

APPENDIX 1

Tackling the Climate Emergency Together

Southwark's strategy to become Carbon Neutral by 2030

July 2020

Executive Summary

Manmade climate change is already having an impact across the world, there is overwhelming evidence that the planet continues to heat which threatens all who inhabit it. This threat is not even, it is the poorest and most vulnerable who are most threatened. The effects can already be seen in Southwark with more extreme weather, greater flood risk and an impact on the health of our residents. Carbon, wherever it is produced in the world, is contributing to this crisis and so every part of the world needs to play its part. That is why Southwark Council has declared a climate emergency and committed to do everything it can to make the borough carbon neutral by 2030.

Southwark, is joining with other London Boroughs to demand urgent action now from government to retrofit London, invest in low carbon development, halve petrol and diesel road journeys, secure 100% renewable energy for London, reduce emissions from consumption and build a green economy.

In addition, this strategy sets out a plan of work, which taken together can take us to carbon neutrality.

Defining our Approach

In developing and delivering this plan, we remain committed to the council's fairer future principles, and want to align our work with the global UN Sustainable Development Goals. The council supports a just transition, where the burden of change to a more sustainable future is shared amongst those who can most afford it. Our approach is governed by three principles to be: inclusive, transparent and ambitious. These principles will underpin how we work and how we engage with our residents, businesses and partners.

The council is only one part of the solution. Action is needed at every level, from the individual to the government. We have a role in leading and bringing together different people and ideas – but the solution will only be achieved by working together. The council is aligning this strategy with its other plans and strategies and will embed its principles and targets in every part of the council's work so that as one council we are driving this work forward for the whole borough.

It is essential to be able to measure the carbon we produce, and the effect of the decisions we take on the overall carbon produced by the borough. We are working to develop a robust way to do this, and a way that means our emissions can be compared to other boroughs. While our focus will be on scope 1 emissions, our strategy will also take steps to reduce scope 2 and 3 emissions.

Developing our Ambition

To deliver the change that is necessary our work will focus on five key areas. In each of these, the strategy sets out a series of objectives, and a programme of activity that can help us to achieve these objectives. For each area of work there is a combination of actions that

are needed at the individual, borough and national level. As we move from the strategy into action planning, we will evaluate the different ideas in each area, and assess how we will do it, whether it is a small change, an area which requires a larger change but we have a route to achieve it, or whether it is a more major change that may require changes to legislation or national policy. Our objectives are:

- **Buildings, construction and regeneration**
 - Planning regulations that put carbon neutrality at the heart of development.
 - Embedded building techniques such as green roofs and solar panelling.
 - Encouraging the repurposing of existing buildings where practical.
 - Using and creating buildings that protect and enhance our green spaces.
 - Buildings which minimise carbon emissions in their use.

- **Transport and travel**
 - Make cycling and walking easier.
 - Discourage the ownership and use of polluting private cars.
 - Improve the accessibility and sustainability of public transport.
 - Reduce unnecessary journeys.
 - People cut down on unnecessary flying, and offset their carbon when they do fly.

- **Biodiversity, trees and green spaces**
 - Greener streets, with more planting and fewer cars, making our streets places for nature to flourish.
 - Improved biodiversity with green corridors to help wildlife to move.
 - Increasing tree coverage across the borough with more planting and loss of existing trees as a last resort.
 - Residents in touch with nature, more “grow your own” and community gardening.
 - Building and development that works alongside and enhancing our natural environment.

- **Consumption**
 - For Southwark to have a more circular economy, that reduces consumption, and keeps resources in use for as long as possible.
 - To drive behaviour change about what we consume and what we eat so that we are more sustainable consumers.
 - To support local supply chains and local businesses to be more sustainable.
 - To shift the approach of large businesses away from carbon heavy methods of delivery and production.
 - To encourage more plant based diets with more sustainable choices and less waste.

- **Energy**
 - To move towards zero carbon, green energy for all businesses, residents and services in the borough.
 - To increase local sustainable energy production.
 - To tackle fuel poverty by promoting and providing accessible energy alternatives.
 - To reduce energy demand and cut energy waste.

Delivering an Action Plan

This strategy sets out the ideas that we will need to implement if the borough is to be carbon neutral by 2030. Following a period of consultation, and further changes to the strategy, we will develop an action plan containing a timetable for implementation and a programme of work to put these ideas into practice. This will include identifying the resources needed.

Our strategy and its delivery will be transparent. We will report on progress and embed the targets into the council's performance system where we publish an annual performance report. We will work towards making data public whenever we can so that our residents, businesses and partners can better understand the issues that we face and the progress we are making together as a borough.

This strategy is the start of a climate conversation with the public. We will only make it a success if we engage, educate and empower. We will engage with the public making sure that diverse voices are heard, and that everyone in Southwark can be part of the conversation.

We will put education at the heart of what we do. Making sure that people have the facts and information they need to make good choices about how they live and what they expect from others. And, we will empower our residents, ensuring they have the tools they need to make positive change. Our transparent approach means that residents can access what they need to take action.

Our delivery will be inclusive, ensuring that vulnerable communities, BAME communities and our young people are all equal participants in tackling climate change together.

Delivery relies on our residents, but also our partners. Our approach will work with local business, public institutions as well as global companies based in our borough.

It is through a clear and ambitious action plan with a transparent and inclusive approach that we will work with our residents, our businesses, our partners and everyone with an interest in Southwark and its future, that we will tackle the climate emergency together.

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Foreword

The world is currently undergoing the sixth mass extinction in the history of life on earth.

In 2018, the UN's Intergovernmental Panel on Climate Change (IPCC) warned that the world faces catastrophic climate and ecological risks if global warming exceeds 1.5 degrees centigrade above pre-industrial levels, which presents an existential risk to human communities and other life on the planet. Time is running out to prevent catastrophe, which requires halting emissions to net-zero as soon as possible.

Every tonne of greenhouse gas that is produced, wherever it is produced anywhere in the world is contributing to the warming of the planet and so all of us, whoever we are and wherever we are, have a responsibility to take urgent action now. That is why in 2019, Southwark declared a climate emergency with the ambitious aim to make Southwark carbon neutral by 2030 so that as a community, we can play our part in tackling this global crisis.

This strategy is a major step towards achieving our ambition. It sets out what we believe needs to happen to become carbon neutral. It shows that the solution is not the responsibility on one organisation, but collectively the responsibility of everyone who lives, works or uses our borough.

Our strategy is inclusive and ambitious and it will not be easy to deliver. Southwark is one of the key organisations in the borough that must strive for change to aid its delivery, but there are also many others that are responsible too. Our aim is to be a convener, bringing residents, businesses, partners as well as movements and groups together.

Developing this strategy has been a challenge because it is being done at a time that the world faces another global crisis – coronavirus. This crisis means we have not done the engagement that we want or need, and so this strategy is a step towards our goal, but is not the whole journey. In launching this strategy, we want to open up a dialogue with the community, to hear whether these ideas are the right ones, or whether there is a different path. Our work though must be evidence led and open to change. We will technically assess Southwark's Carbon outputs, and use evidence to inform our action both across our borough and when lobbying government and beyond to deliver this ambitious Carbon Neutral target by 2030.

This strategy sets out our commitment to engage as we move from a draft to a final strategy, and also as we implement our policies over the next decade. Southwark must embark on a climate conversation.

As well as work that the council must do, there is individual action, action for other institutions and organisations and for those who do business in the borough. Everyone with a stake in the borough must be part of this conversation. This enables us to engage, educate and empower the borough, but also to learn and evolve as new ideas are

developed and we try out ideas that we may then need to modify and change. By actively engaging with each other and keeping the conversation going, we will ensure that we can all play our part in tackling the climate emergency together in Southwark. We recognise that some actions are easier for some than for others, and so in developing an action plan we will be inclusive recognising the different steps that different people and communities can take so that everyone is enabled to be part of this change.

Where the council does not have powers to carry out all the actions needed, the strategy suggests lobbying of other bodies that can enable those actions is imperative. The strategy also highlights that we are one borough of many, we must therefore join up regionally and nationally to deliver. Recent events have taught us that we can do this and it is possible. Co-operation with like-minded organisations to achieve change isn't just desirable, it's a necessity.

The coronavirus pandemic has shown the strength and resilience of our residents, but also that they and we all have the power to change, to live differently and to be part of a different and better future. In developing this strategy, COVID has limited the engagement that we would have liked to have done. This strategy should therefore not be seen as the finished, unchangeable blueprint for the next ten years, but instead our ideas about what needs to happen and clear direction of travel for the council and the borough. Over the coming weeks and months, we will engage with our residents, businesses, groups, institutions and others to develop this strategy further and to develop a clear and measurable action plan to move the borough forward together.

Now is the time to come together as a community to more explicitly discuss and identify what must change and what stands in the way, both inside and outside Southwark. This strategy is the start of that journey, but now the hard work begins for all of us to tackle climate change together in Southwark.

Cllr Richard Livingstone

Cabinet Member for Environment, Transport and the Climate Emergency

Introduction

Southwark's Commitment and the Climate Emergency

In March 2019, Southwark's council passed a climate emergency declaration. It noted the council's commitment to make Southwark carbon neutral by 2050 and to halve Southwark Council's own emissions by 2022. It noted progress including cutting the council's carbon emissions, divesting pensions funds away from fossil fuels into sustainable alternatives; protecting the borough's biodiversity and keeping recycling rates high – currently the highest in inner London.

The declaration noted the impact of manmade climate changes and the 2018 IPCC report on limiting global temperature rises and that urgent action was needed by all levels of government, business and individuals.

The declaration stated that “despite the leadership already shown by Southwark Council to reduce carbon, it needs to go further still if we are to play our part in preventing further climate change and to set an example to others.” Therefore, that the council should “Declare a Climate Emergency and do all it can to make the borough carbon neutral by 2030.”

Further, that we develop a strategy, working with local stakeholders, to ensure that the council becomes carbon neutral at a much more rapid pace than currently envisaged. This carbon reduction strategy should aim to achieve carbon neutrality by 2030 if feasible. This strategy should be clear in its targets. As it develops from a draft to a final plan, together with an action plan, it will need to identify the resources that are required. It should also be developed in a way that is sufficiently flexible to make best use of new carbon reduction technologies as they develop.

Manmade climate change

Manmade climate change is real, and it is happening now. The scale and pace of change presents a catastrophic threat to our planet and our future. Global temperatures have already risen by 1°C from pre-industrial times. The recent 2018 Intergovernmental Panel on Climate Change has now said we have just 12 years to act on climate change if global temperature rises are to be kept within the 1.5°C. That means the world being carbon neutral by 2030.

Everyone has to play their part if we are to succeed in limiting global temperature rises. Every tonne of carbon that is produced anywhere in the world matters and has an impact. Greenhouse gases don't respect local, national or international borders and so every tonne of carbon whether produced in Southwark, America or China is all contributing to this crisis.

While there are some very vocal opponents to the climate emergency, we do not believe that this fringe debate should distract us from the overwhelming scientific evidence of

global warming and climate crisis. It is this consensus that has brought together world leaders and mobilised millions around the world to take action. This strategy is part of that global movement, how we in our borough can help make the difference that the world urgently needs.

The UK is already seeing the effects of climate change; the Met Office's analysis of annual temperature records shows that all of the UK's ten warmest years have occurred since 2002, whereas none of the ten coldest years have occurred since 1963.

The earth's climate has changed throughout history. Within the past 650,000 years alone there have been seven major climate shifts, with the last ice age ending approximately 7,000 years ago resulting in the climate we know today. In more recent years, the earth's temperature has been rising faster than anticipated, more so than we would expect to happen typically. Climate scientists therefore consider that these changes are due to human activity over the past one hundred years.

The sun is the earth's biggest source of energy, and some of the energy that reaches the earth is trapped by greenhouse gases. Since the Industrial Revolution, the amounts of these gases in the atmosphere have gone up significantly. There has been a 40% increase in the atmospheric concentration of carbon dioxide, a 20% increase in nitrous oxide, and a 150% increase in methane. The increases have not been at a steady rate and have gone up steeply since the 1970s.

Increased greenhouse gases trap more heat close to the earth, leading to rising temperatures. The IPCC has said that the world reached around 1°C of human-induced warming over pre-industrial temperatures in 2017. Moreover, some regions, such as the Arctic, have had more warming than others. While the temperature changes may seem small, the effect on humans and the natural world is profound. Even if we were to stop the emission of all greenhouse gases immediately, global warming would continue for at least several more decades. The IPCC think that it is possible to keep temperature rise to less than 1.5°C but only with urgent and wide-ranging action from governments and people.

Greenhouse gases are produced by a number of human activities including the burning of fossil fuels for heat, transportation, and electricity; and also agriculture and deforestation. Despite international pressure on governments and industry to switch to more renewable sources of energy and to improve land and agricultural management, progress has not been fast enough. There are many reasons for this, including a lack of support for change amongst some governments. The use of fossil fuels is going up in many countries as they industrialise and develop their economies. In the UK they are falling and in London have fallen from a peak in 2000. However, when considering historic emissions, the UK is near the top of cumulative emitters so must do more to reduce its emissions and faster.

