

Environment Scrutiny Commission

Tuesday 13 July 2021
7.00 pm

Supplemental Agenda

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Item No.	Title	Page No.
5.	Climate Change strategy The Climate Change Strategy and Action Plan is enclosed. The following further papers giving additional detail can be found on the cabinet agenda link, under item 8. https://moderngov.southwark.gov.uk/ieListDocuments.aspx?CId=302&MId=7014&Ver=4 <ul style="list-style-type: none">• Report: Climate Change Strategy• Appendix B: Technical appendix• Appendix C: Consultation and engagement summary• Appendix D: Equality impact assessment	1 - 73
9.	Work Programme A draft scope on 'Sustainable technologies to help Southwark's buildings meet the Climate Emergency with a particular focus on Community Energy' is enclosed.	74 - 78

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Date: 8 July 2021

APPENDIX A**Tackling the Climate Emergency Together**

Our strategy for a carbon neutral Southwark by 2030

July 2021

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Foreword

The climate emergency is the challenge of our time. We have only a few short years to confront and reverse it. If we do not, then life as we know it on this planet will come to an end. The scale of the task is huge. Our analysis has shown that in Southwark alone it will require an investment of over £3.92 billion. However, that investment is also a once in a millennia opportunity to build a better, fairer society.

The impacts of climate change are already being felt across the globe, and it is clear that the most vulnerable communities are hit the hardest – those who have the least resources to adapt or mitigate are also those who have done the least to contribute to carbon emissions and global warming.

To prevent this change becoming catastrophic the evidence tells us we must keep average global temperature rises below 1.5 degrees. To achieve that we need to end our contribution to global warming by 2030. We are determined that in Southwark we will ensure this is a fair transition. One that helps to improve the lives of residents on lower incomes, and that delivers the new green jobs which are so clearly needed.

This strategy sets out how we will do this. It is underpinned by three core values: ambition, inclusion and transparency.

It is a strategy and action plan for the whole borough, and the technical analysis which supports this work, shows why this must be the case. The Council is responsible for just 12% of emissions in the borough, not only through its direct operations but also through its procurement. So, while it's important that the council leads by example, we will only achieve impact on the scale required, if all organisations, businesses and community groups in our borough pull in the same direction.

However, we also want to be clear that we will not be able to reach net zero carbon emissions in our borough by 2030 without increased and broadened support from national government. As we close in on the COP26 Summit in Glasgow, we will continue to live up to our reputation as a campaigning council, making the case to government to deliver the national investment needed to truly green our local economy, our homes and our infrastructure.

Reaching carbon neutral by 2030 will require all the energy, innovation and resources that we can muster together. Action is needed across all five areas identified in this strategy: greener buildings, active and sustainable travel, thriving natural environment, a circular economy, and renewable energy. This is a positive and exciting vision but also one that requires us all to do things differently.

We want to thank all Southwark residents and partners who have contributed to the development of this strategy. The COVID-19 pandemic has meant that engagement and outreach has been different from originally envisaged, but whether it's been through the virtual climate summit, pop-up events in parks, or even via talking lampposts, your inputs have been invaluable and have helped to shape this strategy and action plan.

As we set on the following pages, this strategy is not the 'final word' on the topic, and it must respond to new ideas, data, technologies and available funding. In addition to annual progress reports, we intend to hold a full review in 2025. We will also be establishing a citizens' jury to further test some of the ideas set out in this strategy, and to help us work through the more challenging questions around resources and behaviour change.

We know that we can only deliver fundamental change if we work in partnership with residents, local groups and organisations and we look forward to taking this crucial work forward together.

Cllr Kieron Williams
Leader of the Council

Cllr Helen Dennis
Cabinet Member for the Climate Emergency
and Sustainable Development

Introduction

The climate emergency has the potential to dramatically impact our lives and those of future generations. Without bold action to stop greenhouse gas emissions, the future of humanity and the natural ecosystems of our planet will be at risk. This strategy sets out our plan to end Southwark's contribution to climate change by 2030.

The scale of change needed is vast and will also require comprehensive national action, to back the changes we need to deliver locally. We will therefore ensure Southwark is a strong voice in making the case for the urgent national changes and government investment needed.

Southwark Council declared a Climate Emergency in 2019 and set 2030 as our target date to get to carbon neutral, based on the stark warning issued by the Intergovernmental Panel on Climate Change (IPCC) in 2018. They found that urgent action is needed before 2030 if global temperature rises are to remain within 1.5°C, the maximum average temperature rise considered safe for humanity.

The IPCC found that a global rise above 1.5°C would lead to climate-related risks to human health, livelihoods, food security, human security, water supply and economic growth. Even if we were to stop the emission of all greenhouse gases immediately, the warming of the planet would continue for at least several more decades. However, the IPCC also found that it is possible to keep temperature rise to less than 1.5°C if urgent and wide-ranging action is taken by governments and people. It is also clear that as well as a climate crisis, there is also an ecological emergency that must be tackled. Climate change directly impacts the world's species and ecosystems, driving biodiversity loss on a considerable scale.

