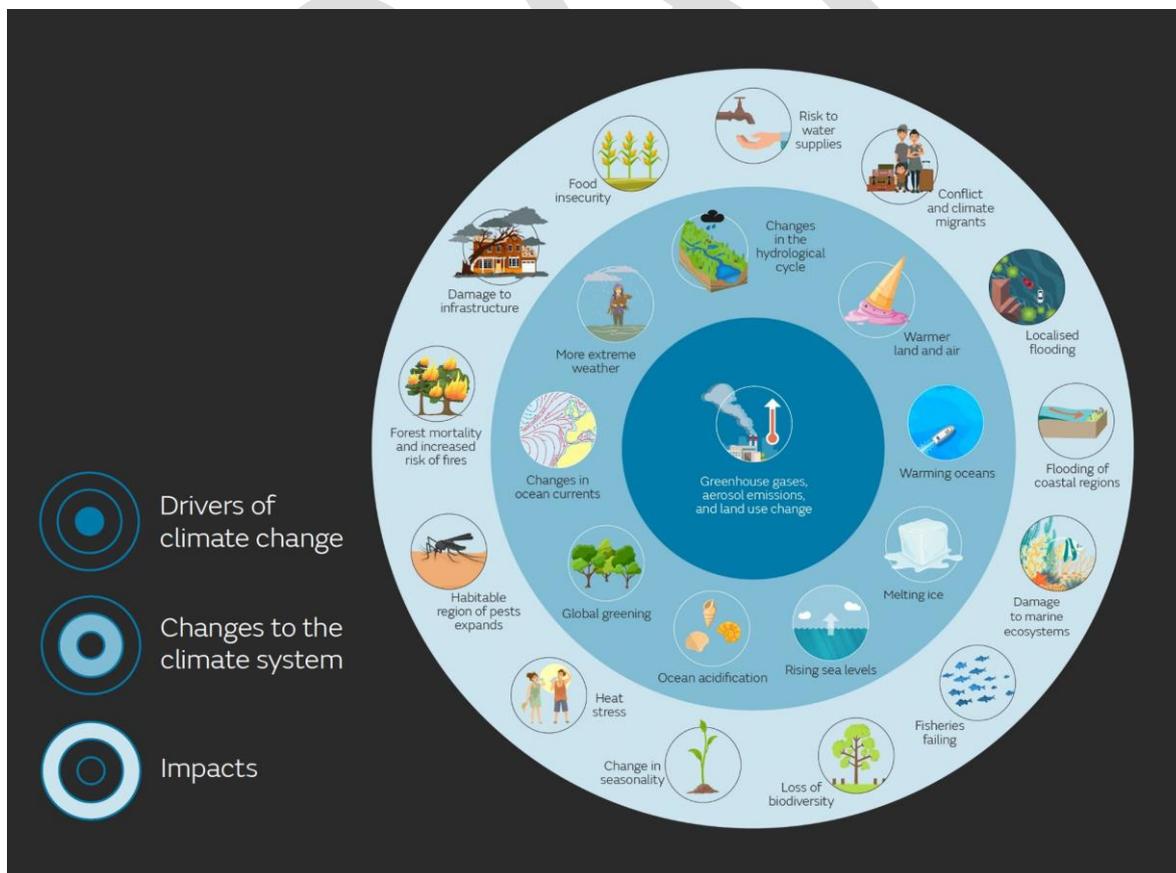
The main greenhouse gases that are causing climate change include carbon dioxide and methane. These come from using gasoline for driving a car or coal for heating a building, for example. Clearing land and cutting down forests can also release carbon dioxide. Agriculture, oil and gas operations are major sources of methane emissions. Energy, industry, transport, buildings, agriculture and land use are among the main sectors causing greenhouse gases.

## What is the impact of Climate Change?

The average temperature of the Earth's surface is now about 1.1°C warmer than it was in the late 1800s (before the industrial revolution) and warmer than at any time in the last 100,000 years. The last decade (2011-2020) was the warmest on record, and each of the last four decades has been warmer than any previous decade since 1850.

Many people think climate change mainly means warmer temperatures but temperature rise is only the beginning of the story. Because the Earth is a system, where everything is connected, changes in one area can influence changes in all others.

The consequences of climate change now include, among others, intense droughts, water scarcity, severe fires, rising sea levels, flooding, melting polar ice, catastrophic storms and declining biodiversity.



## How does it affect Dartford?

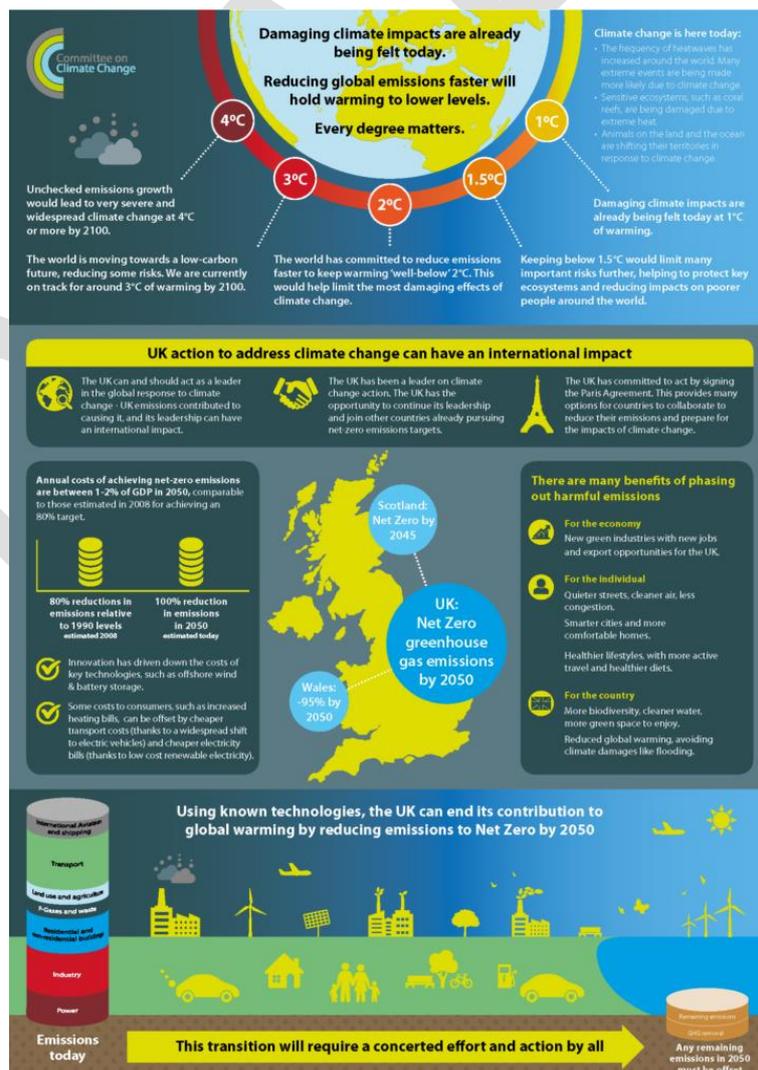
Climate change will cause summers to be hotter and drier, while winters become warmer and wetter:

- If global average temperatures increase 2C above pre-industrial levels, the hottest summer day could be about 38.1C and the hottest winter day could be about 19.5C. If global temperatures rise by 4C, the hottest summer day could be about 42.5C and the hottest winter day could be about 21.1C

This means a greater risk of droughts and fires in the summer and a greater risk of flooding in the winter. As well as changes to our vegetation, loss of trees, changing ecology and habitats. All impacting on existing lifestyles and the way of life in Dartford

## How can we stop climate change?

The most crucial step to limit climate change is to make big and rapid reductions in global greenhouse gas emissions. There are many different ways this can be done and governments, businesses, organisations and individuals around the world can all contribute. In June 2019, the UK became the world's first major economy to pass a law committing the country to a target of 'net zero' emissions by 2050.



# Policy Context

## Global

### Paris Agreement 2015

In 2015, an historic international agreement on climate change was reached. Known as the 'Paris Agreement' 196 countries committed to:

- Keep a global temperature rise this century well below 2°C above pre-industrial levels
- Pursue efforts to limit the temperature increase even further to 1.5°C.
- All countries work together to bring greenhouse gas emissions to net zero within the second half of the 21st century

### UN Climate Change Conference of the Parties (COP26)

In November 2021 200 countries took part at COP 26 in Glasgow and agreed to phase down coal and agreed policies that will keep the 1.5C temperature rise within reach.