Climate change is already causing damage to our planet; glaciers are shrinking, plant and animal species have moved from their normal locations or have become extinct, and extreme weather events are becoming more frequent. Rising sea levels are risking costal-

cities and small island states and more extreme weather impacts on our lives, our food supply and our safety. It causes crops to fail, impacts on global insecurity and means millions of deaths. A change in global climate affects our land, freshwater, and ocean ecosystems. This is already happening now and is already starting to affect our everyday lives.

According to the Met Office, summer heatwaves are now 30 times more likely than they would be typically. The Environment Agency has warned us that many species of bird are reducing in number, mostly related to reductions in food supply in response to extreme weather.

If we do not change our behaviour, it could be devastating for our world. Even if we stopped releasing greenhouse gases immediately, some estimates show that global heating would continue for at least another 70 years. If things do not change, it will affect our world in dramatic ways. We could see more extreme weather, rising sea levels, more people dying from disease and wars caused by poor food supply. There is a climate emergency and we need to take urgent action now.

What does climate change mean for Southwark?

Temperature rises are already leading to changes in the borough and even if we become carbon neutral by 2030, adaptation will be necessary to adapt to a different way of living. Some people in Southwark, and around the world will be more impacted by change than others. This strategy does not include an adaptation strategy, but moving forward the council will need to develop an adaptation strategy to ensure that the impacts of the changing climate does not disproportionately affect the communities who have the least resource to adapt.

Unequal impact of climate change on Southwark's residents

The impacts of climate change are not felt equally. Poorer and otherwise disadvantaged communities, including the elderly, are more at risk. This strategy recognises that and in developing an approach, supports a just transition.

Although we are all affected by our changing climate, factors such as race, income, age and health play a big role in how directly we feel this impact. In Southwark we are proud to be home to a diverse community and significant BAME population. According to the 2011 census (the latest detailed figures available), 16.4% of the borough is Black African, 6.2% Black Caribbean and almost 3% Chinese. The borough is also home to many other BAME residents, including those from countries as widespread as India, Pakistan, Columbia and Iraq.

The global south is disproportionately affected by climate change. The risk of floods, landslides and other natural disasters is much higher in countries with hot climates and this has been exacerbated by man-made climate change. The impact of these disasters can

sometimes significantly impact economies and lead to people needing to immigrate to places like Southwark. It is important to recognise that the impact of global natural disasters on residents in Southwark with close family and friendship ties to countries in the global south. We must listen, learn and partner this experience with our actions in the borough.

The impact of climate change is also experienced differently here in Southwark. An individual's income significantly impacts their experience of climate change and the resources they have available to adapt to the changing environment. According to the 2019 Indices of Deprivation study, Southwark ranked 43rd out of 137 local authorities in terms of socio-economic deprivation and almost a third of our residents live in communities ranked in the 20% most income deprived in England. People living in deprived areas are more affected by poor air quality because these areas tend to be near busier roads. In contrast, 8% of our residents also live in communities ranked within the 20% least income deprived. This disparity in wealth highlights that not every individual has capacity to act at the same rate or in the same way but will also not experience the impact equally. For example, housing adaptations such as triple glazing and solar panels are understandably less of a priority for people on lower incomes than food and rent. Simultaneously, people from a higher income are more likely to emit more carbon, with larger homes in need of greater heating and most disposable income for long haul flights. We must recognise this disparity in resource and its relationship with our fight against climate change.

Other important characteristics that are disproportionately affected by climate change are age and health. People with more vulnerable health are more affected by climate change, which is sometimes determined by age. Researchers at Queen Mary University found that in the UK children were exposed to higher levels of pollution, particularly while walking to school and on the playground, and that the effects of this pollution were more serious on children than on adults. Exposure to air pollution at a young age can hinder lung growth, inhibit brain development and increase the risk of conditions such as asthma. Alongside this, air pollution has shown to disproportionately affect people with existing heart or respiratory conditions, who are more likely to be older than average. Vulnerable groups, such as the very young, elderly and those with health issues are more affected by the climate.

Health and disease

Climate change endangers human health. It will have impacts on nearly all aspects of our lives and so it will have a wide-ranging effect on health. We know that the greater the warming of the planet, the greater the risk to health, and also that many of the actions we could take against climate change could have additional positive impacts on health.

Changes in climate are also increasing the risk of insect borne diseases in the UK. Warmer climates mean that diseases that are carried by, for example, mosquitos are now becoming more prevalent in Europe and we expect the UK and London.

Climate change and air pollution are closely related. The burning of fossil fuels in cars and industry release greenhouse gases contributing to global warming, but also pollute the air

that we breathe. Globally, around eight million premature deaths are caused every year by air pollution. In the UK, around 40,000 premature deaths are thought to occur due to air pollution. While detailed local data is not available, given our population and air quality, this is likely to be around 200 premature deaths every year in Southwark.

Changes to temperature

If we do not change, then deaths in the UK due to heat are projected to increase by two-thirds by the 2020s and around two and a half times by the 2050s.

Average and extreme temperatures in the UK are expected to increase. That is a temperature that is significantly higher or lower than the average for that time of year in that place. Climate change means that heatwaves such as the one in the UK in 2003 are expected to become normal by the 2040s. This is increased in areas like Southwark because of the urban environment which can cause temperature to be 5-10 degrees warmer than neighbouring countryside.

The reverse is also a risk with periods of extreme cold. There are tens of thousands more deaths over the winter period than would be expected given the death rate over the rest of the year when it is warmer. Extremes of cold are likely to increase this.

Rainfall and flooding

With changes in temperature come changes in rainfall. It is very hard to predict exactly what the pattern and seasonality of rainfall will be in the future as a result of climate change but because London is growing, it is already expected that the city will have to deal with water shortages in the coming decades.

With more extreme weather patterns there is also a greater risk of flooding. Floods in the UK over the past decade have had a devastating impact on peoples' lives. Southwark is protected from tidal and river flooding by the Thames Barrier and other defences. As 60% of residents live on land less than ten meters above sea level, any changes in sea levels will have a direct effect on Southwark. Our defences are being maintained and upgraded. But even with this, around 1.3 million people are living or working in areas where there is a flood risk. The risk area includes large parts of the north of Southwark. Additionally, flooding can occur less predictably as a result of heavy rainfall leading to surface water and sewer flooding. London's Victorian sewer and drainage systems were not built for the size of the population in the city today, and having large areas of land covered by tarmac and other impermeable surfaces means rain water drains less quickly. Some areas of the borough are more susceptible, especially those in the valleys of hidden rivers.

Food Supply

An estimated 75,000 of Southwark's residents are food insecure. This is defined as someone who has no food for a day or more, normally due to resources. The COVID crisis is

likely to have increased this in the short term, and we do not yet know what the long term impact of that will be on food security. But, with climate change food insecurity is set to increase.

One of the major effects of climate change is going to be problems with the availability of food. Extremes of weather will impact on crop production, and increased carbon dioxide is making the oceans more acidic impacting on marine life and commercial fishing. While weather changes mean Britain's climate will be more suitable for growing some new crops, this will be outweighed by the effects of more extreme temperatures and changes in rainfall.

The UK imports a lot of its food (roughly 40%) which means we will be affected by the changes happening in other countries. As food insecurity increases globally, we would expect to see increasing inequality. Trade is also likely to be affected with countries considering the income for food export against the requirements to feed their own populations. A country like the UK which relies on imports would see a reduction, meaning higher prices and greater food insecurity in a borough like Southwark.

Impact of conflict and migration

There is growing evidence of the link between climate change and conflict. While much of this happens many miles away from London, its impact is felt and experienced by our residents. Southwark is rightly proud to celebrate its diversity as a borough, where people from around the world have chosen to make the borough home. But this diverse population means our communities and neighbourhoods are often personally connected to communities around the world who will be facing food and water shortages, failed crops and forced migration in search of food or to avoid war.

The European migrant and refugee crisis is in part due to reduced food and farming land in Africa and the Middle East, which causes local violence and prompts people to leave their country of origin in search of better economic opportunities. There is usually not one simple cause for why a person leaves their home and sometimes the country they live in, but changes to the environment including climate change are going to have more of an impact on the movement of people in the future.

This has profound effects on those moving but also places real pressures on the new host country to support and protect often vulnerable people who have fled. We as a borough will always be a welcoming place to those in need, but we should also be doing everything we can to avoid that need arising, so people are not forced to flee in the first place making often dangerous journeys in search of security for them and their families.

The London and the national context

Around 65% of local authorities in the country have declared a climate emergency; this includes most councils in London. The GLA has declared a climate emergency and to be

carbon neutral by 2050. The Mayor of London is committed to a date of 2030.

Since declaring the climate emergency, the context in London has evolved. Our priority is, and remains, to be carbon neutral by 2030, but the growing support across the city means that we are now delivering this alongside other boroughs which will have a greater impact for our city and our planet.

London Councils has started work to support boroughs that are developing climate change strategies. This will ensure that as far as possible council strategies align and across the city boroughs can realise opportunities to work together to achieve climate change commitments. Some of the changes required to become carbon neutral are in our gift, and although challenging, can be delivered by working as a single borough with partners and stakeholders. Others are more complex and will require working together regionally and nationally to ensure that funding and regulation come together to achieve significant results, for example retrofitting energy efficient solutions to existing homes.

Chief Executives and Strategic Directors in London have agreed a series of priorities for London where boroughs need to work together as the local government sector to deliver. In a joint statement on climate change, London boroughs have agreed to six programmes of work (<https://www.londoncouncils.gov.uk/our-key-themes/environment/climate-change>).

- **Retrofit London:** Retrofit all domestic and non-domestic buildings to an average level of EPC B. Programme timescale: 2020 – 2030.
- **Low-carbon development:** Secure low carbon buildings and infrastructure via borough planning. Programme timescale: 2020 – 2022.
- **Halve petrol and diesel road journeys:** Halve road journeys made by petrol and diesel via combined measures that can restrict polluting journeys and incentivise sustainable and active travel options. Programme timescale: 2020 – 2030.
- **Renewable power for London:** Secure 100% renewable energy for London’s public sector now and in the future. Programme timescale: 2020 – 2030.
- **Reduce consumption emissions:** Reduce consumption emissions by two thirds, focusing on food, clothing, electronics and aviation. Programme timescale: 2020 – 2030.
- **Build the green economy:** Develop London’s low carbon sector and green our broader economy. Programme timescale: 2020 – 2030.

Southwark will campaign on these issues with other boroughs across London. In addition to these projects, councils have agreed to collaborate on management and use of data. This is to ensure that there is a common means of measuring carbon and progress across the city for greater transparency and accountability.

COVID-19 – Changing the context

The coronavirus pandemic has brought about unprecedented changes. The loss of human life has been severe, and measures to reduce further loss have inevitably led to disruption to communities, livelihoods, businesses and the delivery of other public services. In amongst this, we have seen an amazing response from every sector. Individuals, communities and businesses have also shown an unprecedented ability and willingness to adapt their behaviour.

It is clear that the coronavirus has created a huge social and economic change, and that as we transition through the crisis things will be different. We also hope to see a far greater investment in climate resilience, and a cleaner environment. As we focus on recovering from this crisis, we must not lose sight of the urgency of tackling the climate and ecological crises, there inherent connection, now more than ever we should look for joined up solutions.

Coronavirus is stark reminder that prevention is better than cure, and that when designing how to deliver the ‘new normal’ we need to re-think what this should look like in Southwark and London.

As this strategy will set out later, much of the response to the climate emergency will involve individual behaviour changes. People travelling differently and consuming differently. People have already started making these changes in response to the pandemic. People are driving less, and instead walking and cycling more. People are shopping locally and changing their habits. Business is operating differently with and remote working has become more normal. There has been an estimated 17% drop in greenhouse gas emissions in this time – which is unprecedented. While the pandemic has brought much tragedy, there is also an opportunity to build on some of the changes that have taken place. This strategy should therefore start from the new world as it exists in the wake of COVID, not from the world that existed before. As the world goes back to work, much of this will change, but there is an opportunity to do things differently and to not throw away the climate gains that this terrible pandemic has delivered.

Our aim must be to build back better, investing in resilient communities, a low and zero carbon economy and a clean and thriving natural environment.

We believe that in Southwark, this is what our community wants. People are valuing clean air, our parks and open spaces are being discovered and rediscovered by residents, and our thriving local businesses are showing they can adapt to new ways of working. Polling shows that two thirds of Britons believe that climate change is as serious as Coronavirus, and the majority of them want to see climate change prioritised in the economic recovery.

The government’s Committee on Climate Change has advised that action to strengthen the economy the UK can, and should, also deliver on our climate goals. In their letter to the

Prime Minister, the Committee said that ‘Actions towards net-zero emissions and to limit the damages from climate change will help rebuild the UK with a stronger economy and increased resilience.’ They recommend six principles for an integrated recovery and five specific measures.