The scale of the challenge is vast. Our most recent analysis, consistent with up-to-date carbon accounting standards, indicates that in 2017 Southwark's emissions were 1,288kt CO₂e. We are using this as our baseline for this strategy. The council has commissioned an independent analysis of the cost of action needed. **We estimate it will cost at least £3.92bn of capital expenditure to end Southwark's contribution to climate change, and so will need major government support to back the action that we take locally.**

However, the transition to a low carbon society also presents an opportunity to reshape our borough into a better place for everyone. The urgent action we need to cut carbon emissions can also deliver improvements in health, raise the standard of homes, create good green jobs and help to strengthen our communities. In Southwark, we are determined to make this a fair transition that helps to close the stark inequalities in our borough.

We have already made progress. Government data indicates carbon emissions in Southwark reduced by around 40% between 2005 and 2018. The council has also already met its target to half its operational council emissions by 2022 and is now going further including renewable electricity in schools and communal areas of housing estates from 2022. Now we need to end Southwark's contribution to climate change by 2030.

This strategy sets out how we can do this together, working with local communities, with businesses, with our schools, hospitals, and other groups in our borough to protect our borough and planet. It is a plan that aims to ensure everyone is empowered to play their part to create a fairer and a more sustainable future.

It also sets out the urgent national and government action that will be needed. Decarbonising the national grid, switching away from petrol and diesel vehicles and bringing all buildings up to a low carbon standard are all examples of urgent tasks that will only be achieved if we have the necessary national investment and improvements to infrastructure, regulations and taxation that only central government can deliver.

Our Southwark target date of 2030 is an essential one. However, the government has currently only committed to a 78% reduction in emissions by 2035 (against a 1990 baseline). In Southwark we will work with partners across the country, and world, to make the case for the more urgent national and global action needed, both because it is essential to tackle the climate emergency and because it will deliver a better, fairer society.

The actions and approach set out in this strategy are based on extensive consultation with the people and organisations of our borough. Since we declared a climate emergency in 2019, we have held events throughout the borough and heard from hundreds of people who live and work in the borough. On the following pages we have set out how we will continue to work with everyone in our borough to both further develop and deliver the actions needed.

This strategy is also based on detailed technical analysis of the work needed to get to carbon neutral by 2030. It has reviewed the emissions in the borough and proposes a series of actions that we need to take to reach carbon neutral.

Over the next decade we will learn more about what is achievable and as our environment changes, we will adapt and evolve, constantly learning so that we can always ensure that we are doing all we can to achieve this goal.

What is Climate Change?

Greenhouse gases are produced by human activities including the burning of fossil fuels for heat, transport, electricity, farming and deforestation. The amount of greenhouse gases in the atmosphere is rising and since the industrial revolution, there has been a 40% increase in the amount of carbon dioxide in the atmosphere, a 20% increase in nitrous oxide, and a 150% increase in methane¹. These gases trap energy from the sun warming the planet.

This is causing average temperatures across the globe to warm which in turn is leading to catastrophic changes to our planet.

If we do not change our behaviour, it will be devastating for our world. Places like Bangladesh are the hardest hit by climate change, with monsoon flooding in the region

¹ US EPA (2019). Global greenhouse gas emissions data. Available from <https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data> [accessed January 2020]

becoming more severe year on year. Climate change is also affecting places like West Africa and Latin America, with crop yields and production predicted to fall because of higher temperatures. 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, ecological damage, 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.

There have been several key decisions on how to tackle climate change on a global scale. The formal body that oversees these decisions is the United Nations Framework Convention on Climate Change (UNFCCC), which attempts to bring nations together to agree climate goals. The most recent of these is the 2016 Paris Agreement, which formally recognised the importance of the 1.5°C target. The next meeting of these nations will be COP26, taking place in Glasgow November 2021. We expect to see renewed global commitments coming out of COP26 that will influence our borough's approach.

What does Climate Change mean for Southwark?

Climate change is already affecting our country and borough. All ten of our warmest years have occurred since 2002, whereas none of the ten coldest years has occurred since 1963.² Summer heatwaves are now 30 times more likely than they would be typically. Climate change means UK temperatures are set to become more volatile with more extremes of both heat and cold.

This is already having an impact in Southwark, and this is set to worsen. Impacts include:

Health and disease - climate change and the burning of fossil fuels are endangering human health in a range of ways. Deaths in the UK due to heat are expected to rise by two-thirds this decade. Extremes of cold are also likely to increase our winter death rate. The risk of insect borne diseases in the UK, such as those carried by mosquitos is rising. The burning of fossil fuels in cars, heating and industry also pollute the air that we breathe. In Southwark, around 200 premature deaths occur due to air pollution every year³.

Rainfall and flooding – 60% Southwark residents live on land less than ten meters above sea level, any changes in sea levels will have a direct effect on Southwark. Southwark is protected from tidal and river flooding by the Thames Barrier and other defences but with increased sea levels these may no longer be effective.

Food supply - an estimated 75,000 of Southwark's residents are food insecure meaning they do not have enough money to buy food, have to skip meals or cut down

² Met Office – What is Climate Change. Available from <https://www.metoffice.gov.uk/weather/climate-change/what-is-climate-change> [accessed May 2021]

³ Public Health Annual Report – Southwark Council 2020

on quantities due to money, or do not have the money for a balanced diet⁴. Climate change will increase food insecurity. The UK imports around 40% of its food so we will be affected by the changes happening in other countries. As food insecurity increases globally, we would expect to see price increases and increasing inequality in Southwark.