### UN Climate Change Conference of the Parties (COP27)

COP27, held in Sharm El Sheikh, Egypt in November 2022 resulted in countries delivering a package of decisions that reaffirmed their commitment to limit global temperature rise to 1.5 degrees Celsius above pre-industrial levels. The package also strengthened action by countries to cut greenhouse gas emissions and adapt to the inevitable impacts of climate change, as well as boosting the support of finance, technology and capacity building needed by developing countries.

### UN Biodiversity Conference (COP 15)

In December 2022 in Montreal, Canada, governments from around the world came together and adopted the Kunming-Montreal Global Biodiversity Framework (GBF). The GBF aims to address biodiversity loss, restore ecosystems and protect indigenous rights. The plan includes concrete measures to halt and reverse nature loss, including putting 30 per cent of the planet and 30 per cent of degraded ecosystems under protection by 2030. It also contains proposals to increase finance to developing countries.



# National

## Climate Change Act 2008

In 2008 the UK passed the Climate Change Act, which committed the UK to lower net greenhouse gases by at least 80% of the 1990 baseline. In 2019 the Climate Change Act was amended and the target to be carbon neutral by 2050 was set. In June 2021 the target of 78% reduction by 2035 was brought into law through the Sixth Carbon Budget.

## Environment Act 2021

In November 2021 the UK passed the Environment Act which set clear statutory targets for the recovery of the natural world in four priority areas: air quality, biodiversity, water and waste, and includes an important new target to reverse the decline in species abundance by the end of 2030.

# Local

## Kent and Medway Energy and Low Emissions Strategy

[The Kent and Medway Energy and Low Emissions Strategy](#) sets out how Kent County Council, in partnership with Medway Council and the Kent district councils, will respond to the UK climate emergency and drive clean, resilient economic recovery across the county to meet the target of net zero carbon emissions by 2050. Dartford Borough Council committed to support for strategy back in October 2020.

## The Kent Biodiversity Strategy

[The Kent Biodiversity Strategy](#) sets out the contribution the county of Kent, and the Kent Nature Partnership, can make to the Government's ambition to leave our environment in a better state than we found it and the aspirations set out in its 25 Year Environment Plan "A Green Future". The strategy aims to deliver, over a 25-year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.

Dartford Borough Council is part of the Kent Nature Partnership and supports the Kent Biodiversity Strategy.

## Dartford Borough Council

In October 2019, Dartford Borough Council recognised that we are facing a [Climate Change Emergency](#) and committed to reducing the Council's emissions to net zero by 2030 as well as working in partnership with Kent County Council, Kent Local Authorities, businesses and communities to meet the Kent target of net zero carbon emissions by 2050.

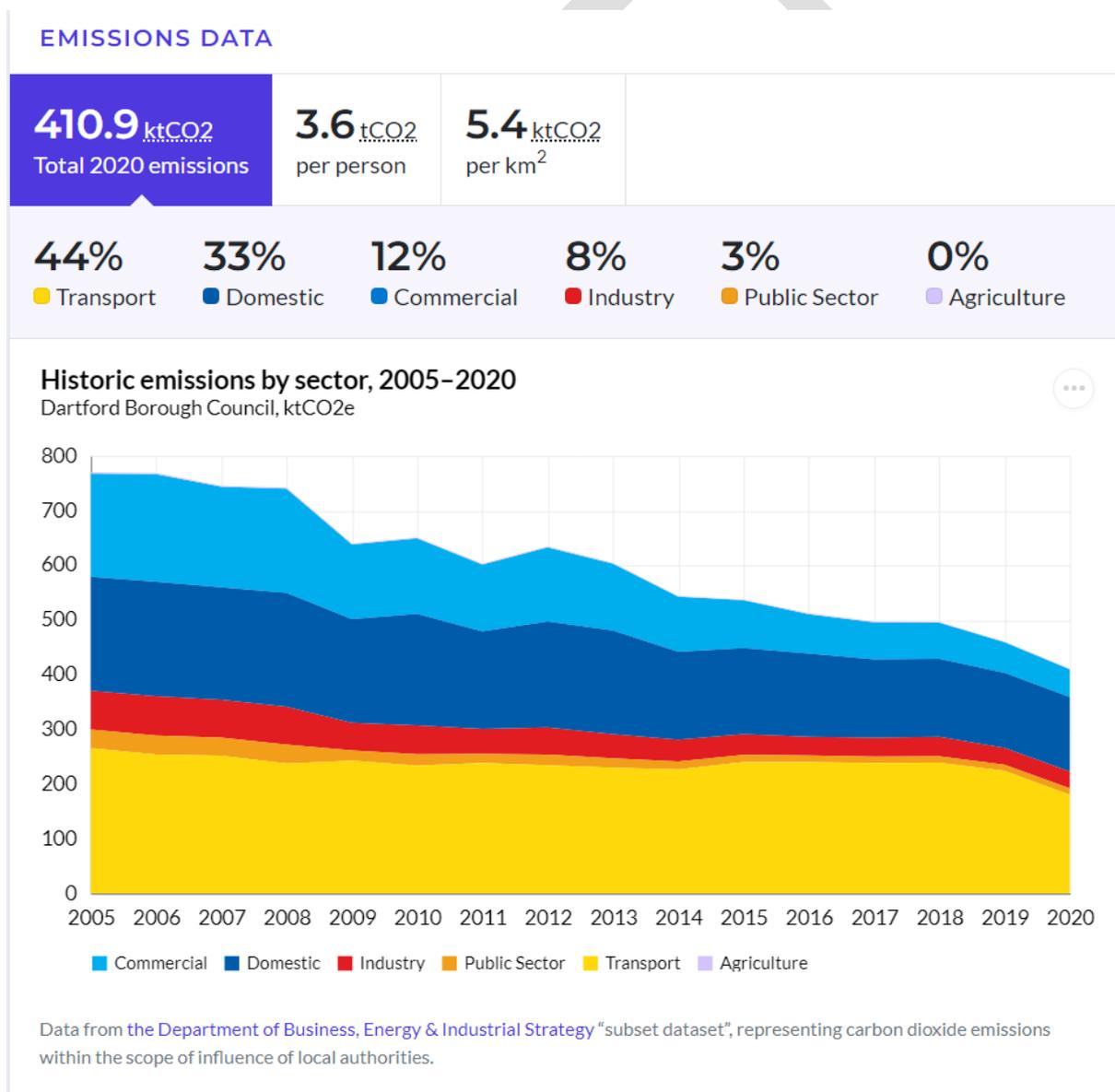


# Baseline

## Dartford Borough Emissions

Data from the UK Department for Business, Energy and Industrial Strategy (BEIS) shows that emissions in the Borough have dropped from 783.4 ktCO<sub>2</sub> in 2005 to 410.9 ktCO<sub>2</sub> in 2020; this is a reduction of 48%. The emissions for 2020 comprise of Transport (44%) Domestic (33%) Commercial (12%) Industry (8%) and Public Sector (3%) (3%)

To provide context, the total emissions for Dartford in 2020: 410.9 ktCO<sub>2</sub> are less than 1% of the total emissions for the UK in 2020: 582,000 ktCO<sub>2</sub>