1. Use climate investments to support economic recovery and jobs. The CCC has previously identified a detailed set of investments to reduce emissions and manage the social, environmental and economic impacts of climate change. Many are labour-intensive, spread across the UK and ready to roll out as part of a targeted and timely stimulus package.
2. Lead a shift towards positive, long-term behaviours. The Government can lead the way to new social norms that benefit wellbeing, improve productivity and reduce emissions. This includes actions to support home-working, remote medical consultations and improve safety for cyclists.
3. Tackle the wider ‘resilience deficit’ on climate change. Strong policies are needed to reduce the UK’s vulnerability to the destructive risks of climate change and to avoid a disorderly transition to Net Zero. They must be implemented alongside the response to COVID-19 and will bring benefits to health, well-being and national security.
4. Embed fairness as a core principle. The benefits of acting on climate change must be shared widely, and the costs must not burden those who are least able to pay, or whose livelihoods are most at risk as the economy changes. Lost or threatened jobs of today should be replaced by those created by the new, resilient economy.
5. Ensure the recovery does not lock-in greenhouse gas emissions or increased risk. As it kick-starts the economy, the Government should avoid locking-in higher emissions or increased vulnerability to climate change in the longer-term. Support for carbon-intensive sectors should be contingent on them taking real and lasting action on climate change and all new investments need to be resilient to future climate risks.
6. Strengthen incentives to reduce emissions when considering tax changes. Revenue could be raised by setting or raising carbon prices for sectors of the economy which do not bear the full costs of emitting greenhouse gases. Low global oil prices provide an opportunity to increase carbon taxes without hurting consumers.

The Southwark Context

Following the declaration of a climate emergency in March 2019, the council has been working to develop a climate strategy. This started with a climate summit in July 2019, and has been informed by amongst other things the work of the environment scrutiny commission who made a series of recommendations at the end of 2019 on the council’s

approach. In 2020 the council set up a new Climate Change division in the council and appointment a Climate Change Director to take the council's work forward. Since then we have established a partnership steering group and started a process of public engagement around the issue of climate change.

The council has been promoting the climate emergency with new branding, a special feature in Southwark Life, and is currently developing further ways to promote and encourage action to address the climate emergency.

The council has allocated an initial £2m to the work. The council is also drawing on increasing resources that are becoming available from think tanks, environmental groups and others. Friends of the Earth for example, in collaboration with the environmental charity Ashden, has produced an action plan of 31 things that councils can do to reduce carbon. This work identifies actions that councils can take, as well as the carbon savings and examples of where they have already been tried and succeeded elsewhere in the country. Resources like this will help the council develop its strategy, but also learn from the experiences of others to ensure that our strategy is aligned with work that others are doing. Already the council is taking some of the actions that are identified. These include:

- Set up a carbon offset fund through s106 agreements;
- Require higher than national energy efficiency standards for privately built new homes;
- Introduce measures to encourage walking and cycling;
- Enable the rapid shift to electric vehicles through putting in place EV charging;
- Reduce the need to own and use a car through managing developments in the local plan;
- Upgrade the insulation and heating systems of council buildings;
- Switch street lighting to well designed and well directed LED lighting;
- Cut the council's paper waste by offering papers electronically.

Alongside the council's work on engagement and the development of the strategy, the council has continued to develop policy as well as programmes which reduce our carbon emissions and support greater sustainability. In the last few months:

- The council has started work on renewing its energy contracts. The gateway 1 report sets out proposition to move to 100% green energy for all Southwark electricity supplies. This would create a saving of around 25,000 tonnes of CO2 per year.
- Work is underway between Southwark and Veolia to expand the SELCHP district heat network, moving from gas fired boilers to waste heat. This could initially realise CO2 savings of around 9,000 tonnes per year. Officers are looking at further expansion beyond this, to include the Old Kent Road regeneration area which would offer even greater CO2 savings.

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- The council is working in partnership with Lewisham for our residents to receive home visits and advice on how they can reduce energy bills and save carbon, helping to alleviate fuel poverty in the Borough.
- Work is underway to fit out the council offices in Tooley Street to convert all lighting to LED. This will save around 572 tonnes of CO2 per year.

As well as sustainable energy measures, the council has also undertaken a review of work across every part of the council. This has considered existing initiatives as well as possible future initiatives. This work, together with our community engagement, will all be considered as part of our strategy development.

Principles and approach

Southwark Council is committed to the borough being carbon neutral by 2030, and building a sustainable carbon neutral future for all. To be successful in tackling climate change, our work must be part of a much larger global movement for change, and so our approach will be rooted in the global foundational framework of the UN Sustainable Development Goals which provide a blueprint to achieve a better and more sustainable future for all.

Alongside this, our approach should be guided by our own values. The council's fairer future values inform and guide all our decisions and determine how we deliver on the commitments that we have made. The values of treating everyone as a valued member of our own family, using our resources well, working for everyone to achieve their potential, being open, honest and accountable and making a Southwark a place to be proud of should also inform and guide our work to tackle the climate emergency. We therefore believe Southwark's climate strategy should reflect the borough, by ensuring it is inclusive, transparent and ambitious.

There is an opportunity during a just transition for not just a reduction in carbon, but also other wider social benefits that align with Southwark's values. For example, there are opportunities to address the housing crisis and tackle fuel poverty. There are opportunities to improve public health, both mental and physical, and opportunities to tackle employment issues with green jobs. A climate strategy can reduce our carbon but also work alongside the council's other ambitions to deliver a fairer future for all in Southwark. Our approach will recognise this and capitalise on opportunities to maximise social gain in the decisions that we take.

Inclusive

Climate change is an ethical and political issue, not just an environmental one. It is an issue that does not affect all people equally and where the burden to change is not spread evenly. It is often underrepresented or excluded groups whose voice is least heard, but who are also those who will suffer the most as the result of climate change. Existing social inequalities in Southwark and elsewhere could be made worse by the effects of a changing climate.

Our approach to the climate emergency will be inclusive. Built on the principles of social justice we will support a just transition where the burden is spread fairly with the greater share to those most-able to afford it. We will support plans that tackle climate change but which also reduce inequality and promote a fairer future for all.

Southwark is rightly proud to celebrate its diverse population. Our approach will be inclusive of all our residents, whoever they are and whatever their background. We will reach out to every part of Southwark and meet the climate emergency with a response built by all of our community and owned by all of our community.

Transparent

We want to ensure that we are open and honest in our approach. We do not know all the answers and information on our climate can sometimes be difficult to produce. However, as a council we must be open and honest about what we can do and what else needs to be done. We will only achieve carbon neutrality if we work together as a community but to do this, we need to be honest with each other and accountable to each other.

Being open, honest and accountable will help foster a constructive and inclusive environment in which we can come together to find solutions to the challenges that we all face. We will be a good partner and work with others to lead change in Southwark and to campaign for change across London, the country and beyond.

As a public body we are and will always remain accountable to our residents, businesses and partners.

Ambitious

Our commitment must be bold and ambitious. We should not constrain ourselves to changing existing projects, or activities that the council traditionally delivers. We should instead look at all opportunities to take action and be ambitious in the scale and scope of our work. Failure is not an option and so we will be bold in our ambition and bold in our actions.

We know that we do not know all the answers, and so will be flexible, adaptable, always learning and willing to try new approaches. We will achieve change by pushing the boundaries of what is possible and not being afraid to try new ideas and approaches to deliver change.

A whole system approach

The council will operate as 'one-council'. The climate crisis will be considered at all levels and be an integral part of the decision making process. Just as council decisions currently consider legal, financial, community and equality implications, in the future they will consider the climate impact of a decision. This means that decision makers at whatever level will need to consider the impact on the environment of what they are agreeing, and whether there are alternatives that will have a better impact that they should instead consider. This decision making process is currently open to member and public scrutiny and this will ensure that that level of scrutiny can take place on all decisions in relation to their climate impact.

Climate change is also an issue that impacts on every part of the council's work. As such climate change will be incorporated into the work plans of departments and through the performance schedules for the council. We will publish the performance reports annually.

The council plays a leading role in climate work across London and will continue to engage with other councils to learn from and encourage best practice.

The council has a role as a leader of a whole borough approach to tackling the climate emergency. The council only has direct control over a small proportion of the total emissions in Southwark. However, it does have a role as a leader, a convener and an enabler. A body with democratic legitimacy to challenge government and be a voice for the borough regionally and nationally. It has a role in convening partners and communities to develop a strong vision.

The council has influence in a range of areas:

- Direct control - areas and decisions that we control directly such as the use of our buildings.
- Local facilitation and influence – areas where our policies affect others, where our funding enables others to deliver work or where we can use our influence to encourage others to act.
- Regional and national influence – where we can work with regional bodies such as TfL or national government to implement policies and programmes that will deliver change.

A holistic approach to decision making recognises our role across these different levels and the multi-layer solutions that may be necessary to deliver change. To do this, as part of our action plan, we will develop a lobbying and advocacy strategy to help ensure that our climate goals are delivered. We recognise that we cannot do this on our own, and must use our influence at every level from the individual to national government.

Alignment with Southwark’s priorities and operations

Southwark’s four-year Council Plan already includes a range of ambitious commitments that will have an impact on carbon emissions. The council reports on progress on these annually through and departments are focused on delivering these. Commitments in the existing four-year council plan include:

- Make Southwark carbon neutral by 2050 (when declaring a climate emergency, the council set 2030 as a new target)
- Halve council emissions by 2022
- Divest council investments away from fossil fuels and into sustainable alternatives
- Vary parking charges to encourage cleaner vehicles
- Adapt lamp posts to charge electric cars
- Support the creation of community led sustainable energy projects on estates
- Protect Southwark's biodiversity
- Halve single use plastics in the borough
- Introduce water fountains throughout Southwark to reduce plastic bottles

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- Campaign to reinstate frequency of RV1 bus service
- Work with Mayor of London to build a pedestrian and cycling bridge from Canada Water to Canary Wharf
- Develop a green walking network
- Boost access to cycle hire
- Increase cycle hangers
- Make cycling accessible for all
- Double number of bicycle journeys in Southwark
- Open a new leisure centre in Canada Water
- Close roads around schools at drop off and pick up times
- Campaign for TFL to make all roads in the borough 20mph
- Deliver new safe pedestrian crossings
- Campaign to re-open Camberwell train station
- Support proposals for Coal Line Greenlink in Peckham
- Establish a Southwark construction company
- Ensure that every new development has enough GPs, school places and parks for its residents
- Campaign for 3 new tube stations on Old Kent Road

As well as these commitments that the council is currently working to deliver, there are a number of key strategies, policies and programmes of work in the council that we also need to ensure align with the ambitions of this strategy. As a next phase, we will undertake an analysis of existing council policies and review whether there are changes that should be considered to them to ensure that we meet this target. This includes key strategic plans such as:

- Movement Plan – strategy to improve how we move around the borough, encouraging sustainable travel.
- The New Southwark Plan – the council’s key planning document which sets out our framework for planning and regeneration in the borough.
- Asset Management Strategy – the council’s approach to managing its building stock.

It also includes a range of other action plans which include:

- School Travel Plans
- Economic Wellbeing Strategy
- Skills Strategy
- Carbon Offset Funds
- Air Quality Action Plan
- London Energy Project and Procurement
- Southwark Nature Action Plan
- Tree Management Strategy
- Public Health strategies and action plan

- Investments and improvements in housing and the council's other buildings
- Divestment in pension funds from fossil fuels

Iterative development

Given the scale, urgency and complexity of climate change this strategy cannot and should not be the final approach. Since declaring a climate emergency, we have hosted a climate summit, established a steering group of local partners and a cross party councillor working group. We have researched and received advice locally, regionally and nationally. We have commissioned research and started on a programme of community engagement. This strategy is our thinking about what needs to happen. This period has helped us to define the issue.

The next stage will be to engage further with residents, to seek expert input and to shape the contents of this strategy further. It will be an opportunity to test assumptions, and to bring in new and different ideas so that together we develop an approach that is true to our values, and which delivers for our borough.

From this we will develop an action plan that defines programmes, considers financing, governance and monitoring and becomes a plan for the whole borough to deliver together. Given the urgency of the situation, we should not delay on delivering 'quick wins' and implement those decisions that require relatively little change. The action planning should therefore take place alongside the borough making progress where it can without significant change.

We then move to delivery, a large scale mobilisation to deliver projects and drive behavioural change, including monitoring and evaluation of progress. The action plan will need to set medium and long term goals, and the delivery phases should include suitable reporting. Annual updates, and an open approach to data and carbon reduction.

Our whole approach should be iterative and also flexible to respond to the rapidly changing regional, national and international contexts. The process is one which will define, develop and deliver. Through this process we need to constantly review and evaluate what we are doing and how, so that we can ensure that we are always using the best ideas which will have the greatest impact.