Impact of conflict and migration – global conflict is felt and experienced by our residents. Southwark’s richly diverse population has links with family and friends around the world and so are often connected to people globally who are impacted by food, water shortages, extreme weather events and forced migration. Food shortages and conflict force people to leave their homes and make often dangerous journeys in search of security. Climate change and ecological damage will increase this forced migration.

Southwark will always be a welcoming place to those in need. However, we should be doing everything we can to avoid that need arising, so people are not forced to flee in the first place.

Climate Change as a Social Justice Issue

The impact of climate change is not experienced equally. Poorer and otherwise disadvantaged communities, including the elderly, are more at risk and have less resource to mitigate against its impact. That is why climate change is not just an environmental issue, but one of social justice where we must ensure our approach reduces inequality, makes our borough and planet fairer and does not place the burden of change on those least able to afford it.

Although we are all affected by our changing climate, factors such as race, income, age and health play a significant role in how directly we feel this impact. In Southwark, we are proud to be home to a diverse community and significant Black, Asian, and Minority Ethnic population.

The global south is disproportionately affected by climate change. The impact of floods, landslides and other natural disasters is much higher and exacerbated by human-made climate change, much of which is due to actions in richer countries like our own. The impact of climate change is also experienced differently here in Southwark. An individual’s income significantly affects their experience of climate change and the resources they have available to adapt to the changing environment.

Southwark, like the rest of London, is a borough of contrast. Whilst many residents in our borough have high incomes and wealth, nearly a third live in poverty. This disparity means that in Southwark 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 out of reach for people on lower incomes.

⁴ Southwark Council (2019). Food insecurity. Southwark’s JSNA. Available from <https://www.southwark.gov.uk/assets/attach/10358/JSNA-2019-Food-Insecurity.pdf> [accessed 26.11.19]

People from a higher income are generally more likely to emit more carbon as they are more likely to have larger homes in need of greater heating, to own one or more cars and to fly for holidays or work. We must recognise this disparity in resource and its relationship with our fight against the climate emergency.

Other important characteristics that are disproportionately affected by climate change and the burning of fossil fuels are age and health. People with more vulnerable health are more affected by climate change, which is sometimes determined by age. Children are exposed to higher levels of pollution, particularly while walking to school and on the playground, and the effects of this pollution are more serious on children than on adults. Exposure to air pollution at an early age can hinder lung growth, inhibit brain development, and increase the risk of conditions such as asthma. Alongside this, air pollution has been 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.

Opportunity for Southwark

Southwark's commitment to meeting the challenge of the climate emergency opens enormous opportunity for the borough, its residents and businesses. By taking an approach that puts social justice at the centre there is an opportunity to tackle not just the climate emergency, but to reshape our borough, to create a better, fairer Southwark where everyone can fulfil their potential and benefit from all that our borough has to offer. The decisions we take have the potential to deliver wider benefits, improving the quality of homes, reducing air pollution, improving health and creating good quality green jobs.

As we also recover from COVID-19 and renew our borough there is an opportunity to create positive change and rebuild in a fairer way. Whilst the pandemic has been so hard for so many, there is also much we can learn from the changes we made to respond to the pandemic about how we travel, work and live. Many of these had a positive effect on our environment and planet and we need to try to retain some of those changes.

The Southwark Context

Southwark's emissions

To achieve our target of being carbon neutral by 2030, Southwark needs to know how much carbon it is producing now, what our total 'carbon budget' is, and how the various decisions over the next decade will impact on that carbon. This strategy sets out a map of where and how our carbon is produced and the impact of our proposals to reduce it. There is not a definitive set of data, and so this strategy will be further developed and updated as we improve the data on carbon emissions.

Scope

Greenhouse gases are categorised into three groups, or scopes: scope one covers direct emissions from owned or controlled sources; scope two covers indirect emissions from the generation of purchased electricity, heating and cooling and; scope three includes all other indirect emissions that occur in the supply chain.

Our commitment is to do all we can to be carbon neutral for all scope one and two emissions including those created directly by the council. We will report on progress on this and prioritise work in this area.

However, a large quantity of greenhouse gases are produced to sustain the activity and life of the borough but fall outside direct control of people in Southwark. Scope three covers emissions generated in the supply of goods and services that we consume, which still contributes to climate change. Where we can, we will also aim to reduce our scope three emissions as much as possible.

Emissions which the council has direct control over are considerably higher than other inner London local authorities because Southwark has a much larger stock of council housing than any other council in London. Despite this, the council is still directly responsible for a small proportion of total emissions in Southwark. However, the council has a crucial role in leading this work and as set out above, has broader influence in how it procures, the policies that it sets and how it allocates resources in the borough. As such, it is important that the council is doing everything it can to reduce its own emissions as well as working with the community to help the borough reduce Southwark's overall emissions.

In order to allow the council to track its own progress effectively, this strategy splits the analysis of emissions into two. Firstly, those generated across the borough as a whole, by the council, residents, businesses and visitors ('Borough Wide Emissions') and then looks at those emissions the council directly controls ('Council's Own Emissions').