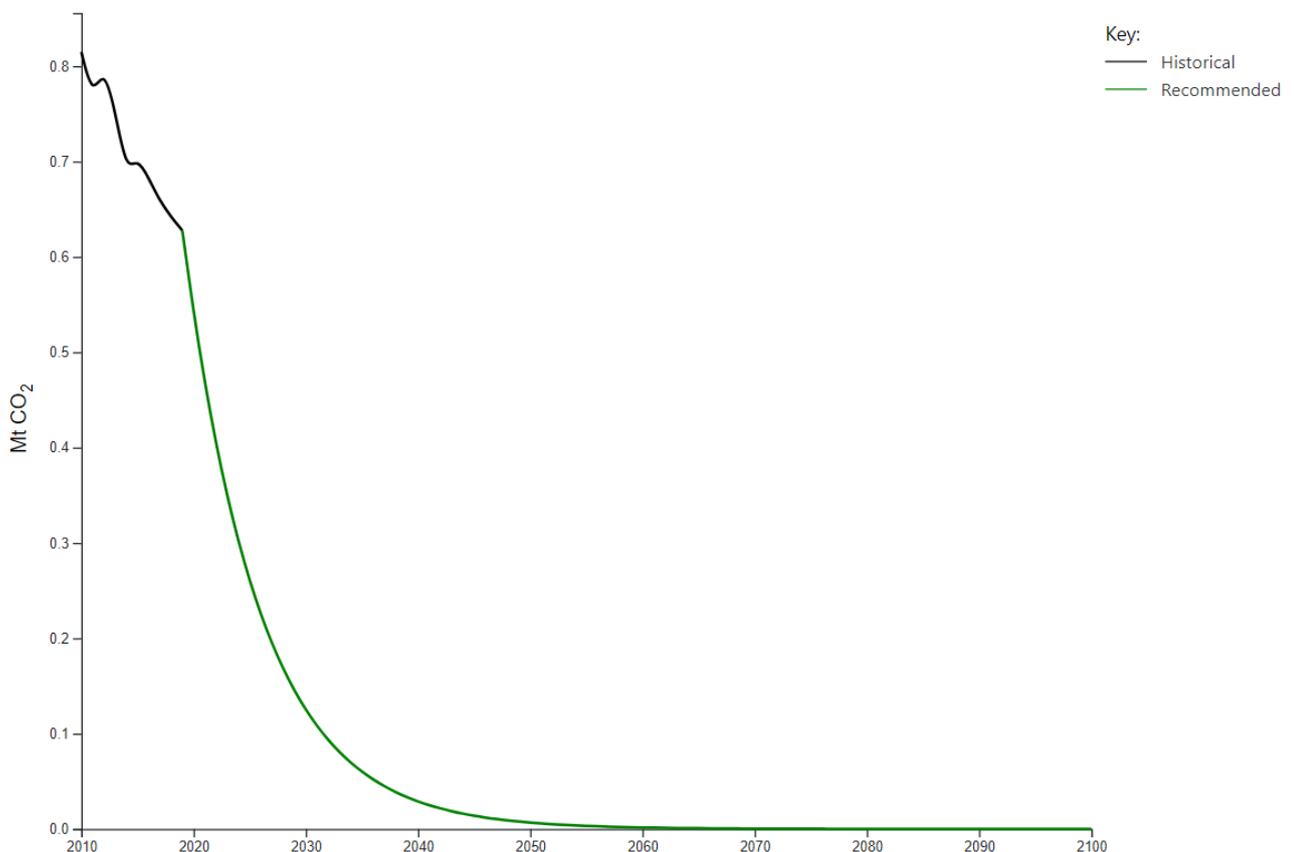


The Tyndall Centre for Climate Change Research have developed a Carbon Budget Tool that presents climate change targets for UK local authority areas that are based on the commitments in the United Nations Paris Agreement, informed by the latest science on climate change and defined by science based carbon budget setting.

Based on the analysis, for Dartford to make its 'fair' contribution towards the Paris Climate Change Agreement, the following recommendations have been made:

1. Stay within a maximum cumulative carbon dioxide emissions budget of 4.0 million tonnes (MtCO<sub>2</sub>) for the period of 2020 to 2100. At 2017 CO<sub>2</sub> emission levels, Dartford would use this entire budget within 7 years from 2020.
2. Initiate an immediate programme of CO<sub>2</sub> mitigation to deliver cuts in emissions averaging a minimum of -13.6% per year to deliver a Paris aligned carbon budget. These annual reductions in emissions require national and local action, and could be part of a wider collaboration with other local authorities.
3. Reach zero or near zero carbon no later than 2041.

Pathway projections for Dartford



Energy related CO<sub>2</sub> only emissions pathways (2010-2100) for Dartford premised on the recommended carbon budget.



<b>Carbon Budget Period</b>	<b>Recommended Carbon Budget (Mt CO<sub>2</sub>)</b>
<b>2018 - 2022</b>	2.7
<b>2023 - 2027</b>	1.3
<b>2028 - 2032</b>	0.6
<b>2033 - 2037</b>	0.3
<b>2038 - 2042</b>	0.1
<b>2043 - 2047</b>	0.1
<b>2048 - 2100</b>	0.1

*Periodic Carbon Budgets for 2018 for Dartford.*

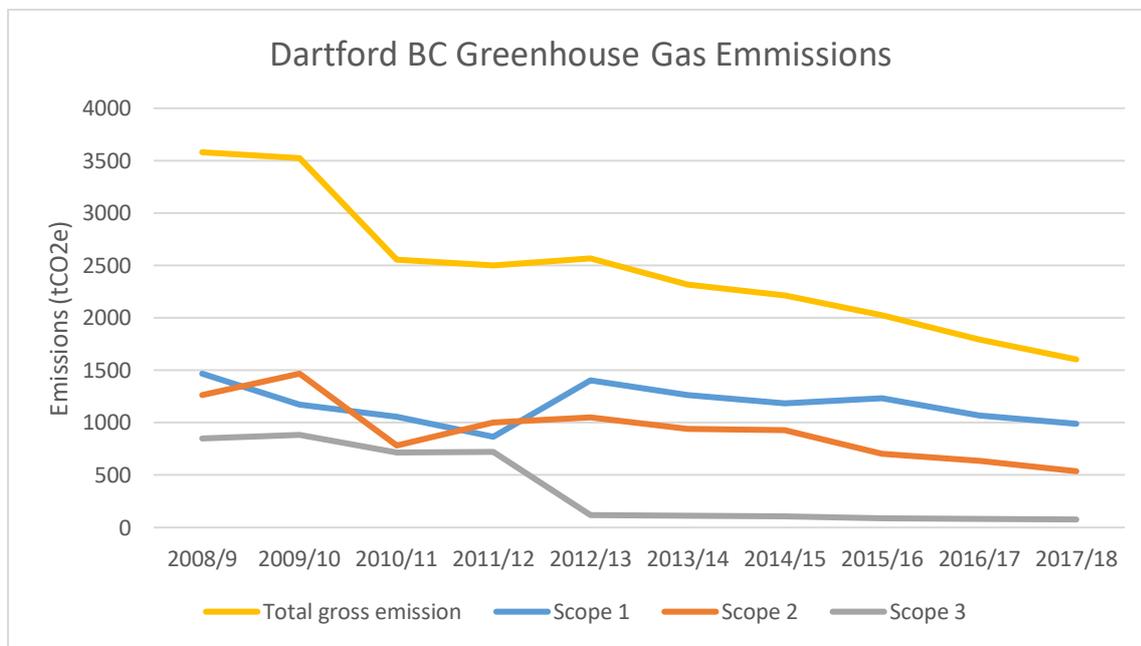
<b>Year</b>	<b>Reduction in Annual Emissions (based on recommended pathway)</b>
<b>2020</b>	23.0%
<b>2025</b>	63.0%
<b>2030</b>	82.2%
<b>2035</b>	91.5%
<b>2040</b>	95.9%
<b>2045</b>	98.0%
<b>2050</b>	99.1%

*Percentage reduction of annual emissions for the recommended CO<sub>2</sub>-only pathway out to 2050 in relation to 2015*



# Dartford Borough Council Emissions

The Council has been monitoring its Greenhouse Gas Emissions since 2008, the same year the Council joined the Carbon Trust Local Authority Carbon Management Programme and went on to meet the target of a 35% reduction in CO2 emissions by 2012. In the year 2017/18, the council's carbon emissions were 1,604 tCO2e; this is a reduction of 55% from 2008.

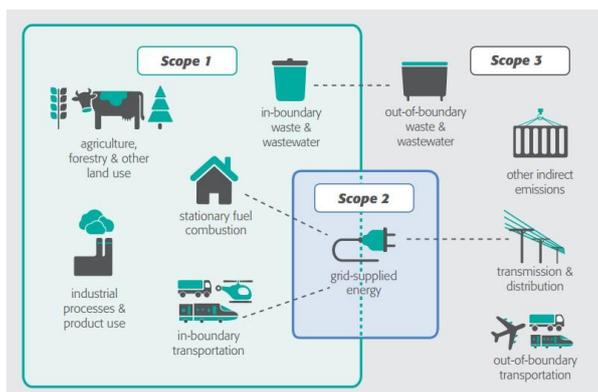


The Council has followed government guidance on how to measure and report greenhouse gas emissions. Government recommends identifying and categorising emissions released into three groups or scopes.

**Scope 1** (direct emissions) Fuel used to heat our buildings (e.g. natural gas) Includes emissions from combustion in owned or controlled boilers, vehicles and plant. It also includes fuel consumption from vehicles owned and operated by Dartford Borough Council and recorded mileage from the contracted waste, garden waste and recycling service.