Engagement

Central to this strategy is quality engagement with our residents and stakeholders. For the progress we need to make as a borough, we must build support in our communities and work with them to achieve our aims. For the strategy to be robust, we also want to ensure that there is the opportunity for engagement with expert groups and those with a particular interest in these issues.

Throughout the process, we want to speak to a breadth of people. This is a social change and so engaging with as many people as possible is essential. This is to talk through their concerns, hear their ideas and better understand what people in the borough want. But, it is also an opportunity to educate and inform so that people understand the issues and have the information they need to make and demand change.

As well as a breadth of people, we will ensure that we engage in depth. We want to have detailed conversations with people from different communities and parts of the borough to really explore ideas that exist in the borough that can take Southwark forward.

Finally, we want to utilise the expertise that exists in the borough. We are privileged to have world leading universities, global businesses, and people with expertise from all parts of our community. We want to ensure that we have an informed approach where we benefit from those with expertise in this field to guide and shape our work.

Partnership

Our response to climate change is only successful if the council is working as a partner and influencing at local, regional and national levels. As part of the action plan development, the council will carry out a gap analysis on areas in this strategy that are beyond our ability to deliver on our own and identify those we need to work with to deliver. This strategy already contains many ideas that will require partnership working, but a full gap analysis will ensure that we have undertaken a fully holistic review of the work that needs to happen at every level.

At a borough level, the council should use its membership of groups of organisations to ensure that their policies are aligned with the council's climate change ambitions. This includes groups such as the Local Enterprise Partnership. It should also work with other partners who also have climate strategies such as the NHS trusts, local universities, colleges and transport providers to as much as possible align our approaches both in direct delivery but also in our shared supply chains.

As well as bodies and institutions, the council will work with businesses, both through organisations like the Southwark Business Forum or our local Business Improvement Districts, but also directly through our partnerships to help businesses to reduce emissions. The council will work with major companies located in the borough such as EY or PWC, but also the many small and medium size businesses that drive our local economy.

Southwark is a member of London Councils, and the Leader currently holds the chair of this group. We will continue to work with London Councils as well as bilaterally with other boroughs to align climate strategies across the city and use our collective voice to deliver and campaign for change. Alongside local government, we will work with regional government through both the Mayor and the Greater London Authority. We welcome the Mayor's commitment to being carbon neutral by 2030 and will work with him and his administration to help deliver this.

The government has committed to the UK being carbon neutral by 2050. We do not believe that this is ambitious enough, but current policies suggest that the government will miss even this target. It is clear that the only way the country will come close is with councils delivering for the government. The government must see councils as equal partners to deliver. As with so much, the real innovation and political drive happens at the local level, we encourage the government to recognise this and to work with councils to deliver the change that is needed. We will lobby the government to match the commitment of Southwark, the Mayor of London and many other councils to move its target forward to 2030 so that the UK can truly be a global leader in delivering change. We will continue to lobby government to properly fund councils to delivery change and to devolve greater powers to councils so that they can drive the change that is needed.

A Green New Deal

Southwark's fight against the climate emergency is part of a wider movement to limit carbon emissions and move towards carbon neutrality. Within the borough and nationally, this movement will undoubtedly put some pressure on businesses of all sizes to adapt the way they work. Understandably, some businesses and residents will be apprehensive about the economic impact of making radical changes to the way with live, particularly in the context of COVID-19 and Brexit. However, a lack of action on tackling carbon emissions will significantly affect our economy in the long run. The 2005 Stern Review estimates that if strong and early action is not taken, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year for the foreseeable future. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more. The costs of action - reducing greenhouse gas emissions to avoid the worst impacts of climate change - can in contrast be limited to around 1% of global GDP each year.

Simultaneously, decarbonisation can strengthen and invigorate our economy if done correctly. There is now a clear emphasis from business leaders, economic experts, politicians and others that government must ensure that our economy and jobs are central to tackling the climate emergency. A significant part of this is the implementation of a Green New Deal.

Many global organisations have been calling for a Green New Deal since the economic crash in 2008, to reframe our economy to best deliver decarbonisation. The United Nations Environment Programme (UNEP) called for a Global Green New Deal because of its 'enormous economic, social and environmental benefits... ranging from new green jobs in clean tech and clean energy businesses up to ones in sustainable agriculture and conservation-based enterprises'. In 2009, then UK Prime Minister, Gordon Brown called for an international "green new deal" to boost the environmental sector and help lift the global economy out of recession. More recently, the Green New Deal bill has had its first reading in Parliament in March 2020 where is asked that 'the government, Treasury, Bank of England and the Debt Management Office cooperate so that the funding required for the Green New Deal will be available at the lowest possible price for society'.

The fundamental pillar of the Green New Deal is that economic, social and climate justice are indissoluble. It argues that for decarbonisation through actions like greener transport and more environmentally friendly building to be successful, our economy needs to be prepared to support it and flourish from it. This means large scale investment in renewables, a 'just transition' into well paid, unionised green job and supporting developing countries climate transitions. In Southwark, this means greater and broader funding for green initiatives, having the latest green technology available and an influx of available and well paid jobs in green businesses. The council's priority, particularly in the context of COVID-19, is that a green recovery is able to support business and provide significant economic opportunities for our residents.

We understand that businesses in the borough may have concerns about how this is implemented and the practical implications of policies in this strategy. While in the long run, a carbon neutral future ensures a strong economy, we recognise that in the short term, policy changes can cause disruption for business and apprehension amongst our colleagues in the business community. Throughout the process of developing an action plan and moving from a draft to a full strategy, we will engage with business, as partners on this journey. There is huge opportunity, but only if we work as partners with business and the community.

Impact of COVID

The proposed climate engagement approach that was going to be taken between April and June 2020. As the unprecedented seriousness of the Covid-19 situation took hold, many of the proposals had to change.

It is clear that a full, inclusive and wide-ranging engagement approach is the most appropriate way to ensure a diverse reach across residents and partners, including businesses. This breadth is hugely important to understand the views of everyone who lives and works in Southwark. To enable this, we have used an innovative online portal:

(www.southwark.gov.uk/yourclimateviews)

There are many different reasons that carbon emissions are rising and a number of areas to delve into to understand these to ensure a thoughtful response in helping to stop temperature rises and really make a positive difference. With this in mind it was our intention to have a summit and a number of in-depth workshops, both geographically spread across the borough and targeted at those harder to reach groups. We were also planning on having on-street pop up stalls to gauge public opinion. However, this was not possible at this time. We have therefore focussed on the online portal to, as well as discussion with key partners (who form the partnership group) and partnerships across London and the UK to create this strategy. Our intention is to have in-depth deliberative discussions with groups of residents and partners in the Autumn/Winter to which will help the design of a detailed climate action plan.

Baseline

To achieve our target of being carbon neutral by 2030, Southwark needs to know how much carbon it is producing now, and how the various decisions over the next decade will impact on that carbon. Obtaining accurate data on carbon emissions in the borough is a challenge for the council. We are working with London Councils to develop a London-wide approach which will enable boroughs to be transparent about what is happening in their boroughs and identify areas where work needs to be done. However, while this work is ongoing, there is still a need for a means of measuring progress to ensure that we are accountable for the work we are doing. This section will therefore baseline our current carbon emissions as a borough with the best data we have available to ensure that we can start to measure progress and make informed decisions that include carbon impact.

The council has commissioned technical reports on the borough's carbon emissions and the potential savings that can be achieved through a range of measures. It is essential that during our process, we have a robust mechanism to measure carbon and carbon reduction.

Some estimates do already exist. The Department for Business, Energy and Industrial Strategy estimate that Southwark, in its most recent figures, produces just under 1,030kt of CO₂ per year. Of that, approximately 50% is from industry, 30% from housing and 20% from travel. The data is on an "end-user" basis where emissions are distributed according to the point of energy consumption or point of emission if not energy related. It does not therefore include, for example, the energy used to produce products consumed in the borough, or things such as international travel. Data does however vary, and the section below on baseline data sets out the best estimate of carbon emissions in the borough.

Figures from 2011 show that around 86% of the borough's carbon emissions are not within direct control of the council, and around 14% are. The vast majority (12% of overall emissions) comes from our own housing stock.

The council has also been taking steps to reduce the carbon from its own operations. From a 2008 baseline, the council has reduced its own carbon by 36.7%. We have done this through a range of measures such as consolidation of buildings, increasing use of renewables and capital investment in boilers and insulation. We have invested in LED lighting in streetlights as well as a 75% reduction in electricity consumption in Tooley Street by switching to LED lights.

Scope of Emissions

The council's commitment is for the borough to be carbon neutral by 2030. This means that the greenhouse gases we produce as a borough will be equal to or less than the amount of greenhouse gases that we take out of the environment. Greenhouse gases are categorised into three groups, or scopes: scope 1 covers direct emissions from owned or controlled sources; scope 2 covers indirect emissions from the generation of purchased electricity, steam, heating and cooling consumed and; scope 3 includes all other indirect emissions that

occur in the supply chain.

Our commitment is to reduce the borough’s own emissions – scope 1. However, we must look beyond that as a large amount of the greenhouse gases produced to sustain the activity and life of the borough fall outside our direct control. Scope 2 emissions through the power we use and scope 3 through what we consume are all contribute to climate change. So while our aim is to be carbon neutral in terms of our own direct emissions, we will also aim to reduce our scope 3 emissions.

This will involve encouraging individuals, businesses and institutions in the borough to make decisions about supply chains and their investments. The council has been leading the way by already disinvesting from fossil fuels in our pension fund, but we need others to follow.

Committing to reducing scope 3 emissions means that we need to work with those who want to work in the borough about the carbon that is produced at different stages of production and supply. For example, when building new homes, we should be considering carbon that is used throughout the process of producing materials not just in the final building.

Carbon Offset

Offsetting carbon will always be required in any measurement of greenhouse gases in the borough. Some activities, even with the best methods will still produce some carbon. Offsetting will be necessary to account for carbon that cannot be taken out of the system in any other way. The council is developing a carbon offset policy to ensure that any carbon offset is used strategically to reduce overall carbon in the atmosphere.

Baseline Data

As outlined above, there are various measures of carbon that are used by different organisations. This section brings some of that together to present data which identifies where our carbon comes from, and what will happen if we continue without making changes. There are different assessments available, but this attempts to give a high level view of where the challenge lies and what the scope of the problem is.

The table below shows the origin of tonnes of carbon emitted within Southwark in 2017, according to the London Energy and Greenhouse Gas Inventory (LEGGI). These are the latest available dataset, and are also currently considered an ‘interim’ publication, therefore may be updated further at a future date.

Energy source	Domestic (CO2e)	Commercial (CO2e)	Total
Electricity	124	333	457
Gas	199	192	391
Coal	1	0	1

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Oil	2	9	11
Waste and renewables	n/a	4	4
Total	325	519	845

Figure 1: LEGGI carbon dioxide equivalent emissions by energy source for The London Borough of Southwark 2017 (most recent dataset)

In addition to this road transport contributes 142 tonnes CO₂e of the total 168 tonnes CO₂e emitted due to transport overall in the borough.

The data suggests that in total 1,013 tonnes of CO₂e were emitted in Southwark in 2017, ranking the borough 22nd highest out of the 33 London boroughs in that year.

Year	Total tonnes of CO ₂ e
2016	1,070
2015	1,195
2014	1,170
2013	1,406
2012	1,406
2011	1,318
2010	1,502

Figure 2: Historic annual carbon dioxide equivalent emissions by energy source for The London Borough of Southwark

In order to assess the progress that the council makes we need to also consider future changes that we expect to take place following existing policies. The tables below set out assumptions for Southwark if it continues on a business as usual forecast pathway. The following graphs then forecast the impact of these assumptions on carbon emissions.

1. Agriculture and Land Use

Forestry	5% increase in forest cover by 2030.
Land Management	2% decrease in grassland
Livestock Management	0.2% annual growth in dairy cows & livestock
Tree-planting	Tree-planting to increase current coverage by 30% by 2030; no subsequent commitments.

2. Domestic Measures

Demand for heating and cooling	By 2050, domestic lighting and
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	appliance total energy demand has dropped to 80% of current levels.
Electrification of lighting, appliances, and cooking	Small reductions in energy demand from cooking; no change in heat source.
Domestic space heating and hot water – Demand	Hot water demand per household grows 5% every 5 years
Insulation of new houses	All new houses are built to 2013 building regulations (no change).
Retrofit	All current households remain at weighted average heat loss.
Technology mix for heating	No change to current technology mix for home heating.

3. Energy Supply

National Grid – Electricity Carbon Factor	As per Government (BEIS) forecast – Future UK Electricity carbon factors.
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4. Commercial, Industrial and Institutional

Demand for heating and cooling	In 2050, commercial heating, cooling and hot water demand is 103% of today's levels
Technology mix for heating and cooling	No change to current technology mix for commercial heating.
Energy demand for lighting, appliances and cooling	Commercial lighting & appliance energy demand increases 28% by 2050
Electrification of lighting, appliances, and catering	Share of cooking which is electric is as today.
Industrial processes – Efficiency	Industry moves to higher natural gas consumption, with electricity consumption falling before 2035 then remaining constant.
Industrial processes – Output	Other industry process emissions are reduced at a rate of 2.6% per year.