Borough Wide Emissions

The government estimate that Southwark has reduced its carbon emissions by around 40% between 2005 and 2017. The council has commissioned additional analysis by Anthesis using the SCATTER Inventory Tool to develop an updated baseline. This work shows that in 2017, Southwark's buildings, transport and waste disposal (Scope

one and two) was responsible for emissions totalling 1,288 ktCO₂e. The majority resulted from buildings (79%) and transport (15%).

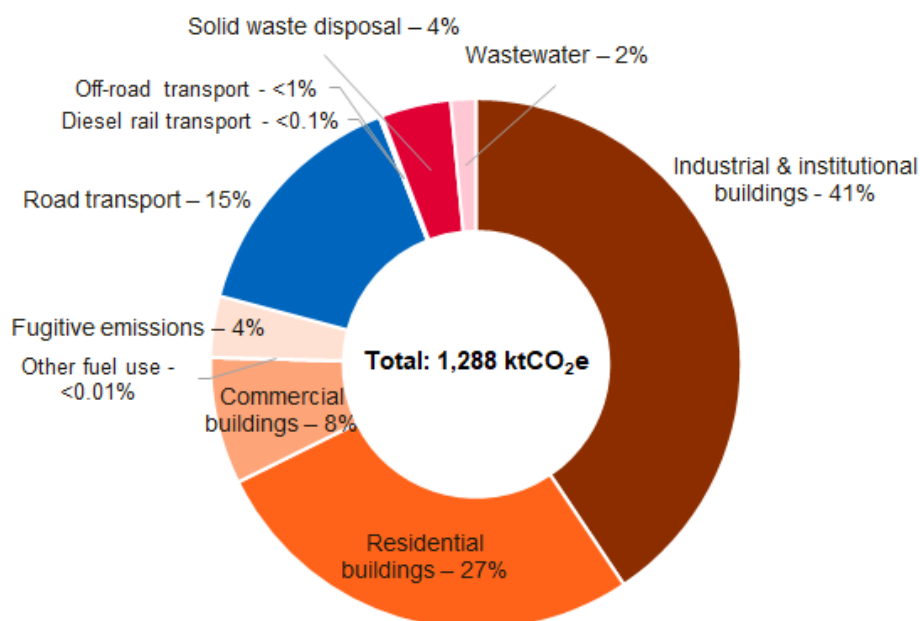


Figure 1.0: Source of emissions in Southwark at borough level. Full details in Appendix A.

It shows that:

79% of emissions come from buildings. This includes:

- Residential buildings (27%): Domestic households of all tenure types.
- Institutional buildings & facilities (25%): Public sector buildings including schools, colleges and educational buildings, health centres, hospitals, leisure centres, council buildings etc.
- Industrial buildings & facilities (16%): Larger industrial facilities, including factories, warehouses and workshops associated with manufacturing and engineering.
- Commercial buildings & facilities (8%): Buildings from which commercial businesses operate e.g., shops, shopping centres, offices, restaurants etc.
- Other fuel use (<0.01%): Fuel consumption from other sources (off-road transportation in the industrial & agricultural sectors).
- Fugitive emissions (4%): Emissions from leaks and other fuel released through transportation and storage of fuels. Scaled to Southwark by population from national figures.

15% of emissions come from transport. This includes:

- On-road transport (15%): Emissions from all forms of on-road passenger vehicle, including cars, vans, motorcycles, buses and taxis.
- Diesel rail (<0.1%): Emissions from diesel-fuelled rail transport. Emissions from electricity consumption within the rail sector are included in the commercial and industrial sectors as it is not possible to separate these emissions.
- Off-road (<1%): A base assumption of 1% of total on-road emissions.

6% of emissions come from waste disposal. This includes:

- Solid waste disposal (4%): Incorporates various waste streams across commercial, industrial and municipal sources.
- Wastewater (2%): Scaled directly from national wastewater data by population.

In 2018, Southwark’s consumption-based emissions (Scope three) are estimated to have been 2,194 ktCO₂e. This figure describes the emissions impact of all imported goods and services to the borough and is based upon economic activity data for the borough. The figures are calculated using DEFRA and BEIS statistics on local economic activity and national figures for consumption-based emissions.