**Scope 2** (energy indirect) Purchased electricity for our buildings and other electricity consuming sites (e.g. offices, car parks and public conveniences)

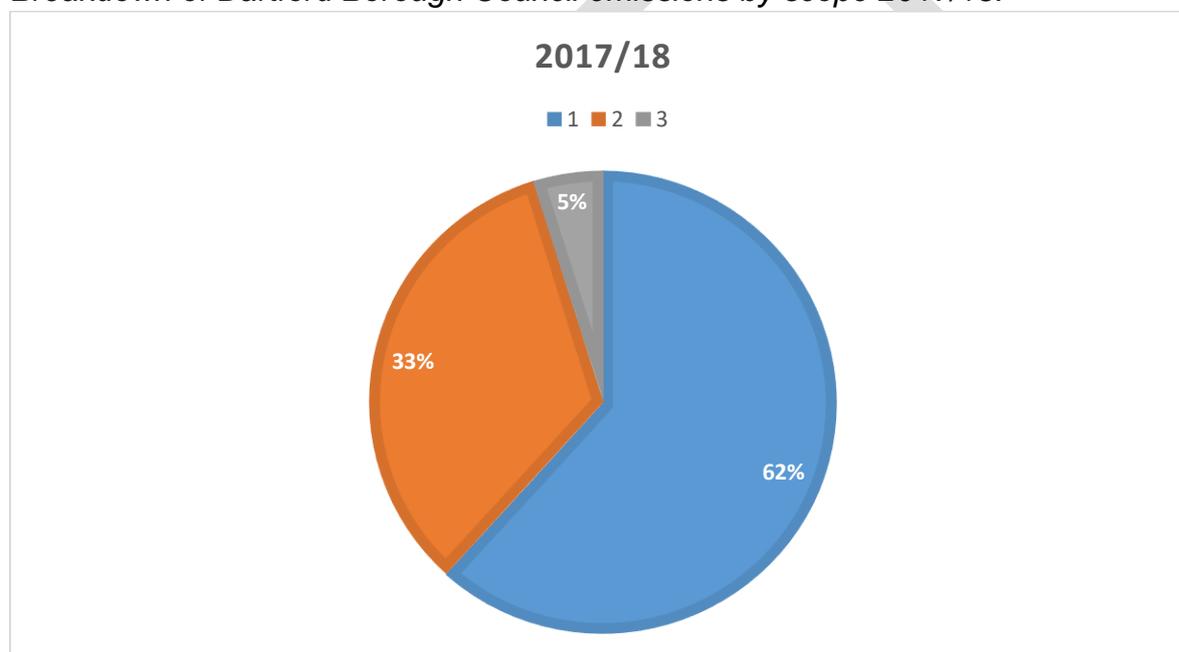
**Scope 3** (other indirect) Electricity (transmission and distribution factors) Includes emissions from mileage travelled for business purposes in employee owned vehicles (also known as 'grey fleet').



### Dartford Borough Council Greenhouse Gas Emissions Data (tCO2e)

	2008/9	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Scope 1 *	1468	1175	1056	866	1403	1261	1183	1231	1069	990
Scope 2**	1261	1468	782	1002	1049	944	927	703	638	537
Scope 3 ***	851	884	718	721	118	113	106	89	85	77
Total gross emission	3580	3527	2556	2502	2570	2318	2216	2023	1792	1604
Reduction compared to previous year %	n/a	1.5%	27.5%	2.11%	-2.71%	9.8%	4.70%	9%	11%	10%
Reduction compared to base year %	n/a	1.15%	28.60%	30.1%	28.21%	35.2%	38.29%	43%	50%	55%

### Breakdown of Dartford Borough Council emissions by scope 2017/18:

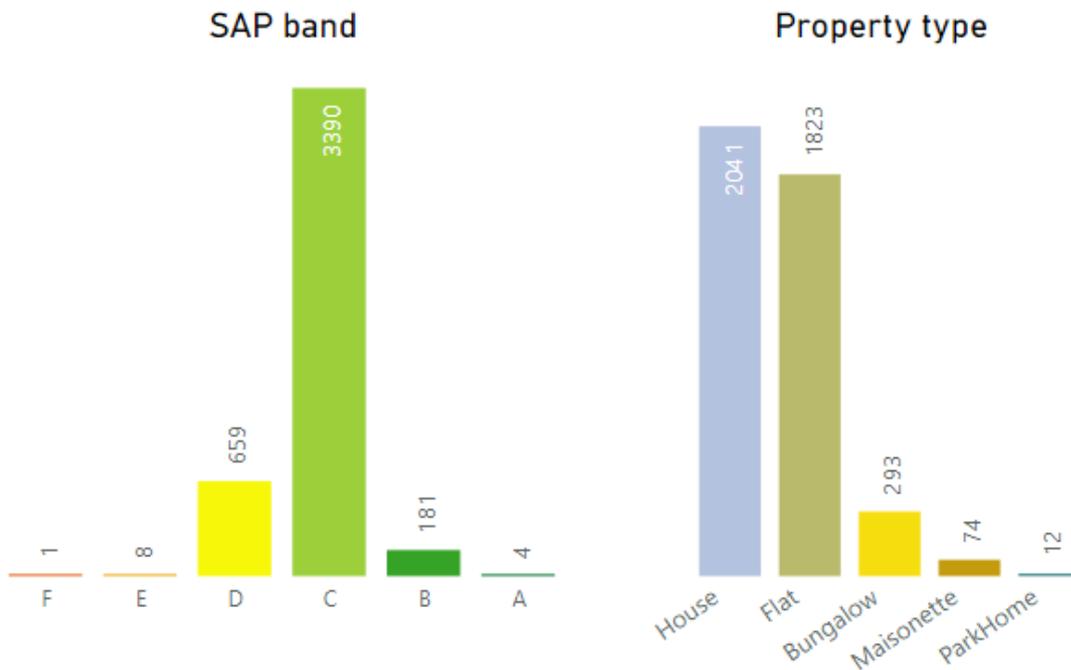


The breakdown of the Council's emissions clearly show that the majority (62%) sit within Scope 1 (direct emissions) which includes emissions from combustion in owned or controlled boilers, vehicles and plant. The Council will endeavour to prioritise the reduction of Scope 1 emissions initially.

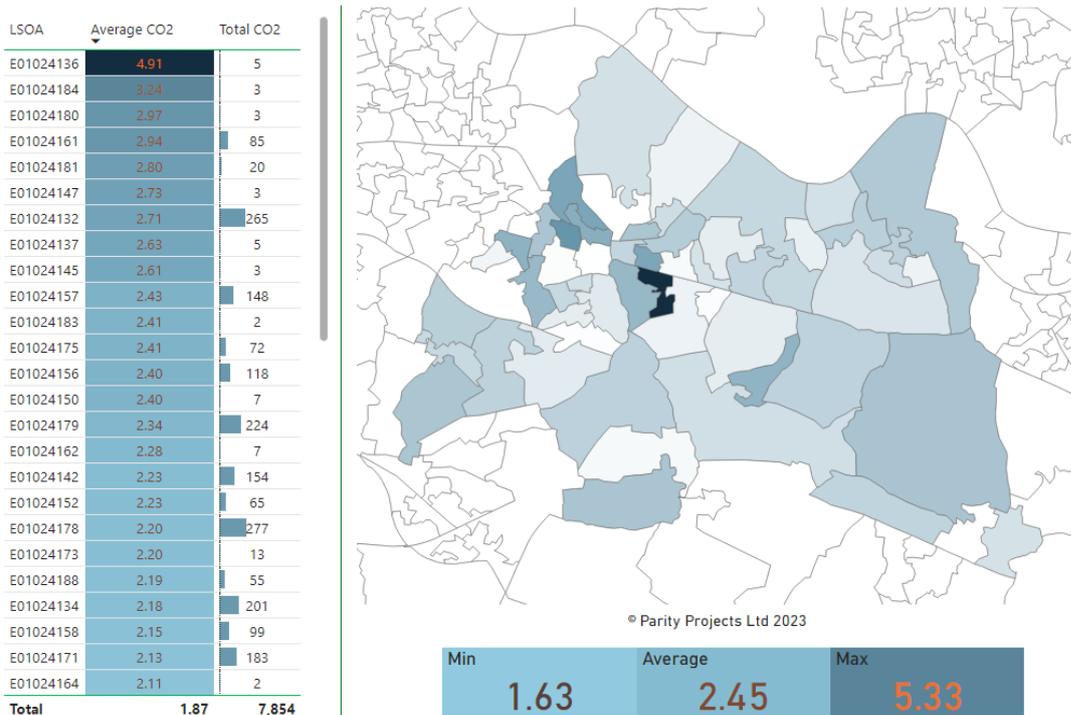
# Dartford Housing Stock Emissions

84% of Dartford Borough Council’s Housing Stock has an Energy Performance Certificate (EPC) rating of C and above.