5. Transport

Domestic freight (road and waterways)	47% increase in distance travelled by road freight; 40% increase in efficiency. In waterborne transportation, 15 % decrease in fuel use.
Domestic passenger transport – Demand	No change to total travel demand per person

Domestic passenger transport - Modal Shift	No change to current national average modal split by total miles: 74% transportation by cars, vans and motorcycles.
Domestic passenger transport – Technology	Cars, buses and rail is 100% electric by 2050. Slight increase in average train occupancy.
International aviation	Department for Transport "central" forecast for aviation.
International shipping	47% increase in distance travelled by road freight; 40% increase in efficiency. In waterborne transportation, 15 %decrease in fuel use.

6. Waste

Increase in rates of recycling	65% recycling, 10% landfill, 25% incineration by 2040; remaining constant to 2050
Reduction in volume of waste	Total volume of waste is 124% of 2017 levels by 2040.

With the assumptions set out above, the graph below shows expected change in Southwark’s carbon emissions.

BAU Southwark Emissions CO2e

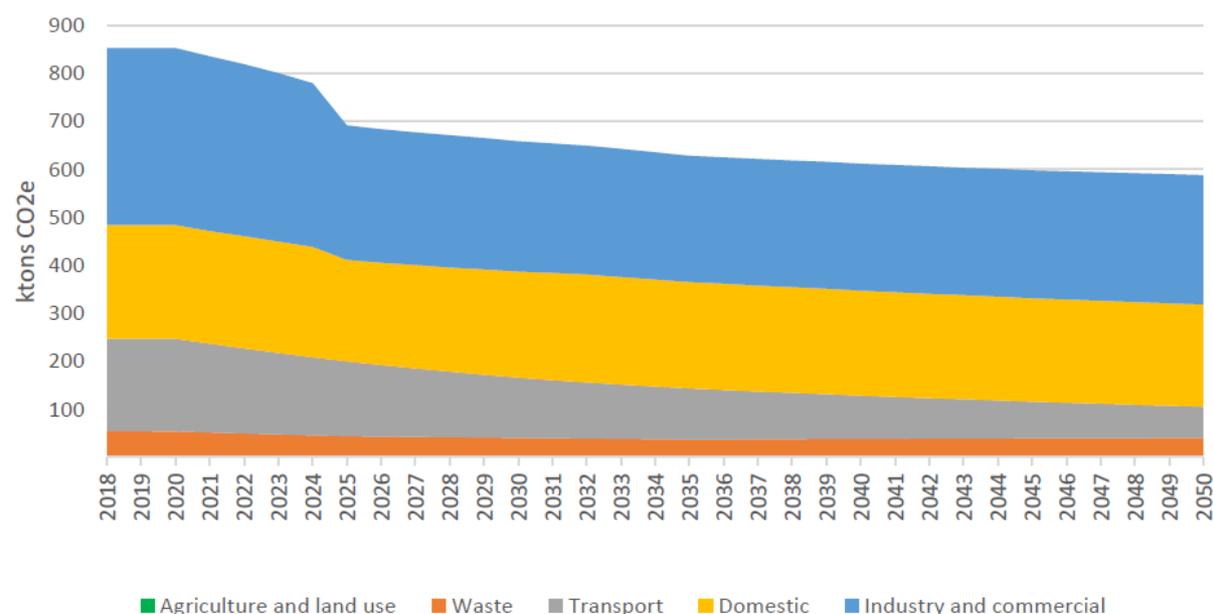


Figure 3: Summary Carbon emissions for the London Borough of Southwark 2020-2050 (tCO₂e), Business as usual

As is shown in figure 3 above:

- Agriculture and land use contribute only a small quantity of emissions to the borough (negligible, to the point of not identifiable on the graph at this scale)
- Waste is the next smallest fraction of emissions
- Transport accounts for approximately 25% of emissions, and is forecast to fall in the future
- Domestic emissions account for approximately 25% of emissions and is forecast to remain relatively unchanged in the future
- Industry and commercial are the largest component of emissions, at approximately 50% and are also forecast to remain relatively unchanged in the future
- Overall total emissions are forecast to reduce by 20-30% by 2050

This baseline data suggests that without further action, including policy intervention at all levels of Government, it is unlikely that Southwark will achieve the emissions reductions required by 2030.

Emissions associated with the built environment account for approximately 75% of estimated emissions for the London Borough of Southwark and are forecast to remain relatively unchanged into the future. As the majority these are the current focus for energy policy. They may be further broken down into more detail.

A further breakdown of emissions to review those from building stock is presented in figure 4 with the same business as usual assumptions. As may be seen, approximately half of emissions arise from domestic gas consumption for space heating and hot water in domestic and non-domestic properties. This demonstrates that gas consumption is one of the largest contributions to CO₂ in Southwark with this forecast to remain relatively static under a business as usual scenario.

Figure 5 shows Nitrous Oxide emissions forecast for building stock under business as usual. Nitrous oxide is a regulated greenhouse gas as well as a contributor to poor air quality. Again, it may be seen that domestic and non-domestic gas combustion for space heating and domestic hot water accounts for 50% of emissions. These are direct local emissions within the borough, remaining emissions associated with electricity may not arise immediately within the borough, but are generated at a national level at power stations across the UK

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BAU Build Stock Emissions CO2e

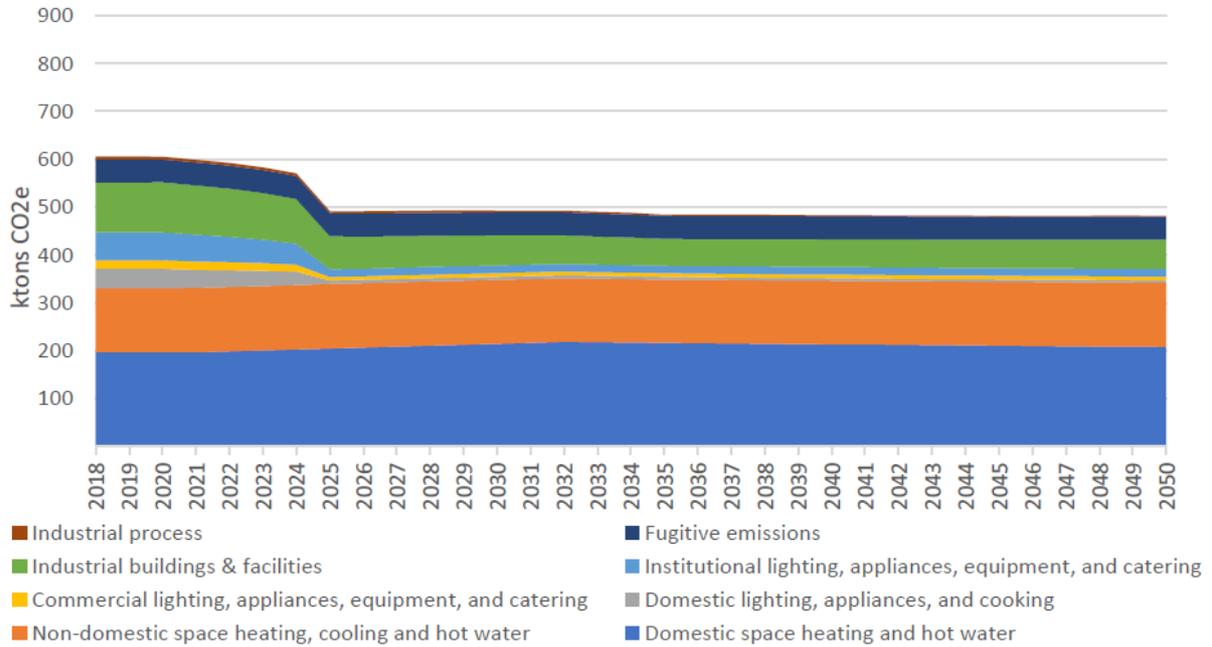


Figure 4: Summary carbon emissions for building stock the London Borough of Southwark 2020-2050 (tCO2e), business as usual

BAU Build Stock Emissions N2O

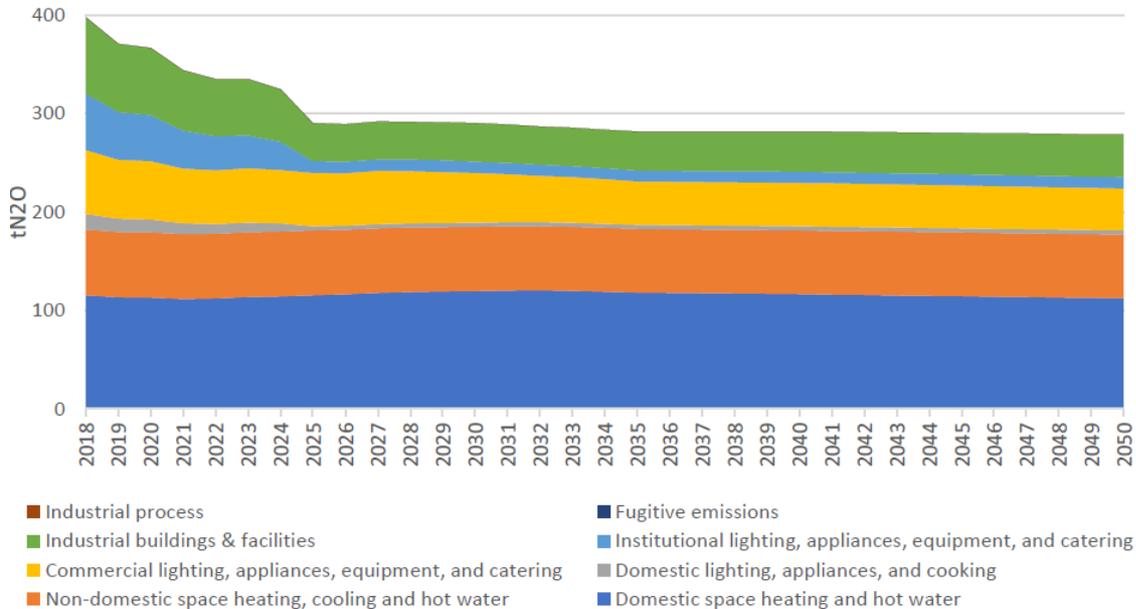


Figure 5: Summary N2O emissions for Building Stock the London Borough of Southwark 2020-2050 (tN2O), Business As Usual

Ambition

To deliver the carbon reduction necessary to be carbon neutral by 2030, changes are needed in various aspects of our lives, our borough and from national government. This section sets out the five main themes where we will focus our work to tackle climate change. We believe that these are the most important areas for us to focus on in Southwark.

Not all of the ideas in this section will have equal impact or are equally possible to deliver, but instead present a portfolio of actions which if taken together would drastically reduce our carbon emissions. While this is a set of ideas, there are other ideas too and work that we could do that has not been thought about. As we move from developing a strategy to delivering an action plan, these ideas will all need to be assessed against how achievable they are, how we resource them and what impact they will have on overall carbon emissions. Importantly, will delivering them increase or diminish our ambition for a just transition.

We also recognise that there is inequality within the borough and the country. The actions, particularly those for individuals, will be much easier for some than others. We want everyone to play their part and want to have the opportunity to reduce their emissions. As we move from the strategy into the action planning phase, we will ensure that as much as possible our ambitions can be realised by everyone in the borough and that we empower residents to enable everyone to play their part.

In developing an action plan we must ensure that we comply with current legislation, have a framework to set robust targets, identify key actions and have the resources we need to achieve them.

These five areas of action are:

- **Buildings, construction and regeneration**

In Southwark we're proud of the fact that we are the largest Landlord in London with over 52,500 properties and 14,500 leaseholders with a further 17,000 homes owned by housing associations. 42% of our housing is social housing. The council also has control over 350 buildings including offices, schools and depots. We also have approximately 15,000 businesses and a truly diverse population that comes from being in central London. We've been growing and regenerating for a number of years and this bring challenges as well as huge opportunity. We want to continue to grow, but find a way to create a green economy that delivers co-benefits of economic growth and carbon reduction.

- **Transport and travel**

Improving our streets to help with how we move around the borough of Southwark, encouraging sustainable travel and improving the environment is a key to the success of reducing the impact of climate change.

- **Biodiversity, trees and green spaces**

Southwark's award-winning parks and open spaces and built environment provide homes for a range of common and rare wildlife, including birds, bats, invertebrates and plants. We value our parks and trees as a vital component of the borough's landscape. We have 80,000 trees that bring joy to people and help clean our air.

- **Consumption**

What our residents use, eat, and wear, and how these things are made and transported - is a large and sometimes hidden driver of carbon emissions. Southwark's place in central London and demographics mean in consumptions levels are high on average. As well as what we consume, we need to think about how we dispose of the things we use. Southwark has the highest recycling rate in inner London at 35% of waste recycled. There is however still a lot to more we can all do, with 70% of what we throw out as rubbish being recyclable. We want to ensure we reduce what we buy, reuse as much as possible and recycle, including food and garden waste.