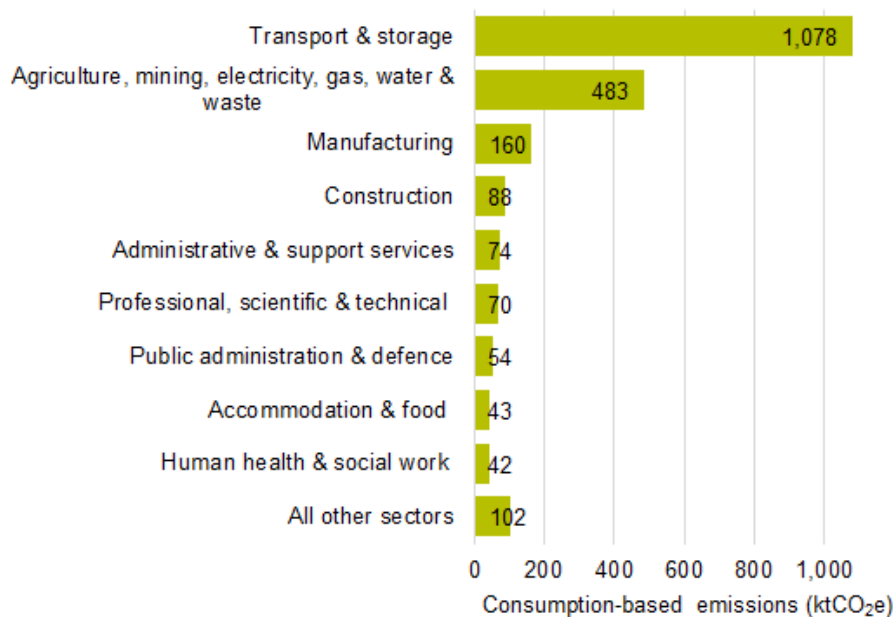


Figure 1.1: Consumption-based emissions estimates for Southwark, broken down by industry sector and activities. “All other sectors” includes: education, information and communication, arts entertainment and recreation, wholesale and retail trade, real estate activities, financial and insurance activities, and all other service-based activities.

Borough Wide Emissions Pathway

Appendix A contains updated emissions data relating to borough-wide pathways to carbon neutrality. This modelling uses EnergyPRO and looks at emissions from Southwark’s buildings, on-road transport and energy supply, assessing the opportunities for emissions reduction. Achieving carbon neutral assumes a transition to electrified heating and transport as well as a successful programme of energy demand reduction measures. Even with such changes there are still residual emissions which would require offsetting. A full methodology is contained within Appendix A, including the assumptions the modelling utilises to highlight a path to carbon neutral across energy, housing and transport.

Council's Own Emissions

Estimated figures from 2021 show that around 88% of the borough's total carbon emissions are not within direct control of the council, and around 12% are. The council has been taking steps to reduce the carbon emissions 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 renewable electricity and investment in more efficient boilers and insulation. We have invested in LED lighting in streetlights as well as achieving a 75% reduction in electricity consumption in our main Tooley Street offices.

Analysis of Southwark Council's operations and assets shows the council's own carbon footprint of 432 ktCO₂e. The major contributors to this total within scope one and two are the council's buildings, which account for 16% of total emissions.

Scope three emissions accounted for a significantly larger proportion overall, at just under 84% of the total. These are calculated using information on the council's procurement spend over a financial year, applying emissions factors to differing areas of consumption in the council's supply chain. For example, this is the carbon associated with the production of goods that are later bought by the council, such as building or highway materials. While the council does not have direct control over these emissions, this strategy includes actions to improve our supply chain, ensure it is more sustainable and in turn reduce emissions.

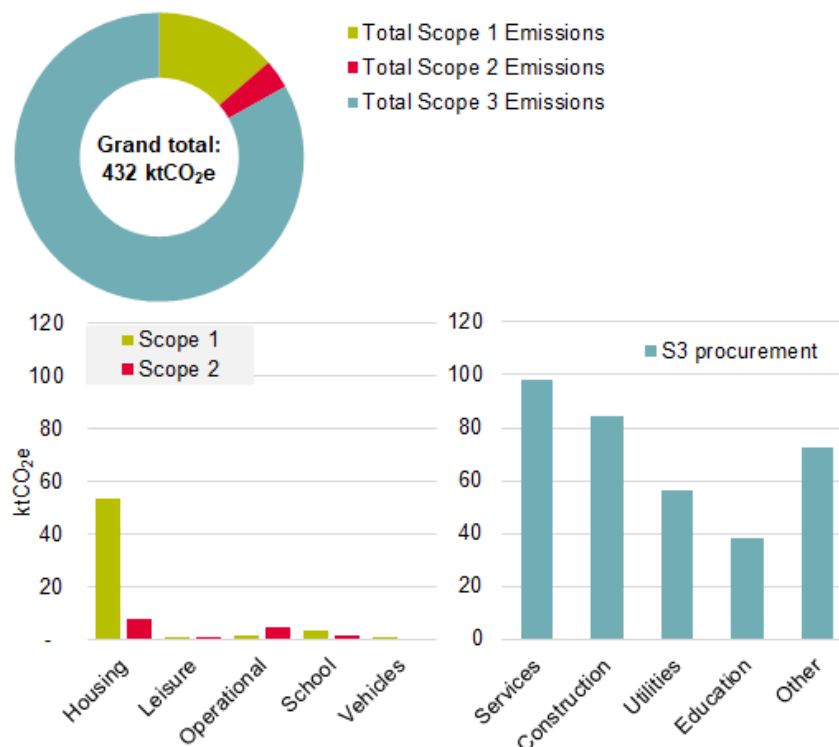


Figure 1.2: Scope breakdown (Overview top; Scope one/two, left; Scope three right) of the council's own footprint. The dominant sources of emissions are housing (14%) and procurement (>80%).

Council's Own Emissions Pathway

The potential impact of various carbon-reducing measures has been estimated using high-level modelling. This provides an indication of the scale and nature of change required for the council to minimise its own carbon footprint. Full details of this modelling work can be found in Appendix A.