The Standard Assessment Procedure (SAP) for the energy rating of dwellings is the methodology currently used by the government to estimate the energy performance of homes.



The Total carbon emissions from the Council’s Housing Stock is 7,854 tonnes



# The Path to Net Zero

## The Council's role

The Climate Change Committee has identified six 'spheres of influence' that councils have over carbon emissions, as illustrated in the diagram below:



The Council cannot take direct action to reduce emissions on matters it does not control but can influence through the planning process, the management of housing stock, sharing good practice, partnership working and engaging and communicating.

## Vision

The Council's Corporate Plan 2021-23 sets out the strategic direction of the Council in relation to its powers, functions and responsibilities.

One of the themes in the Corporate Plan is **Environment and Sustainability** with the following strategic aim:



***To promote an environment which is attractive, with improved air quality and which provides a realistic choice of travel options***

The strategic objectives include:

- Reduce carbon emissions and improve air quality in the borough.
- Ensure that development in Dartford is sustainable.
- Minimise the amount of waste going to landfill.

Local Plan

Local Plans are the statutory starting point for deciding planning applications, and the new Dartford Local Plan includes a vision, strategic objectives and several policies focussed on climate change, looking at Borough sustainable development needs to 2037. This includes policy S3 'Climate Change Strategy':

1. Development will be well located, and innovatively designed and constructed, to mitigate and adapt to the effects of climate change. Development in the Borough should contribute to minimising carbon emissions from properties and processes, and reducing the need for unsustainable travel, avoiding vulnerability and increasing resilience to the effects of climate change by a package of bespoke measures integrated within development at an early stage of design and planning, including the measures set out in criteria 2-7.
2. The use of sustainable and active travel modes will be embedded into developments; designing for walking/ cycling (particularly at locations which benefit the Green Grid), public transport and low carbon motorised personal transport (including for future electric vehicle charging points/ cabling needs). This should be designed to be adaptable to allow for future changes to technology and transport methods.

Green and Blue Infrastructure:

3. Existing green spaces, habitats, and tree coverage will be protected and enhanced, and new provision will be made, to absorb carbon dioxide, support biodiversity and reduce surface water runoff. The biodiversity mitigation hierarchy (avoid, reduce, mitigate, compensate) will apply, with the priority being to protect, enhance and integrate existing features of biodiversity interest. Achieving biodiversity net gain will play an important part in delivering this strategy.

Flood Risk Management:

4. Development will be sequentially located in areas at lower risk of flooding, from any source unless the development demonstrably provides specific wider sustainability benefits and will be safe for its lifetime. Planned development in flood risk areas will fully mitigate flood risk impacts.



5. Development will be planned to deliver/ maintain existing and future local and strategic flood defences, and major development will provide sustainable drainage systems which reduce surface water flood risk and benefit the green infrastructure network.

### Sustainable Design and Technology

6. Development will efficiently manage and re-use natural resources and waste, including through the use of water efficiency measures.
7. The design, location and construction of development will: minimise energy consumption; regulate internal temperatures; provide appropriate natural shading on buildings, at street level and in open spaces; incorporate renewable or low/ zero carbon energy sources; and allow for other new sustainable technologies to be provided or readily incorporated in the future.

## **Planet Dartford**

Dartford Borough Council has pledged to take practical steps to tackle change and to encourage the whole community to do the same.

The Council has already begun work on planting more trees, setting up community orchards, reducing waste and spreading the word about greener ways to live, work and travel. These initiatives have been brought together under one banner - Planet Dartford

### Our Aims

#### **Change Ourselves**

The Council has set itself a target of reaching net-zero by 2030 for DBC emissions. This will mean looking at the services we provide, the vehicles we use, how we use energy and how we manage events and facilities for residents.

We want to lead from the front on Climate Change.

#### **Help Others To Change**

Actions to tackle climate change will need action from all of Dartfords' communities, businesses, groups and households. The council will support others to make good choices.

We will also need to work with national government, Kent County Council and other agencies to work to reduce emissions and mitigate against climate change

#### **Spread The Word**

We will support the message that climate action is important and seek to influence millions of choices taken by tens of thousands of people in dozens of communities.

Planet Dartford aim to take our climate change message to every part of the community.



# Key Priorities and Targets

## Dartford Borough Council Organisational Emissions

**Focus: The Council aims to reduce its organisational carbon emissions to net zero by 2030**

As a community leader, the Council will set an example with its aim of reaching Net Zero by 2030. The Council will not only look to practically reduce emissions on its own estate but also across its policies, service delivery and investment decisions.

The Council has already taken many proactive steps to reduce its carbon emissions including:

- Participating in the [Carbon Trust Local Authority Carbon Management Programme](#) and meeting the target of 35% reduction in CO2 emissions by 2012 (from 2008 to 2018 the Council reduced its emissions by 55%).
- Decarbonising the Councils Corporate Estate via the Public Sector Decarbonisation Scheme, including the installation of low energy electric heating systems using Air Source Heat Pumps & Hydro-kits that are powered by Solar Photovoltaic (PV) Panels. Low energy LED lighting has also been installed along with a Building Management System (BMS)
- Council Housing Stock:
  - 472 solid walled properties have been fitted with External Wall Insulation (EWI)
  - Over 99% of Council properties have A-rated (high efficiency) boilers.
  - We have 600kW of Solar PV Panels within our Housing Stock. This serves both individual dwellings and communal areas.
  - Energy Efficiency measures are planned on a further 200 homes following a successful bid submitted to the Social Housing Decarbonisation Fund
- Domestic Private Sector Energy Efficiency: through the various funded schemes (totalling around £2.2million) the Council have provided 207 energy efficiency measures in our residents' properties.
- Included Environment and Sustainability in the Council's [Corporate Plan](#) along with Key Performance Indicators
- Appointed a new Climate Change Team
- Appointed a Senior Urban Designer (Active Travel and Green Infrastructure)
- Included a [Climate Change Impact Assessment](#) in our report templates
- Established Officer and Member Climate Change Working Groups
- Peat-free compost used in all planting and reduced mowing in the Borough to improve biodiversity
- Planted new trees, wildflower meadows and community orchards



- Improved the efficiency of our refuse rounds
- Promoted and secured funding for energy-saving improvements for low income households
- Worked with local schools to discourage car idling
- Created an Air Quality Action Plan
- Installed EV Charge Points in Council car parks
- Promoted reduction and re-use as well as recycling at the Council
- Phased out the use of single use plastics at the Civic Centre, Council owned facilities and Council run events

### Key Targets:

- Identify pathways to reducing emission from our corporate estate to net zero carbon by 2030
- Develop a plan to reduce emissions from travel by converting our fleet to zero emissions including contractor vehicles through the procurement process
- Promote reduction and re-use as well as recycling, and aim to become a zero waste organisation
- Ensure sustainable procurement practices throughout the council as part of the Council's Procurement Strategy
- Reduce car journeys for the commute by DBC staff and promote zero carbon transport including active transport.
- Provide Carbon Literacy training to DBC staff and Councillors