- **Energy**

Generating energy from renewable sources can help reduce our dependency on non-renewable sources like fossil fuels. Southwark has been a local government leader in this field for many years, and now want to do more to. We have two ways we want to achieve this, leading by example and reduce our own energy use and to work with others to encourage residents and businesses within Southwark to reduce carbon emissions.

For each theme, this section will explore what needs to happen to become carbon neutral, and the measures that need to be taken. It will consider what our approach should be to each as well as what are the ideas that need to be developed in order to take action.

We are now embarking on a period of public engagement to review whether these are the right areas of work, or whether additional areas are needed. Following this, we will assess what needs to be done to deliver change. This will consider the scale of the work required and include:

- Small changes to current policies – these ideas include policies we already have in place but which need some changes to make them more efficient or deliver differently. It is not a significant departure from the council's existing work, but improves what we already do.
- New policies with significant change – these ideas include pursuing a new approach and changing what and how we do things. For this section, we will know what we

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need to do, and will have the powers and ability to do them, but we will need a significant change in approach to deliver them.

- Major structural change – these ideas are things that need to happen to achieve carbon neutrality, but there are major barriers (for example financial, political or legislative). Ideas in this section may require new powers for councils, major financial changes or other innovation. These ideas may include some that we consider need to be delivered, but we do not know, at this stage, how practically they can be delivered. The challenge of the action plan will be to develop strategies to turn these ideas into deliverable policy.

Construction, building and regeneration

Buildings, how we build them and how we use them are a significant source of carbon emissions and air pollution in Southwark. How we plan construction, what resources we use to build new buildings and how we live in our homes, workplaces and public spaces all play a part in changing our environment. The demand for buildings is growing, new affordable homes are desperately needed to address the housing crisis, and the spaces that we use to work are all part of the infrastructure London needs to thrive. Our climate change response must consider how we ensure we have the buildings that we need, that work for us, but also work for the planet.

To tackle climate change we must adapt the way we construct and regenerate buildings. Crucial to this is creating and maintaining truly sustainable homes. This means retrofitting our existing properties to be more carbon efficient and when developing new homes using sustainable materials whilst limiting carbon production during construction. Creating carbon neutral buildings of all kinds will require a significant shift in approach, from the initial planning stage all the way through to how buildings are used.

The environmental impacts of building and construction can be seen across the globe. It is estimated that buildings and construction are responsible for 39% of all carbon emissions globally. Half a million people die every year around the world due to outdoor air pollution caused by energy used in building and in the UK, buildings are responsible for about 40% of the total carbon footprint. Construction is a significant element of this and the materials used play an important role in overall emissions. Starkly, the manufacturing of cement is responsible for eight per cent of all overall global CO₂ emissions.

In London, buildings account for over 70% of the capital's overall emissions, with public buildings accounting for approximately 10% of its total carbon footprint. Schemes such as London's RE:FIT programme aim to reduce carbon emissions from London's public buildings by helping public bodies make energy efficient improvements to their buildings. This scheme and others are important because 80% of the public buildings in London will still be in use in 2050.

In Southwark, 42% of homes are social housing. Southwark Council is proud to be the biggest landlord in London with over 52,500 rental properties and 14,500 leaseholders. Here as across London, demand for residential and commercial space is high and new development is ongoing across the borough. However, construction and regeneration bring challenges as well as opportunities. The process of building in the borough has environmental impacts, and once built, new homes and offices also have an impact on the borough's carbon emissions through their energy use.

A Carbon Neutral Southwark

A carbon neutral Southwark ensures that all our buildings are as efficient in their use, design and construction as possible. It is a borough where environmental impacts are at the heart

of any planning scheme large or small and existing green spaces are protected. Use of building techniques such as green roofs, solar panelling, passive cooling and heat pumps are required from the outset and implemented as a priority across the borough.

A carbon neutral Southwark finds the best way to reduce carbon in its buildings. Reusing and retrofitting of existing buildings when this is the most efficient way to reduce carbon, and using low carbon building practices when constructing new ones. In partnership with local residents, buildings of historic and cultural importance are protected and maintained whilst meeting carbon emission standards. Where construction is used, the most carbon efficient materials are required and developers are held to stringent and public environmental regulations.

Our residents in the borough experience the impact of building emissions most directly, particularly those related to housing. They are well placed to shape the future of building and construction within the borough. A carbon neutral Southwark requires all of us to change the way we power and heat our homes and find new ways to limit the energy the buildings we use produce.

Our objectives are:

- Planning regulations that put carbon neutrality at the heart of development
- Embedded building techniques such as green roofs and solar panelling
- Encouraging the repurposing of existing buildings where practical
- Using and creating buildings that protect and enhance our green spaces
- Buildings which minimise carbon emissions in their use

Delivering our objectives

To achieve a carbon neutral Southwark there are a range of initiatives, policies and actions we can take as individuals, as a borough and a city, and which we need national government action to take forward. In this area more than any, we need government action and investment to enable the homes that Londoners need while reducing carbon emissions and building a sustainable city for the future.

Individual Actions

This strategy supports promoting individual actions that people can take to make buildings as efficient as possible. This includes supporting individual actions, as well as campaigns and organisations that promote change. We support encouraging education so that individuals can make positive choices and better understand what actions can be taken to limit the impacts of our buildings. Individual actions that we will promote include:

- Installing energy efficient lightbulbs in your home
- Limit use of central heating use wherever possible

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- Making energy efficient improvements to your own home like loft insulation and triple-glazing
- Utilising any green space with techniques such as rewilding
- Using sustainable building resources for works such as extensions or loft conversions
- Engaging with your work place facilities teams to implement a carbon neutral working environment
- Selecting ethical low carbon architects and builders where possible
- Continue to lobby developers to embed low carbon construction and buildings

Borough and Regional Actions

This strategy promotes actions to ensure that decisions are made at both Southwark and London level to develop and maintain buildings in a way that limits carbon output and air pollution. The New Southwark Plan sets out the council's approach to planning and building in the borough. This strategy sets out actions that could take place at the borough level to reduce our carbon impact. However, to be implementable, changes would be required to the New Southwark Plan to do this. This strategy sets out ideas that should be considered to make policy amendments.

- Ensure that planning applications make greater use of recycled construction materials, green roofs, solar panelling, passive cooling and heat pumps from the outset
- Enforce the inclusion of emissions and embodied carbon from construction in net zero targets on developments. Alongside this, introduce a cap on emissions produced throughout the construction process and building lifecycle
- Bring forward low waste, low impact council home development
- Encourage the repurposing of existing buildings when practical
- Make policy amendments to the New Southwark Plan to ensure it fully reflects the impact of the climate emergency, including requirements for whole life cycle carbon assessments
- Ensure that all estates have a Carbon Management Plans, developed with resident involvement.
- When gas heating systems need to be replaced, replace with more sustainable alternatives whenever possible
- Enforce minimum energy efficiency standards in the private rented sector through targeted licensing
- Explore the creation of green roofs on council buildings
- Provide detailed information and guidance to residents on how to lessen carbon emissions from homes, where to receive financial support for these changes and which builders and developers use sustainable techniques
- Move towards all new council homes being built to as close to Passivhaus standard as possible through building regulations and planning conditions
- Identify ways to retrofit all existing housing stock to as close to carbon neutral as possible

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- Allow residents to sell energy back to the grid through embedding batteries in council owned properties, and explore its use in larger commercial and public buildings.
- Work with local partners to retrofit homes to make them more green
- Continue to support higher than national building standards
- Explore the possibility of district heating from the London Underground network, as has been done elsewhere in London

National Action

Many actions that can be taken at an individual, borough and city level require national government action. This can include financial support and top level policy changes such as increase regulation. Actions at this level include:

- Increase investment in the research and development of innovative housing
- Fund and promote research into sustainable alternatives to construction materials such as concrete
- Increase grants and funding (such as Solar Feed-in Tariffs and Green Home Finance Innovation Fund) to incentivise people retrofitting homes with improvements such as insulation, triple glazing, energy efficient boilers
- Use data capture and building information modelling in national regulations to shift away from targeting delivery of buildings and towards performance of buildings as an indicator of success
- Re-implement the Fabric Energy Efficiency Standard to part L of national building regulations
- Further regulate the home building sector and increase incentives for companies to take carbon minimal approaches
- Review building regulations to enable better use of sustainable building products.
- A reforestation programme including where feasible in greenbelt land

Energy

Whenever we use our homes and other buildings we use energy, much of this comes from burning fossil fuels which produces carbon. This energy is often utilised through heating, lighting and other appliances. The way we produce, store and eventually use this energy has a significant impact on climate change.

Over the last 200 years the majority of energy has come from non-renewable fossil fuels such as oil and coal. Fossil fuels generate greenhouse gases which contribute to climate change. Governments across the world are seeking more renewable, sustainable ways of generating energy. Examples of renewable sources of energy are wind, water and solar energy.

In the home, appliances have become far more energy efficient over time. For example, the average number of devices on at any one time in a typical family house has risen from 4 to 13 over the past thirty years, but the amount of energy we use to operate them has stayed the same.

Renewable energy is becoming a more viable and common source of energy that has less negative impact on the climate. In 2018, it was around 26% of global electricity generation globally. In the third quarter of 2019, renewable energy sources generated more electricity in the UK than fossil fuels for the first time. Renewable energy sources made up 40% of overall electricity generated and coal-fired power made up less than 1% of all electricity generated. Wind power is the largest source of renewable energy in the UK and it made up 20% of the UK's electricity in 2019.

Alongside the national grid, there are local energy solutions. Local generation whether by individuals with solar panels, or on a larger scale such as the SELCHP plant which produces heating and hot water that supplies approximately 2,600 properties locally, all has an impact and needs to be considered as we plan for our energy needs.

As well as considering the type of energy we use, we need to reduce our energy demand. We can all make choices in our homes and businesses that will reduce our energy demand – whatever the source of the energy.

How much energy we use and the source of that energy has a large impact on carbon emissions. The steps that we take to reduce our energy need and ensuring that the energy we use is from clean sources will all help Southwark to become carbon neutral.

A Carbon Neutral Southwark

A carbon neutral Southwark uses sustainable sources of energy to heat, light and use its buildings. It also encourages businesses, public services and residents to conserve energy where possible and supports the provision of carbon friendly energy supplies. A carbon

neutral Southwark tackles fuel poverty through sustainable measures that are accessible to those who cannot afford to heat their homes.

Structural energy supplies like heat networks are consistently revisited and developed to hit stringent sustainability guidelines.

Our objectives are:

- To move towards zero carbon, green energy for all businesses, residents and services in the borough.
- To increase local sustainable energy production
- To tackle fuel poverty by promoting and providing accessible energy alternatives
- To reduce energy demand and cut energy waste

Delivering our objectives

To achieve a carbon neutral Southwark there are a range of initiatives, policies and actions we can take as individuals, as a borough and a city, and which we need national government action to take forward.

Individual Actions

This strategy supports promoting individual actions that people can take to limit their personal energy use and to find greener alternatives. This includes supporting individual actions, as well as campaigns and organisations that promote change. We support encouraging education so that individuals can make positive choices and better understand what actions can be taken. Individual actions that we will promote include:

- Monitor your energy use with a smart monitor, and/or install a smart thermostat which only heats the rooms you are using
- Switch to a green energy supplier that uses more sustainable methods of gas and electricity supply
- Install LED lightbulbs in your home and shared spaces
- Use tap attachments to limit water waste
- Unplug idle devices like televisions, microwaves and printers
- Insulate your home including double and triple glazing
- Replace fire places and wood burners for a heat pump
- Reduce water usage such as taking showers instead of baths when you can, not running taps unnecessarily and using a watering can instead of a hosepipe.
- Install solar panels in your home.

Borough and Regional Actions

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This strategy promotes actions to ensure that decisions are made at both Southwark and London level to help individuals to reduce their energy consumption. Actions at this level include:

- Ensure energy companies are provided with information on 'fuel poor' homes so they can insulate them as part of their legal ECO obligations
- Retrofit 100% LED lighting in council owned facilities, including sports grounds and libraries
- Investigate the creation of a community municipal investment bond for renewable energy
- Make planning conditions for solar and wind energy adaptations to new developments as easy as possible
- Promote use of LondonPower in council housing, providing renewable sourcing can be confirmed and meets stringent standards
- Partner with a renewable energy supplier for more efficient and economic energy provision
- Conduct a viability study of the borough and install renewable energy generation projects where possible
- Aim to retrofit all council buildings to a higher energy standard including its housing stock
- Develop a programme to fit solar or green roofs across rooftops in the borough.
- All council buildings should aim to use 100% renewable energy
- Actively engage with public building owners to move to renewable energy
- Use branding or signage to emphasise and support businesses with renewable energy contracts
- Directly invest in renewable energy capacity for national grid through pension funds

National Action

Many actions that can be taken at an individual, borough and city level require national government action. This can include financial support and top level policy changes such as increase regulation. Actions at this level include:

- Decarbonise that national grid
- End the instillation of new gas boilers and invest in retrofitting existing gas boilers to sustainable alternatives.
- Legislate to ensure that energy providers move towards sustainable models as soon as possible
- Create more jobs in renewables, especially in renewable storage, demand management and improved energy efficiency
- Increase the national target for energy coming from renewable sources
- Increase funding for local authority grants set up to specifically tackle fuel poverty through sustainable measures
- Increase funding to help individuals green their homes.
- Encourage onshore wind power and move away from fracking

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- The Forestry Commission, Highways Agency, and other statutory bodies to maximise the amount of carbon that is sequestered and fixed in permanently stable forms.