Seven measures have been assessed for their impact on scope one & two emissions arising from buildings and vehicle fleet, compared to a far less ambitious scenario where local activity is much more limited. The results of this analysis can be seen below, in Figure 1.3, with the seven measures considered as follows:

- Reduction in vehicle mileage
- Switch to EV for all vehicles
- Energy efficient lights and appliances
- Retrofit of council buildings
- Switching away from gas heating
- Local renewables
- Offsetting

With targeted actions across energy supply and usage, retrofit of buildings and a shift in transport away from carbon intensive modes, the 'ambitious' pathway sees a 57% reduction in emissions by 2030.

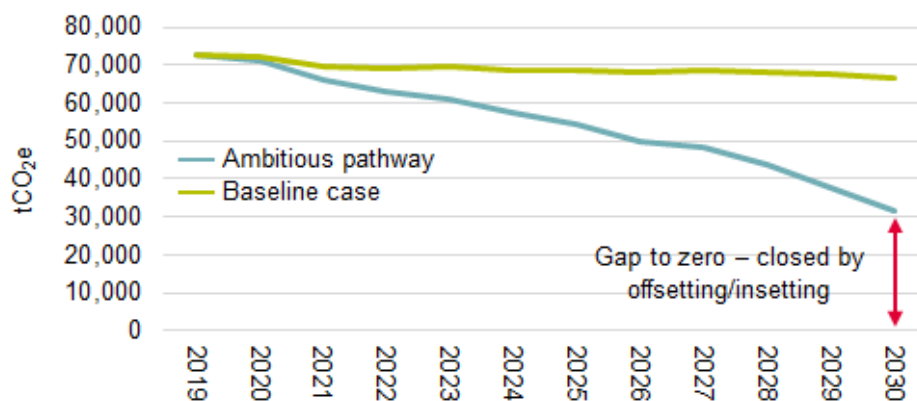


Figure 1.3: Pathways analysis for the council to 2030, based on indicative measures.

Carbon Offset

Carbon offsetting is where reductions in greenhouse gases are made in one place to compensate for emissions elsewhere. Offsetting carbon will always be required as some greenhouse gas emission in the borough is unavoidable. Some activities, even with the best methods will still produce some carbon and so offsetting will be necessary to account for carbon that cannot be taken out of the system in any other way. The council has developed a carbon offset policy for new developments to ensure that any carbon offset funding is used strategically to reduce overall carbon in the atmosphere and only when carbon savings cannot be obtained on site. The council has already raised the amount it charges developers who fail to make on site carbon savings. We will continue to keep this under review and make further changes when necessary in the future.

As part of the review process of this strategy, the council will consider offset in the future and what role it should have in reaching our ambition of becoming carbon neutral. The council will also consider whether carbon offsetting is something we could facilitate for individuals and organisations within the borough.

The London and the national context

Around 65% of local authorities in the country have declared some form of climate emergency; this includes most councils in London. At a national level there are several policy positions that help to shape the context at a local level, notably:

- Recent updates to the UK carbon neutral target announced in April 2021; the government is now targeting a 78% reduction in emissions against a 1990 baseline by 2035.
- National planning policy is aligned to a 2050 carbon neutral target.

As mentioned, this does not go far enough, quickly enough. The Mayor has committed to make London carbon neutral by 2030. London Councils is working to support boroughs that are developing climate emergency strategies. This will ensure that as far as possible, council strategies align and so 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 meaningful results, for example retrofitting energy efficient solutions to existing homes.

Southwark will develop a clear case to Westminster on the financial and political resources required to achieve the goals in this strategy that cannot be achieved in the borough alone. We will do this alongside other boroughs in London, across the country, and via the Local Government Association.

At a London level the key policy positions are as follows:

- The London Assembly members declared a climate emergency in December 2018.
- The Mayor declared a climate emergency in early 2020, setting a target for London to be carbon neutral by 2030.
- The London Plan is currently aligned to a 2050 carbon neutral target; however, the plan is to be reviewed in light of 2030 targets.

London boroughs have also agreed to seven programmes of work over the next decade:

- **Retrofit London:** Retrofit all domestic and non-domestic buildings to an average level of an energy standard of B or above. (EPC B)
- **Low carbon development:** Secure low carbon buildings and infrastructure via borough planning.
- **Low carbon transport:** Halve road journeys made by petrol and diesel via combined measures that can restrict polluting journeys and incentivise sustainable and active travel options.

- **Renewable power:** Secure 100% renewable energy for London’s public sector now and in the future.
- **One World Living:** Reduce consumption emissions by two thirds, focusing on food, clothing, electronics and aviation.
- **Green economy:** Develop London’s low carbon sector and green our broader economy.
- **Creating a resilient and green London:** Southwark are leading on work in this area.

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.

Southwark must also play its part in the national debate and can help shape the government’s policy and response to the climate emergency. Southwark will use its knowledge in areas where it has particular expertise to innovate and inform national policy. For example, the council is proud to be the largest local authority landlord in London and so will use the knowledge it gains from managing and improving this housing to help improve the government’s response in this area. We will work with other local authorities and experts to make the case to government for changes and investment where it is needed.