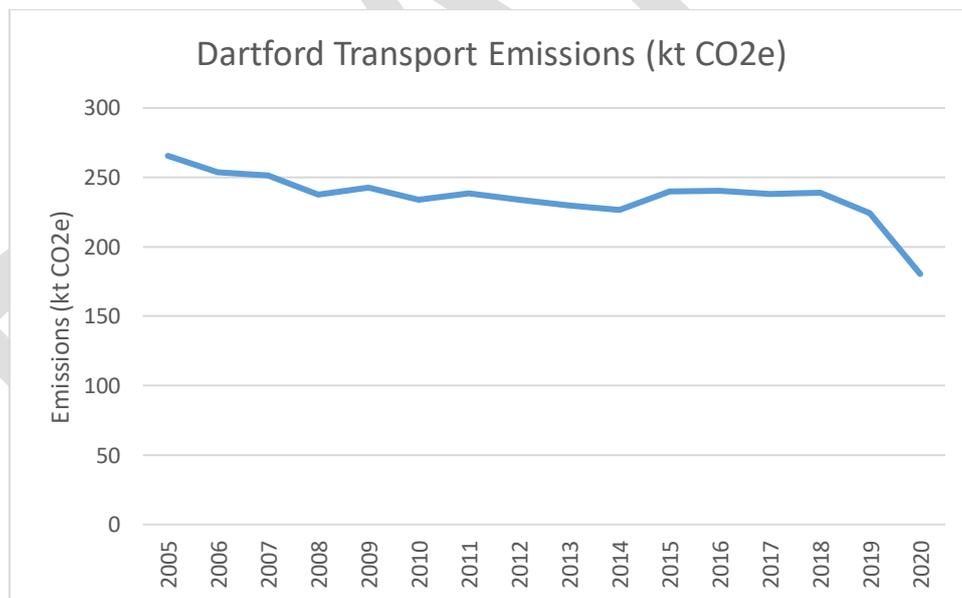
## Transport

**Focus: Support the shift towards cleaner modes of transport and reduce car dependency with co-benefits to air quality and health.**

Transport is the largest emitting sector of GHG emissions, producing 24% of the UK's total emissions in 2020 (99 MtCO<sub>2</sub>e). The vast majority of this of this comes from the use of petrol and diesel in road transport, in particular passenger cars.

Road transport contributes to 44% of Kent's CO<sub>2</sub> emissions and pollutants have a negative impact on air quality, human health and the natural environment, as well as transport increasing noise pollution.

Transport is the largest contributor to Dartford's CO<sub>2</sub> emissions at 44% (180.44 ktCO<sub>2</sub>e) in 2020



The Climate Change Committee's [Sixth Carbon Budget report](#) highlighted the following key messages for Transport:

- **Demand reduction and modal shift.** There are opportunities to reduce demand for car travel, through both societal and technological changes (such as shared mobility and increased home-working) and by enabling journeys to be shifted onto lower-carbon modes of transport. In addition, there is potential for logistics and operations improvements to reduce demand in road freight.
- **Conventional vehicle efficiency.** Emissions from conventional vehicles can be reduced through efficiency improvements. This includes more aerodynamic and lighter-weight designs, retrofitting drag-reduction improvements and eco-driving training.
- **Zero-emission vehicles.** Achieving decarbonisation of surface transport will require a sector-wide transition to vehicles that produce zero tailpipe emissions. For cars and vans, battery-electric vehicles are now widely available and are likely to become cost-saving by the late-2020s. For HGVs options include battery-electric vehicles, hydrogen fuel-cells and electric road systems. Continued electrification of the rail network, together with hydrogen, battery-electric and hybrid trains, will also play a significant role.

Reducing the need to use transport through locating development at locations well served by infrastructure (especially at urban brownfield sites which are near local jobs and services), and ensuring greater uptake of good quality walking, cycling and public transport facilities are recurrent themes of the new Dartford Local Plan. For instance, in policies S1 and S2:

Policy S1 (part 2):

'...Development is directed to:

- a) brownfield land not within the Green Belt; and
- b) sites with good access by public transport and walking/ cycling to a range of local supporting services/ infrastructure.'

Policy S2 (part 3):

New development will be located where well-served by public transport, and within easy walking distance of local facilities and jobs (for new homes, or the labour force/ primary catchment as applicable for other developments). All major development will feature significant measures to provide improved safe and secure active travel routes integrated with the surrounding area. Large and trip generating developments should support public transport use and new infrastructure. Focussing on sustainable locations/ transport provisions should support minimising pollution in Air Quality Management Areas and elsewhere.



### **Key Targets:**

- **Support active travel (walking & cycling) public transport and the use of electric vehicles in the Borough**
- **Work with Kent County Council to reduce the volume of traffic on our roads and improve our transport infrastructure in favour of active transport**
- **Implement DBC Air Quality Action Plan for 2022-2027**
- **Produce a DBC EV Strategy and improve the network of EV Charge Points in the Borough**
- **Develop a path towards a low carbon taxi fleet**

## **Built Environment**

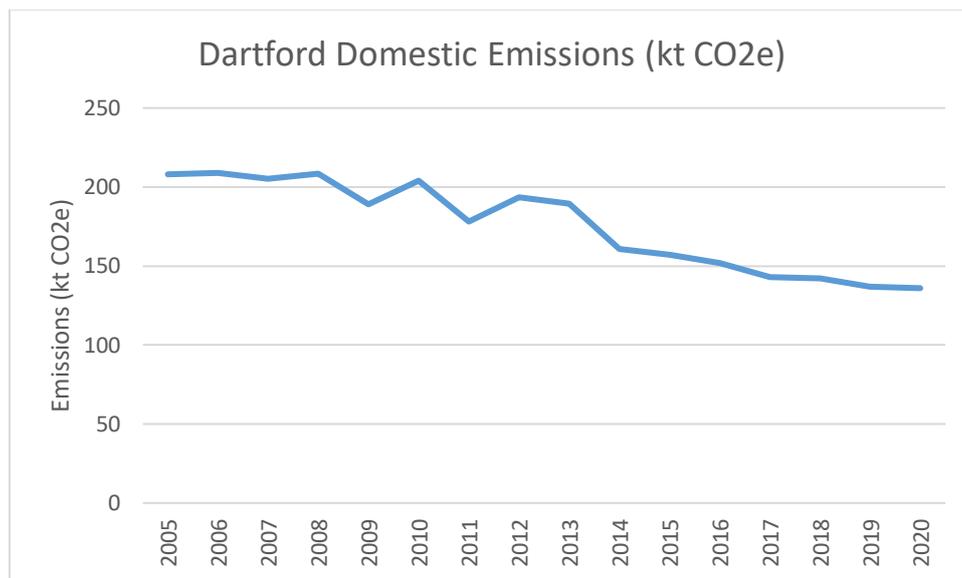
**Focus: Improve the energy efficiency of buildings and support the shift away from fossil fuel powered heating systems to low-carbon technologies.**

The domestic sector consists of emissions from fuel combustion for heating and cooking, garden machinery, and fluorinated gases released from aerosols and metered dose inhalers. It is responsible for around 16% of greenhouse gas emissions in the UK (67.7 MtCO<sub>2</sub> in 2020), with carbon dioxide being the most prominent gas for this sector (97%). The main source of emissions from this sector is the use of natural gas for heating and cooking.



The use of energy in the domestic sector is most vulnerable to outdoor temperature changes, with over 73% of consumption being used for space and water heating. The resulting CO2 emissions that are released are responsible for 27% of Kent and Medway's total emission output

Domestic sector emissions are the second largest contributor to Dartford's total CO2 emissions at 33% (135.97 ktCO2e) in 2020



Living in fuel poverty is defined as being on a lower income and living in a home which cannot be kept warm at reasonable cost. With the total UK household expenditure on energy rising by 16% in real terms since 2010 (BEIS, 2018), tackling fuel poverty remains a challenge for both local and national government

In 2018, 67,801 (9%) households in Kent and Medway were estimated to be living in fuel poverty, a reduction of 5,209 on the previous year. Compared to 2012 data, the number of Kent and Medway households in fuel poverty has risen 12%. These values are higher than the average for the South East which has risen only 9% since 2012. In 2018, the highest levels of fuel poverty were in Thanet (10.7%) and Folkestone and Hythe (10.2%). The lowest levels of fuel poverty were in Dartford (6.8%) and Tonbridge and Malling (7.3%) and Sevenoaks (7.3%).

The council owns 4243 properties and has a duty to maintain them to statutory standards. Although the council's direct responsibility lies with the performance of the building fabric it has no control over the behaviour of its tenants. Dartford is also an active developer, building new council homes in order to meet the housing needs of the local people. This offers an opportunity to lead by example and show the local development industry what is possible and show the public what they can demand from private developers. Building Control Regulations have been amended to ensure building construction mitigates against climate change.



The Climate Change Committee's [Sixth Carbon Budget report](#) highlighted the following key messages for reducing Domestic sector emissions:

- **Behavioural change**, which can drive down or alter patterns in the consumption of energy
- **Energy efficiency measures**, which save energy
- **Fuel-switching** away from fossil fuels to low-carbon alternatives.