Transport and Travel

Transport is a major source of carbon emissions and contributes to poor air quality. The way people move around and through the borough therefore has a big impact on Southwark's emissions and on the air we breathe.

The biggest impact we can have on the environment in our travel and transport use is walking and cycling more. Public transport uses road space and energy more efficiently than private vehicles, so the more that people are able to use the train, tube and bus network instead of their cars, and the cleaner we can make these forms of transport, the greater the reduction in carbon emissions, congestion and air pollution.

Worldwide, transport emissions make up over 24% of global CO₂ emissions. In the UK, this represents around a fifth of our total emissions. Road traffic in the U.K. increased by 29% from 1990 to 2018 and emissions have gone up by around 6% over the same period. Currently less than 1% of vehicles in the UK are ultra-low emission vehicles.

The Government is bringing forward a ban on selling new petrol, diesel or hybrid cars to 2035. Only electric or hydrogen cars will be available from that date. At present there are only 15,000 charging devices in the whole country, a third of which are in London but there are over 32 million passenger cars in the UK.

In Southwark our streets support over a quarter of a million motor vehicle trips every day. 88% of traffic on Southwark streets is cars and taxis; the remaining 12% is buses, vans and larger vehicles. Four out of ten households in Southwark have access to a car although only 22% of these use it as their main mode of transport. The council's movement plan is promoting less polluting vehicles and a reduction in the number of cars owned in the borough. Southwark aims to reduce trips made by car/motorbike to 13% by 2041.

To become carbon neutral, we all need to work together to increase, promote and maintain sustainable travel as a way of moving around the borough. This requires a radical shift in approach to how we work and live.

For residents, this means embracing walking and cycling as part of our daily lives and limiting the use of carbon emitting vehicles as much as possible (such as cars, buses and other road vehicles).

Across the borough, this means authorities (such as the council, TFL and the GLA) ensuring that sustainable travel is as accessible as possible to all and that carbon reliant travel is de-incentivised. It also means employers decarbonising their fleet and support sustainable commuting.

Nationally, this means a wide scale shift away from carbon heavy transport schemes such as roads and air travel and funding being channelled into sustainable alternatives.

It also means that we need to rethink why we travel. Are all the journeys that we make necessary, and is there a way to reduce or combine journeys. Are we using services that rely on transport such as home deliveries using polluting vans? Finally, how do we travel long distances? While flying has opened up the world and made different countries and cultures accessible, what can we do to reduce the number of flights that are taken whether through business, or privately?

A carbon neutral Southwark

In a carbon neutral Southwark we will have drastically increased the proportion of journeys that are carbon neutral such as walking or cycling. More people will be choosing clean public transport over private vehicles, and where motorised vehicles are necessary we will be using clean and sustainable vehicles. People will make different choices about long distance travel by reducing their use of flights or offsetting when a flight is necessary. People will expect that companies who service them, their lives and their businesses do the same and use sustainable carbon neutral travel.

Our objectives:

- Make cycling and walking easier
- Discourage the ownership and use of polluting private cars
- Improve the accessibility and sustainability of public transport
- Reduce unnecessary journeys
- People cut down on unnecessary flying, and offset their carbon when they do fly

Delivering our objectives

To achieve a carbon neutral Southwark there are a range of initiatives, policies and actions we can take as individuals, as a borough and a city, and which we need national government action to take forward. The council's movement plan already promotes sustainable travel. In light of the declaration of the climate emergency, the council should review this.

Individual Actions

This strategy supports promoting individual actions that people can take to reduce their carbon emissions. This includes supporting campaigns and organisations that promote individual action in this area, and encouraging education of individuals to help them to make positive choices. Individual actions that we will promote include:

- Choosing to walk and cycle to work, on the school run or to run local errands.
- Making changes to your driving. Do not buy a private car and join a car-club instead. If you do buy a car, drive to limit your emissions (such as not idling) and chose a car with the lowest possible emissions.
- Offset your carbon when you have no alternative.
- Shop locally, on foot, bike or public transport.

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- Encourage your workplace to support a cycle to work scheme and changing facilities
- Reduce the use of long haul flights and offset carbon when they are necessary, try to use alternatives such as train rather than short haul flights.

Borough and Regional Actions

This strategy promotes action at a borough and city level to make Southwark and London a greener place to travel. Actions at this level include:

- Developing accessible, safe cycle ways and walking paths
- Creating traffic free zones and pedestrianised areas
- Building more electric charging points
- Providing accessible workplaces for cycling and walking
- Encouraging employers to increase flexible home working to reduce the need to commute
- Increase the use of hubs for home delivery of goods to reduce delivery traffic
- Introducing a borough wide controlled parking zone with higher charges for more polluting vehicles and second vehicles.
- TFL to require all taxis to be EV's before 2030
- Greater use of cargo bike schemes by regional institutions.
- TFL and the council to make the temporary street adaptations (including pavement widening) following COVID 19 permanent
- Develop a small business grant for those who use carbon neutral 'last mile' distribution
- Implement a diesel surcharge of 50%
- Create 'diesel free zones' banning privately owned diesel vehicles from using key routes during core hours
- Ban privately owned cars from using key routes during core hours
- Consolidate delivery sites to reduce daily journeys by 50%
- Incentivise companies to electrify their vehicle fleets
- Introduce a car parking levy on work placed car parking
- Decarbonise the council's fleet
- Move to new developments and regenerated estates to being car free
- Continue reviewing tube stations to increase accessibility
- Prioritise the air quality improvement actions that also have a carbon reduction benefit.

National Action

Some action needs to be taken at a national level as individuals, councils and other local bodies do not have the powers or resources to deliver. In this area, these include:

- Making it as accessible as possible to buy an electric vehicle
- Providing greater funding to local bodies for sustainable transport
- Moving investment in roads to sustainable transport

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- Not expanding airports in London
- End the sale of diesel and petrol cars and vans by 2030
- Bring national aviation emission target forward to 2030
- Reinstall national rail electrification schemes
- Investing in research for new carbon neutral transport models
- Increase the maximum threshold for the plug in grant to £10,000
- Deliver a zero emissions bus fleet by 2025
- Commit research funding to sustainable long haul travel
- Regulate private delivery companies
- Embed cycling proficiency testing into the curriculum

Biodiversity, Trees and Green Spaces

Southwark's award-winning parks, open spaces and built environment provide homes for a range of common and rare wildlife, including birds, bats, invertebrates and plants. Our parks are a vital component of the borough's landscape, and our 80,000 trees not only provide wildlife habitats, they also help to clean our air. Maintaining and improving our green spaces is therefore beneficial to our health and wellbeing, as well as to wildlife.

To tackle climate change we must not only reduce our carbon production, but also support work which promotes biodiversity, trees and green spaces. Nature and green spaces provide valuable solutions towards net zero carbon as they absorb carbon dioxide from the atmosphere. They also enhance our local resilience against the impacts of climate change.

Climate change is having a negative impact on nature and ecosystems throughout the world. As climate change increases temperatures and alters weather patterns, the number and range of species are in rapid decline – currently, one million species are currently threatened with extinction. Some scientists have said there is enough evidence to show we are in a mass extinction event, meaning a widespread loss of 75% of species over the period of two million years. The earth has experienced mass extinctions before, but this is the only time one has been caused by human behaviour.

In the UK, species continue to decline with 15% of species in the UK facing extinction. We are seeing other visible impacts on native wildlife and habitats with the introduction of invasive species, drawn to southern England by increasing temperatures. For example, the box leaf caterpillar's larvae feed on box plants causing widespread, severe and repeated defoliation. In Southwark too the Horse Chestnut Leaf Miner Moth has caused significant damage to Horse Chestnut trees throughout the borough. This causes damage to trees, disrupting photosynthesis process needed to absorb carbon dioxide in the atmosphere. The damage also leaves our trees far more susceptible to other pests and diseases which in some cases means they need to be cut down.

Biodiversity is important everywhere, even in a densely built up inner city area like Southwark. Just like every tonne of carbon that is produced has an impact, so too does every tonne absorbed from the atmosphere. Even in our built up borough we have over 215 parks and open spaces, and of these 65 are designated as Sites of Importance for Nature Conservation, including 7 Local Nature Reserves. Southwark is also home to important populations of nationally and internationally scarce flora and fauna.

A Carbon Neutral Southwark

A carbon neutral Southwark promotes biodiversity and the natural environment. It is a borough with more trees, and where trees are lost, we increase the number to reflect the greater carbon absorption of mature trees. It is a borough that uses its land well and incorporates green aspects into the built environment such as green rooves.

A biodiverse Southwark is one where we protect and create ecosystems to help a range of species to flourish. Where we support green corridors for wildlife to move and where we look for opportunities to rewild parts of the borough such as grass verges.

Our residents, and particularly children in the borough know and understand about the impact of the natural world so they work to promote and enhance it. A biodiverse Southwark is one where we find opportunities to change how we use our land, with fewer cars, we can change our streetscapes so they are greener and more natural.

Our objectives are:

- Greener streets, with more planting and fewer cars, making our streets places for nature to flourish.
- Improved biodiversity with green corridors to help wildlife to move.
- Increasing tree coverage across the borough with more planting and loss of existing trees as a last resort.
- Residents in touch with nature, more “grow your own” and community gardening.
- Building and development that works alongside and enhancing our natural environment.

Delivering our objectives

To achieve a carbon neutral Southwark there are a range of initiatives, policies and actions we can take as individuals, as a borough and a city, and which we need national government action to take forward.

Individual Actions

This strategy supports promoting individual actions that people can take to increase biodiversity and greening of the borough. This includes supporting individual actions, as well as campaigns and organisations that change. We support encouraging education so that individuals can positive choices and better understand the natural world and its value to all our lives. Individual actions that we will promote include:

- Grow your own produce
- In gardens or on balconies, plant a diverse selection of wildflowers
- Install bat boxes, bird boxes and homes for insects
- Tree giveaways
- Using community gardens, and shared green spaces where possible
- Picking up litter and promoting litter picking in the community
- Become a ‘friend’ of your local park
- Use less chemicals and more habitat friendly cleaning products
- Record the nature around you to help biodiversity conservation efforts
- Campaign for green spaces locally and nationally

Borough and Regional Actions

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This strategy promotes action at a borough and city level to make Southwark and London a greener place, closer to nature which is accessible to all. Actions at this level include:

- Increasing the number and quality of trees in the borough
- Felling trees only as a last resort when they are diseased, dying or dangerous.
- Closing more roads, creating green zones and greening our roads and high streets.
- Increase green corridors across the borough.
- Remove all use of pesticides and ban their use on private developments
- Create and support community rewilding and meadowing schemes
- Create 'biodiversity' grant, awarded to best local scheme bid
- Create 'green routes' online map, showing routes to schools and other local places with greatest biodiversity
- Provide bat and nesting bird protection tools to residents on estates
- Identify car parking space with the lowest usage that could be rewilded
- Double the trees on council owned land
- Provide biodiversity protection and maintenance training to residents for free
- Promote forest school's programmes

National Action

- Amend planning regulations so that planning applications have to enhance biodiversity
- Encourage farmers to leave field edges wild and protect/improve habitats
- Put tougher regulations on supermarkets, forcing them to pay for the waste they create that affects biodiversity
- Take national action to remove invasive species from green spaces
- Create a national tree planting month
- Put biodiversity and nature conservation on the national curriculum
- Restore degraded environments across the UK

Consumption and Waste

What we all eat and wear, and how these things are made and transported, is a large and sometimes hidden driver of carbon emissions. Southwark's place in central London and the shape and size of our population means that consumption levels are high. What we buy, how it is package and the processes that created it all have an impact on carbon.

Likewise, when we have finished with goods, what we do with them also has an impact on the environment. Do we reuse it, recycle it or just send it to landfill? We currently have the highest recycling rate in inner London, with 35% of our waste being recycled. There is, however, still a lot to more we can all do as 70% of what we currently throw out as rubbish could be recycled. We can help to reduce carbon emissions and reduce the waste we create if we buy less, reuse more and recycle more - including food and garden waste.