The impact of COVID-19

The COVID-19 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.

COVID-19 has created a huge social and economic change and as we recover from COVID-19, there is an opportunity for things to be different. We can choose to build back and invest 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 crisis, their inherent connection and now more than ever we should look for joined up solutions.

Much of the response to the climate emergency will involve individual behaviour changes. People have already started making these changes in response to the pandemic. In 2020, the UK is predicted to have experienced a 10.7% drop in carbon emissions.⁵ The large fall is provisionally attributed to the reduction in the use of road transport during nationwide lockdowns. Transport emissions are predicted to have

⁵ BEIS Greenhouse Gas Emissions March 2021

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/972583/2020_Provisional_emissions_statistics_report.pdf [Accessed May 2021]

fallen 19.6% in the same period and as more people stayed home, carbon emissions from the residential sector are predicted to have increased 1.8%.

These emissions reductions are temporary and will be reversed as the UK recovers from lockdowns, but future emissions can be dramatically shaped by the nature of the economic recovery.

To maintain the prospect of meeting the commitments set out in the Paris Agreement, it is essential that policies in response to the economic crisis avoid locking nations into carbon intensive pathways, and instead steer economies towards a resilient green recovery. In 2020, the Climate Change Committee (CCC) called for the UK government to use the economic recovery to accelerate the shift towards a low-carbon economy and released the UK's Sixth Carbon Budget. The CCC outlined that low-carbon investment in emitting sectors would stimulate jobs, stabilise future economic resilience, and mitigate climate related risks.

In Southwark, this strategy should build on our aim to invest in resilient communities, a carbon neutral economy and a clean and thriving natural environment. People are valuing clean air, our parks and open spaces are being discovered and rediscovered by residents, and our thriving local businesses are showing how they can adapt to new ways of working.

The government's CCC has advised that to strengthen the economy the UK can and should 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.
2. Lead a shift towards positive, long-term behaviours.
3. Tackle the wider 'resilience deficit' on climate change.
4. Embed fairness as a core principle.
5. Ensure the recovery does not lock-in greenhouse gas emissions or increased risk.
6. Strengthen incentives to reduce emissions when considering tax changes.

The CCC outlined that low-carbon investment in emitting sectors would stimulate jobs, stabilise future economic resilience, and mitigate climate related risks. Business and health professionals also made similar calls. Within Southwark, these principles are also a valuable guide for our recovery from COVID-19, and we will be applying the same principles to guide our recovery.

The C40 Cities group has also published an overview of principles which it recommends should inform this Green Recovery. Decisiveness will be required as we recover from this crisis, responding with policy that is centred around the resilience, health and wellbeing of local communities.

COVID-19 dominates decision making now. Southwark, and others have had to allocate resources and shift focus to respond to the pandemic. Revenues have been adversely affected, and social distancing measures have presented barriers to public

consultation on climate action measures. However, the prospect of a green recovery also presents opportunities for climate action, particularly if we can build on the behavioural and economic changes which have happened in response to the pandemic.

The pandemic and the response to it presents several opportunities to positively embed climate action within Southwark. These include:

- **Homeworking** – Restrictions on office working have created a rapid shift in perception of working from home. Further research is needed, but this could present a substantial opportunity to reduce impacts associated with office spaces and commuting. It is important to recognise that not all residents can work from home, and that any action we take should continue to support and promote social justice and reducing inequality.
- **Uptake of active transport** – When workers have travelled into the office, they are doing so by bicycle in increasing numbers. The proportion of cyclists increased two- or even three-fold during the summer months in 2020.
- **Lobbying National Government** – As policymakers shape the economic recovery, local government is in a unique position to influence government policy in the pursuit of a green recovery. In turn, this could stimulate low carbon activities across the city.

In shaping the recovery from COVID-19, we have the opportunity to capture the benefits of a low carbon economy like never before and build resilience against future shocks including potentially climate-related service disruption. Central to these benefits are economic opportunities. Investing in low carbon technology (such as air source heat pumps and solar panels) also provides opportunity to stimulate the local economy.

As the low carbon economy grows, we expect to see positive impacts in other areas. For example, homeowners rolling out retrofit are expected to experience lower energy bills and an improved standard of living. Similarly, in reducing road traffic, residents can live healthier, safer lives. This just transition is a significant additional driver of health, social and economic co-benefits.

Southwark's Approach

Achieving a carbon neutral borough cannot be achieved by any one organisation. It requires everyone with a stake in the borough to work together at every level to transform Southwark and create a greener and more sustainable future. To deliver our priorities there is work that the council needs to do, but also government, city hall, businesses, institutions and individuals. It is only by every part working together, with the backing of urgent and large-scale government investment, that we can achieve our goal to be carbon neutral by 2030.

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 Southwark a place to be proud of should also inform and guide our work to tackle the emergency. We believe Southwark's climate change strategy should reflect the borough and ensure an emphasis on social justice.

There is an opportunity during a just transition for not only 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. Below, we have defined three key elements of our social justice approach – ambition, inclusivity, and transparency.

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 act 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.