New Dartford Local Plan policy M3 contains a range of requirements for residential developments, shown to be consistent with national policy. This includes specific water efficiency requirements, adherence to uplifted energy and Building Control standards, the passive design approach to reduce the risk of overheating and the need for cooling and additional measures of expected of large housing sites. Its first parts sets out key principles:

'The design, construction and whole life carbon cost of development must contribute to the mitigation of, and adaption to, climate change. This includes, but is not limited to, reducing embodied and operational carbon emissions, improving energy performance and preserving water. Applicants should demonstrate best endeavours to use recognised assessment tools/ quality standards.'

### Key Targets:

- **Continue to champion more sustainable development through the Local Plan (within the legal parameters allowed)**
- **Establish a decarbonisation path for our existing housing stock**
- **Ensure all Council led housing development is built to low carbon standards.**
- **Work with partners to improve the energy efficiency of homes in the private sector**



## **Energy Generation**

**Focus: Support the generation of renewable energy across the Borough.**

The Climate Change Committee's [Sixth Carbon Budget report](#) highlighted the following key messages around energy generation:

- Reducing power emissions further will entail increasing the role of renewables and possibly nuclear, and decarbonising dispatchable generation via carbon capture and storage (CCS) and/or hydrogen.

The Council works in partnership with Kent County Council on the Solar Together Kent scheme. This is a solar panel and battery storage group purchase scheme. It enables householders and small businesses to install high quality solar panels on their homes and businesses at a competitive price.

In addition to Building Regulations and various other new Dartford Local Plan requirements (for example energy efficiency in new homes), Local Plan policy M3 part 9 sets out clear criteria so that appropriate energy storage or small and large scale low/ zero carbon technology and installations can be developed.

### **Key Targets:**

- **Encourage new developments to maximise opportunities for implementing renewable energy technologies, where appropriate**
- **Support residents and businesses to reduce energy consumption and increase renewable energy purchase and generation**
- **Identify opportunities for (and facilitate) community power generation in the borough**

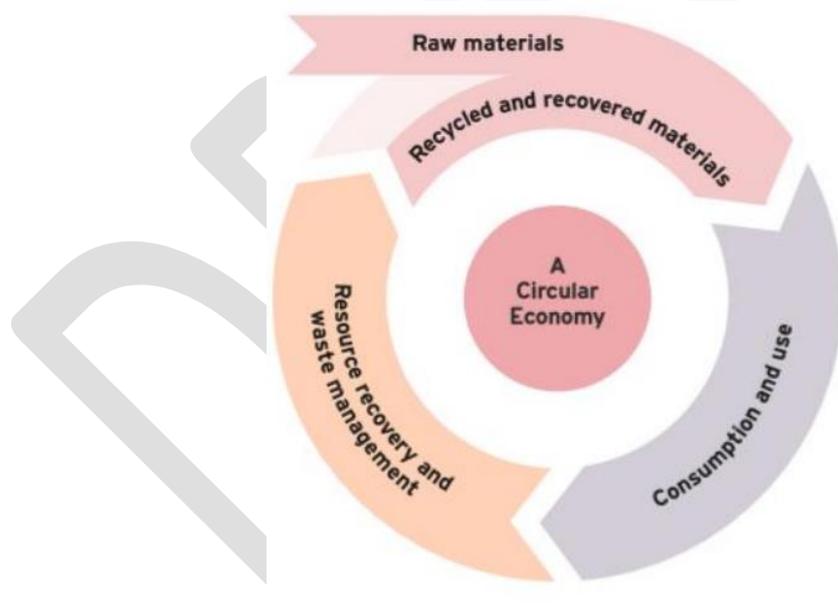


## Waste

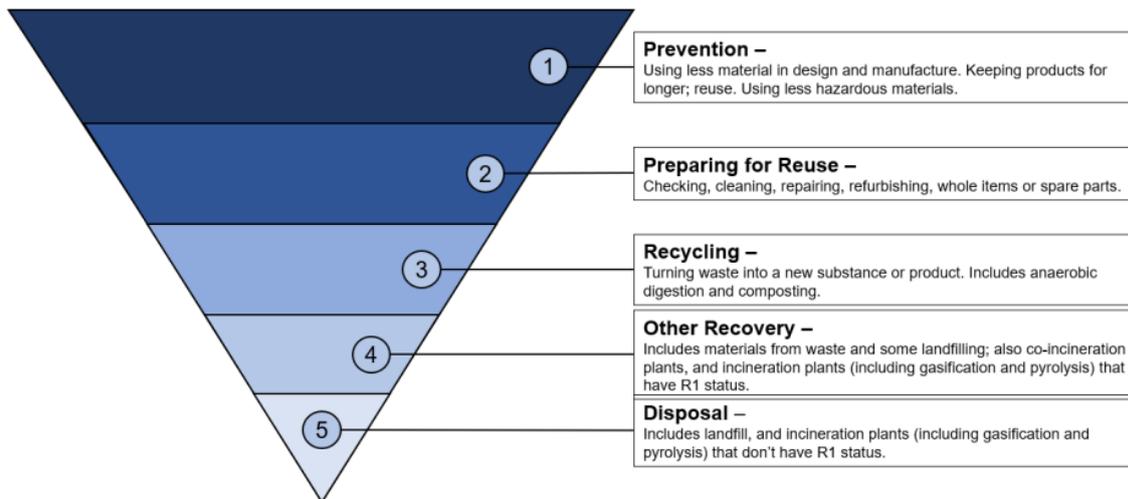
**Focus: Support the Borough to reduce waste, reuse, recycle and encourage a circular economy.**

In 2020/21, total local authority collected waste in England was approximately 26 million tonnes. Incineration (including both with and without energy recovery) was the most common final waste treatment option for this waste, accounting for 12 million tonnes or 48%. Eleven million tonnes were sent for recycling or reuse (41%), and 2 million tonnes were disposed of via landfill (8%).

The Department for Environment Food and Rural Affairs published its [resource efficiency and waste reduction targets report](#) in April 2022 which supports the circular economy principle (re-use, remanufacture, repair and recycle) and waste hierarchy where prevention is most ideal, and disposal is least ideal in terms of environmental impacts and moving to a circular economy.



*Visualisation of a Circular Economy*



*The waste hierarchy – where ‘1) prevention’ is most ideal, and ‘5) disposal’ is least ideal in terms of environmental impacts and moving to a circular economy.*

The Climate Change Committee’s [Sixth Carbon Budget report](#) highlighted the following key messages around Waste:

- Mitigation options considered include:
  - Reduced landfill methane generation (through waste prevention, recycling and banning biodegradable waste from landfill)
  - Reduced residual waste sent to Energy from Waste (EfW) plants (through waste prevention, recycling)
  - Increased landfill methane capture and oxidation
  - Improvements at wastewater treatment and composting facilities
  - Installation of Carbon Capture and Storage on EfW plants.

In 2020/21 the Council’s recycling rate was 24.5% and 372.5kg of household waste was collected per person.

The Council has already used route optimisation to reduce the distance waste is transported and is reviewing its options for an electrified waste fleet as well as consulting residents on a new waste contract that includes the introduction of a weekly food waste collection.

New Dartford Local Plan policy M3 addresses waste-related design and building issues. Part 5 of the policy requires a layout and design that enables re-use, recycling and composting for the future occupiers, with convenient and suitable arrangements for the storage of refuse and recyclable materials. Part 4 of the policy seeks that in developments, materials for construction should be recycled or re-used from within the site, or sourced locally to reduce embodied carbon and reduce/ prevent waste in all developments.

### Key Targets:

- Support residents and businesses to reduce, reuse, recycle and compost
- Improve recycling rates in the Borough
- Champion circular economy principles and the waste hierarchy of resource Reduction and Reuse before Recycling.

## Land Use & Biodiversity

**Focus: Protect, enhance and increase green space for the benefit of people, wildlife and carbon capture**

In November 2021 the UK passed the Environment Act which set clear statutory targets for the recovery of the natural world in four priority areas: air quality, biodiversity, water and waste, and includes an important new target to reverse the decline in species abundance by the end of 2030.

[The Kent Biodiversity Strategy](#) aims to deliver, over a 25- year period, the maintenance, restoration and creation of habitats that are thriving with wildlife and plants and ensure that the county's terrestrial, freshwater, intertidal and marine environments regain and retain good health.