Food production also impacts our climate. Before our food reaches our plate, it is produced, processed, packaged, stored, transported, prepared and served. Each stage releases greenhouse gases into the atmosphere. In particular, farming releases large amounts of methane and nitrous oxide – two greenhouse gases.

Globally, food production is responsible for a quarter of all greenhouse gas emissions, contributing to global warming, according to a 2018 University of Oxford study. A third of the world's food is also lost before it ever reaches our plate. Waste and spoilage in harvesting, storage, transport and shops account for an estimated 1.3 billion tonnes of food a year. The estimate value of wasted food is £777bn each year.

In the UK, agriculture is responsible for approximately 9% of the UK's greenhouse gas emissions and just under half of the food consumed comes from the UK. Meat and dairy production in particular has a huge environmental impact. Some estimates show that without meat and dairy consumption, global farmland use could be reduced by more than 75% – an area equivalent to the US, China, European Union and Australia combined – and still feed the world. Loss of wild areas to agriculture is the leading cause of the current mass extinction of wildlife. While meat and dairy provide just a fifth of our calories and just over a third of protein it uses 83% of farmland and produces 60% of agriculture's greenhouse gas emissions.

Our consumption is not just about physical goods or food that we buy. The types of services we use have a carbon cost. Money that we invest through our pensions, or the banks we use is often invested in companies who are may be serious polluters. The choices we make about where we eat, what we buy, where we invest and what we consume all has an environmental impact.

A Carbon Neutral Southwark

A carbon neutral Southwark is one where we have reduced what we consume, and when we have consumed thought about and acted to limit the impact of that waste. It is a borough

where we strive for a more circular economy, keeping our resources in use as long as possible and recovering and regenerating what we can at the end of a products life.

A carbon neutral Southwark uses green delivery vehicles like cargo bikes for businesses and uses delivery hubs to minimise necessary journeys. It encourages sharing of resources within the local community through projects such as community fridges, community kitchens and tool libraries. Local supply chains and local business are put at the heart of trade in the borough.

A carbon neutral Southwark means that our relationship with food changes. Diet changes with less meat and a more plant based diet, with non-sustainable palm oil from our food and greater awareness of where our food is from to drive consumer behaviour changes. Allotments and other local food growing spaces are developed and help feed local people.

Our objectives are:

- For Southwark to have a more circular economy, that reduces consumption, and keeps resources in use for as long as possible.
- To drive behaviour change about what we consume and what we eat so that we are more sustainable consumers.
- To support local supply chains and local businesses to be more sustainable.
- To shift the approach of large businesses away from carbon heavy methods of delivery and production
- To encourage more plant based diets with more sustainable choices and less waste

Delivering our objectives

To achieve a carbon neutral Southwark there are a range of initiatives, policies and actions we can take as individuals, as a borough and a city, and which we need national government action to take forward.

Individual Actions

This strategy supports promoting individual actions that people can take to limit their personal consumption. This includes supporting individual actions, as well as campaigns and organisations that promote change. We support encouraging education so that individuals can make positive choices and better understand what actions can be taken to limit consumption. Individual actions that we will promote include:

- Shop less and use second hand products where possible
- Remove single use plastic from your purchases by using sustainable businesses such as plastic free food shops and demand businesses reduce their plastic use
- Research and enact habits that do not require carbon heavy consumption such as outdoor exercise
- Shop local and use businesses that use local supply chains

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- Practise DIY on furniture and household items rather than buying new ones
- Follow the waste hierarchy of reduce, reuse and recycle.
- Compost food and garden waste.
- Eat a plant rich, low meat diet.

Borough and Regional Actions

This strategy promotes actions to ensure that decisions are made at both Southwark and London level to help consumers choose eco-friendly options when buying and consuming goods. Actions at this level include:

- Increase support and promotion of markets using local supply chains and suppliers
- Run 'Meat Free Mondays' campaign with support of local organisations
- Reduce Council non-recyclable waste to zero by 2030
- Reduce food waste on Southwark estates through on-site composting
- Create a Green Levy on businesses that use a disproportionate amount of carbon in product development or in product use
- Promote and develop the skills and craft base within the borough
- Expand and protect existing community kitchens set up during the COVID-19 pandemic as sustainable and local food sources
- Become the first borough to only serve vegetarian food in primary schools by 2030
- Remove and ban single use plastic from all public buildings
- Impose sustainability requirements on takeaways and restaurants through licensing framework
- Identify land that can be used for food production encouraging residents to engage with how their food is produced.
- Southwark is divesting its pension fund from fossil fuels, but should do the same with its wider investment portfolio and encourage other organisations to do the same.
- Review the council's procurement strategies and introduce criteria on carbon emissions in supply chains, and work with others to do the same.
- Work with the borough's supermarkets to shift them to net-zero in their supply chains and operations.
- Track 'food deserts' where areas do not have good access to fresh produce

National Action

Many actions that can be taken at an individual, borough and city level require national government action. This can include financial support and top level policy changes such as increase regulation. Actions at this level include:

- Develop a green industrial strategy that puts sustainability at the heart of economic growth.
- Develop a national partnership between businesses, researchers and the community to promote eco-smart consumption

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- Develop the national curriculum to emphasise the impact of consumption and alternatives
- Fund and map a national 'sharing economy' as part of the national budget
- Enforce improved labelling on all products to capture carbon use through its production
- Promote the circular economy in industry, making it as easy as possible to reuse goods through industry trade
- Promote vegan and vegetarian diets in national food plan
- Provide clearer, more accessible national guidance on which goods are recyclable
- Increase national recycling targets for 2035

Developing and Delivering an Action Plan

This strategy sets out our ambition to be carbon neutral by 2030. It sets out the case for manmade climate change, and the impact that this will have on Southwark. We have outlined our approach and our principles to take this work forward and articulated our ambition across different areas of policy and ideas about policies which would help us to achieve carbon neutrality.

The action plan will set out the detail of what needs to be done to deliver the strategy. It will set out a timetable, how we will resource the work, changes in how the council works, ongoing engagement with our residents and how we will ensure effective oversight of the delivery.

Resourcing

This strategy sets out ideas about what needs to be done. It does not identify the resources necessary either within the council or externally. The action plan process will review the ideas in the strategy, as well as further ideas that come forward through the public engagement process and assess the cost and possible sources of money to deliver them.

The council should be open to all opportunities to increase investment into initiatives that promote climate neutrality. For example, it should explore ideas like municipal community investment bonds, introducing work place parking levies and partnering with the GLA and others to cost-share to reduce capital costs on financing innovative green solutions to challenges we face. The council will also review its carbon off-set fund to ensure it is used effectively to deliver reductions in carbon.

The council has appointed a Climate Change Director and initially set aside £2m to ensure that there is money available to invest in climate reduction programmes. However, as a major priority for the council going forward, the council will need to increase human resource to properly lead this work for the council. This work is underway, but will need to be reviewed over the ten years of delivery to ensure that there is appropriate human resource to deliver the council's objectives.

The coronavirus pandemic has had a severe impact on the council's finances. As this strategy is being developed it is not yet clear what the long lasting impact will be. It is clear that government will not fill the gap left by the pandemic and councils will need to make difficult decisions about their finances going forward. This will need to be considered as we develop the action plan. There will be a financial gap between what we want to deliver and what we are able to deliver. The council will be transparent about what this is and work with the community to find ways to fill this gap. Much of this will need to be from government. We will therefore lobby government for the resources necessary to deliver the solutions necessary for the climate emergency.

Governance

As the action plan is developed and we move to a delivery phase, there needs to be appropriate governance in place. The climate change work currently has a number of governance systems in place:

1. Cabinet Member – the cabinet member has responsibility for the climate change strategy and its delivery. They speak for the administering on these issues and provide political direction for the council on its climate change work. Directors in the council are responsible to the cabinet member to deliver this work.
2. Scrutiny – the council has established processes to scrutinise decision making and activity as set out in the council’s constitution. This includes the Overview and Scrutiny Committee and its sub-committees.
3. Officer Steering Group – a group of senior officers across the council’s different departments who will advise on the implementation of the strategy across the council’s different services.
4. Partnership Steering Group – a group of local residents, partners, interest groups and others with an interest and expertise in this area to provide advice to the Cabinet Member and the Council.
5. Members Working Group – a cross party group of councillors who will provide advice to the cabinet member as representatives of the community across Southwark.

As we move to the delivery of the action plan, we propose that the existing groups remain in place, but in addition we introduce climate change juries. Each jury will be made up of a representative mix of residents from across the borough and will scrutinise the progress of the climate strategy. Each jury will work on a different theme and report on progress through the year.

Reporting

A central principle in this strategy is transparency. As such the council will report on progress towards meeting its objectives. We will publish an annual climate change progress report which sets out work that has taken place and the impact this has had on meeting our climate commitments.

We will hold an annual climate change conference where this report is available, and which brings together different community groups, residents and partners to openly discuss progress, the challenges and find solutions to overcome them together. The action plan will include targets, including interim targets for years between now and 2030. We will publish progress on these targets annually.

Climate Engagement

Southwark must embark on a climate conversation. Throughout the process of developing a strategy, through to developing an action plan and then implementing change, we will only achieve the objectives in this strategy if everyone with an interest is fully engaged.

As well as work that the council must do, there is individual action, action for other institutions and organisations and for those who do business in the borough. Everyone with a stake in the borough must be part of this conversation. That is why alongside policies to reduce carbon we will commit to lead a climate conversation with the borough. This enables us to engage, educate and empower the borough, but also to learn and evolve as new ideas are developed and we try out ideas that we may then need to modify and change. By actively engaging with each other and keeping the conversation going, we will ensure that we can all play our part in tackling the climate emergency together in Southwark.

Engagement, Education and Empowerment

Engagement of the whole of Southwark's community is vital to the success of the borough to achieve carbon neutrality by 2030.

Engagement – the council will host an ongoing climate conversation, where we develop forums to ensure that people's voices are heard and that we have an ongoing and open conversation with our residents about climate change and what needs to happen. As well as the formal structures outlined above, the council will promote climate the climate emergency through its communications work, it will engage with local groups and individuals.

Education – too many people are still not aware of the climate emergency, and the fringe views of a few climate change deniers has a larger impact on the public discourse than it should. We will support and implement education programmes about the climate emergency to help the community to understand the impact of climate change. We will work with schools, colleges and universities to bring learning out of the classroom into the community.

Empowerment – as well as engaging with our residents we want them to be empowered to take action in their own lives, and to demand action of others. Our residents will be equipped with the information they need to make positive decisions about how they live and what they expect from the companies, and organisations they work with. Our transparency and reporting to the community will be matched with events and other opportunities in the borough for people to take action. Our action plan will include measures to measure engagement and empowerment in the community including individual actions that people take to reduce their carbon emissions.

Hearing diverse voices

Southwark is proud to be home to a diverse and vibrant population, but it is only if every part of that community is heard and is part of the conversation, that we will make the change we need together. As well as engaging with existing groups and community networks, we will particularly focus on these that are harder to reach. These groups include:

Young People – Southwark is a young borough, and we need to ensure that young voices are heard in the process. We will work with young people and seek their advice on how to best engage so that our engagement is relevant and impactful with our young residents. We will ensure that young people's voices are always part of the debate.

BAME Communities – Southwark is home to a racially diverse population. We will work with groups that represent our different BAME communities, but also identify where communities are not represented, and reach out directly to them. This includes communities where English is not the primary language.

Vulnerable Communities – we will ensure that we hear the voice of those who are more vulnerable, such as people living in food poverty, homeless or those with no recourse to public funds.

Our community is tied to communities across the world. As set out in this strategy, our residents will know people in parts of the world who are feeling the negative effects of climate change more acutely than we are in the UK, and they will know the impact of our action here on those they love in other parts of the world. Just as they are linked to the effects of climate change, they also bring to Southwark a wealth of perspectives and understanding from countries around the world. Many are from countries who produce far less carbon than the UK and where their ways of living are more sustainable. In engaging with our diverse communities we need to listen and understand and learn from these global experiences and perspectives. We will be open and encouraging of solutions from the global south being adapted to work in Southwark.

Partnership Working

We will be a partner in the borough, and work with all organisations to develop shared values and a shared approach to becoming carbon neutral.

Public Institutions – Southwark is home to major hospitals, universities and public institutions like theatres and museums. We will work with them to reduce their carbon in Southwark but also look for partnership opportunities to expand this influence beyond the borough boundaries. For example, working with major galleries to promote the climate emergency, or with university academics to try out innovative solutions to reduce carbon.

Global Businesses – Southwark is home to organisations with significant global reach. We have international companies with UK offices in the borough as well as branches of global

high street retail and major outlets for supermarkets and other large UK retail. Working with the Southwark face of these national and global companies means we will seek to have influence beyond our borough's boundaries. We will look for local solutions that we can encourage companies to take up nationally or internationally.

Small and Medium Size Businesses – working directly, and through bodies like the Southwark Business Forum we will work with our small businesses to support them taking measures to reduce waste and carbon emissions. This could include waste management, improvements to energy efficiency or changes to the public realm to encourage walking and cycling.