### Local Nature Recovery Strategy

Dartford Borough Council has already taken steps to improve biodiversity; [planting new trees, wildflower meadows and community orchards](#). The Council is also part of the Kent Nature Partnership and supports the Kent Biodiversity Strategy.



The Council's new Local Plan continues to retain and protect existing green and open spaces (and seek new ones) in policy M14 as well as protecting areas needed for new flood defences and protect new development against flood risk. It features a new policy (M4) focussed on managing flood risk alongside setting additional design requirements of riverside developments to achieve environmental and social aims.

A Strategic Flood Risk Assessment informed policies and site allocations in the new Local Plan. The first Riverside Strategy is also being commissioned in Dartford in partnership with the Environment Agency to look at flood defences and guidance for riparian development along the River Darent corridor in connection with Thames Estuary 2100 Plan.

New Dartford Local Plan policy M15 establishes several requirements to promote biodiversity. This includes that protected sites will be conserved/ enhanced, developer contributions required in support of internationally recognised habitats, new national Biodiversity Net Gain stipulations applied, developments to be landscaped to mitigate and adapt to climate change, and trees retained/ provided as appropriate.

#### **Key Targets:**

- **Produce and adopt a Biodiversity Strategy**
- **Continue to champion biodiversity net gain on new developments through the Local Plan**
- **Improve access to open space, food growing and wildlife through land management, community gardening and habitat creation**
- **Produce a Tree and Woodland Management Policy and Action Plan to establish the carbon capture potential in the Borough.**

## **Governance and Finance**

**Focus: Embed climate change in all decision making and governance at the Council**

Dartford BC recognises that Climate Change is relevant to all aspects of Council including; strategy, risk management, financial statement disclosures and prudential regulation. Climate change can also be an operational issue that could affect the Council's supply chains or the markets of its products and services. The transition to a Net Zero emissions economy will also create opportunities along the way for the Council. Therefore, we will ensure that Climate Change is embedded in all decision making and governance at the Council.

Steps have already been taken in this area including: embedding climate change in reporting templates, creating a climate change risk assessment as well as plans to review the Council's procurement strategy.

### **Key Targets:**

- **Ensure climate change is embedded in our key strategies, plans and performance indicators**
- **Incorporate climate change into our governance structure**
- **Embed sustainability into all commissioning, procurement and contract management processes.**
- **Ensure climate and environmental factors are integrated into mainstream financial decision-making.**



## **Collaboration & Engagement**

**Focus: Empower residents, businesses and communities to make informed decisions on climate change and access relevant grants.**

In October 2022, The Environment and Climate Change Committee published a report entitled '[In our hands: behaviour change for climate and environmental goals](#)'

The Committee recommended that the Government should:

- learn from examples of where it has enabled behaviour change, including during the COVID-19 pandemic, and enable people to make the necessary shifts in the key areas of how we travel, what we eat, what we buy and how we use energy at home
- launch a public engagement campaign to build support for helping people to adopt new technologies and reduce carbon-intensive consumption in the key areas where behaviour change is required
- help the public to reduce carbon and resource-intensive consumption in diets, products, services and travel
- use the Net Zero Forum, announced in October 2021, to address the coordination, resourcing and responsibilities between local and central government, recognising the key role of local authorities in helping enable behaviour change in local communities
- use every lever the Government has—including regulations and fiscal incentives and disincentives—to address the barriers which prevent changing behaviours
- place fairness at the heart of policy design and tailor behaviour change interventions to avoid placing a burden on those who can least afford it. For example, providing financing support for low-income households as part of a national drive to improve the energy efficiency of our homes.

The Council will enable behaviour change by engaging and supporting residents, businesses and communities to make informed decisions on climate change and access relevant grants.

### **Key Targets:**

- **Raise awareness of Climate Change and Biodiversity loss via the implementation of a communications strategy**
- **Support community activities aimed at decreasing emissions and increasing local resilience to climate change**
- **Signpost residents and businesses to relevant grants**
- **Work with all partners and key stakeholders to address climate change**

### **Delivering & Monitoring**

The Action Plan that will accompany the Strategy will provide further details of the actions to be taken; this will be a living document that will be under regular review to account for changes in policy, technology and funding opportunities.

This strategy will be delivered through services across the council, co-ordinated through our Climate Change Team working with groups and organisations in different sectors. An annual monitoring report on progress will be prepared. We will use this to track progress towards our net zero target as a borough and to inform the actions we need to collectively take to make progress. We will publish progress on an annual basis and in doing so coordinate borough-wide efforts on carbon reduction. Publishing progress will also demonstrate transparency so that residents can ensure we are delivering against our commitments. However, it is important to make clear the Council can only directly deliver with regard to its own assets and therefore some of the commitments set out relate to influencing others

The council will use a range of funding sources to develop and deliver its programme of activity. Every opportunity will be explored to meet the challenges.



## **Glossary of Terms**

**Biodiversity:** The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable. A good level of biodiversity is indicative of a healthy ecosystem or habitat that can support a range of species.

**Carbon budget:** The cumulative amount of greenhouse gas emissions permitted over a set period to keep within an agreed temperature threshold. Carbon budgets can be agreed on different scales: individually, on an organisational scale, nationally, and globally.

**Carbon capture and storage:** A process that prevents carbon dioxide (CO<sub>2</sub>) from entering the atmosphere when it is emitted from sources such as coal-fired power plants. It is used in areas where reducing emissions is particularly difficult, for example in some types of heavy industry. CO<sub>2</sub> is compressed, transported, and then injected underground into deep geological reservoirs.

**Carbon dioxide (CO<sub>2</sub>):** A gas in the Earth's atmosphere. CO<sub>2</sub> comes from both natural sources (including volcanoes, the breath of animals and plant decay) and human sources (primarily the burning of fossil fuels like coal, oil, and natural gas to generate energy).

**Carbon dioxide equivalent (CO<sub>2</sub>-eq):** A measure used to compare emissions from greenhouse gases according to their global warming potential (GWP). This is done by converting amounts of other gases to the equivalent amount of carbon dioxide with the same global warming potential.

**Carbon footprint:** The amount of carbon released into the atmosphere by a group or an individual, as a result of everyday activities or the manufacture of a specific product. Carbon emissions – in the form of carbon dioxide and methane - are what cause global warming and climate change. Carbon footprints do not only apply to people - they can be calculated for companies, events, places, and products.

**Carbon-neutral:** A person, company or country that balances the carbon dioxide they release into the atmosphere through their everyday activities with the amount they absorb or remove from the atmosphere. This is also called net zero carbon emissions or net zero carbon, because overall no carbon dioxide is added to the atmosphere.

**Climate:** The average weather patterns over a long-term period (over 30 years at least)

**Climate Change:** The most commonly used term to describe long-term change in global or regional climate patterns, as a result of increasing levels of CO<sub>2</sub> and other greenhouse gases in the atmosphere.

**Climate Change Emergency:** A declaration by local authorities and countries, which states that urgent action needs to be taken to slow the progress of climate



change. An affirmation that the struggle against climate change is an emergency and needs to be treated as such.

**Emissions:** An amount of material produced and released into the air, that causes harm to the environment; in particular, carbon dioxide and other greenhouse gases.

**Energy Efficiency:** Achieving a minimum level of energy use within a building to reduce wasted energy, whilst maintaining desired levels of heating, lighting, and cooling.

**Fossil-Fuels:** biomass lain down in the Earth millions of years ago, such as coal, oil, and natural gas, which when burnt produce carbon dioxide.

**Fuel Poverty:** A household is considered to be fuel poor if they have required fuel costs that are above average, or if they were to spend that amount they would be left with a residual income below the official poverty line.

**Global Warming:** a rise in the Earth's temperature, often used with respect to the observed increase since the early 20th century.

**Greenhouse effect:** The increase in the temperature of the Earth's surface and atmosphere, due to the insulating effect of greenhouse gases in the atmosphere.

**Greenhouse gases (GHGs):** GHGs are the six gases listed in the Kyoto Protocol: carbon dioxide (CO<sub>2</sub>); methane (CH<sub>4</sub>); nitrous oxide (N<sub>2</sub>O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF<sub>6</sub>).

**Net Zero:** refers to the balance between the amount of greenhouse gas (GHG) that's produced and the amount that's removed from the atmosphere. It can be achieved through a combination of emission reduction and emission removal.

**Renewable Energy:** energy derived from renewable (naturally replenishing) sources (for example sun, wind, wave, geothermal).

**Recycling:** the process of converting discarded materials into new materials and objects.