Inclusive

The climate emergency is an ethical and political issue, not just an environmental one. We will support a just transition where the requirement to change is spread fairly with the greater share to those most able to afford it. Part of this is the principle that the polluter pays – ensuring that those who produce the most carbon are accountable for

the cost of managing it. We will support plans that tackle the climate emergency, but which also reduce inequality, support an economy that works for everyone and promotes 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 our community and owned by all 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. 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.

Alignment with Southwark's priorities and operations

Southwark's Borough Plan 2020-22 already includes a range of ambitious commitments that will have an impact on carbon emissions, which include:

- Make Southwark carbon neutral by 2030 and deliver the Southwark Climate Change Strategy.
- Plant 10,000 new trees by 2022.
- Make Southwark a Low Traffic Borough, dedicating more of our highways to zero carbon uses including walking and cycling and improving air quality by reducing car journeys.
- Double the number of bike hangars in the borough by 2022 and work towards every home in Southwark having access to a safe place to keep a bike.
- Continue the work we began in 2010 to halve council emissions by 2022.
- Make the Old Kent Road opportunity area a carbon-neutral development.
- Use council land and roofs to produce clean energy.
- Divest council investments away from fossil fuels and into sustainable alternatives.
- Bring forward low waste, low energy new council homes.
- Work towards having electric car charging points on every street with an additional 200 charging points delivered by 2022.
- Vary parking charges to discourage the most polluting vehicles.
- Protect and enhance Southwark's biodiversity and make nature accessible for all.
- Boost access to cycle hire.
- Campaign to extend the Bakerloo Line to Old Kent Road and introduce an active travel plan for the area.
- Work with the Mayor of London to improve cycling infrastructure in Rotherhithe and campaign for a river crossing that connects Canada Water to Canary Wharf.

- Campaign for the reopening of Camberwell Station and promote active travel in the area.

Alignment with other strategies

There are also several key strategies, policies and programmes in the council that we also need to ensure align with the ambitions of this strategy. We will undertake an analysis of existing council policies and review whether there are changes that should be considered to ensure that they are integrated with our climate emergency approach. 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 and policies for planning and regeneration in the borough.
- Asset Management Strategy – the council’s approach to managing its building stock.

For all three of these documents, this strategy will inform and drive actions and policies on tackling the climate emergency. It will provide a roadmap for commitments in other strategies and will work to align our priorities across the piece.

There are also a range of other action plans, which include:

- School Travel Plans
- Economic Wellbeing Strategy
- Skills Strategy
- Carbon Offset Fund
- 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 the climate emergency this strategy should not be considered the end of our approach, but rather the beginning. Our whole approach should be iterative and flexible to respond to the rapidly changing regional, national and international contexts. The process is one that we will continually 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.

Having an iterative approach is particularly important as new technologies start to emerge that allow us to store and capture carbon. We will continually monitor the latest technological developments and it is an ambition of the council to sequester carbon

directly. We also recognise however, that carbon capture alone is not enough to tackle the climate emergency.

A Borough Partnership

To deliver these priorities we need strong partnerships that have influence at the local, regional and national levels. Local institutions including the council should work together to align their ambitions to tackle the climate emergency. Working with NHS trusts, universities, colleges and other institutions collaboratively can identify opportunities to reduce their collective carbon through, for example shared supply chains. The council will take a proactive role in convening local actors in response to the climate emergency and this strategy sets the framework for action which everyone in the borough can help to deliver.

Southwark will continue to be a leading voice in London, working with councils and London Councils. It will use its voice to lobby government for change both unilaterally and with partners. Working with the Mayor and London Councils, Southwark will be a strong voice for action. Southwark will lobby for government action and funding, and for recognition of the importance of partnership in delivering carbon reduction.

Our response to the climate emergency is only successful if the council is working as a partner and influencing at local, regional and national levels.

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

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 council is working closely with anchor institutions. We are working to develop networks of relationships which go beyond bi-lateral, transaction exchanges towards more entrepreneurial and collaborative exchanges that deliver value for residents and partners. Climate change is central to these relationships, ensuring that we are all aligning the work we are doing across our organisations to reduce carbon and be more sustainable.

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. 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 deliver change and to devolve greater powers to councils so that they can drive the change that is needed.

Working with Business and the Green New Deal

Social justice and a just transition require us to tackle climate change in a way which reduces inequality and creates opportunity for people in the borough. That is why we support the principles of a green new deal.

We recognise that economic, social and climate justice are linked. We will work with business to support the growth of green jobs, and support initiatives that promote and use the latest green technology available. Through our COVID-19 recovery, we will support businesses as they support our residents with sustainable, good jobs.

Southwark is home to organisations with significant global reach. We have international companies, branches of global retailers and other large UK retail. Working with these companies in Southwark enables us to have reach beyond our borough. We will use this to find local solutions that encourage companies to act nationally or internationally. We will also work to ensure that businesses are doing their fair share in reducing their carbon impact and moving towards more sustainable practices.

We will work directly with microbusinesses and small and medium size businesses (SMEs), including through bodies like the Southwark Business Forum and our local Business Improvement Districts. We will collaborate to build a consensus around the strategy and the development of practical programmes that we can put into action. We will work with our small businesses to support those taking steps 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. We will seek to develop local skills and employment based on improved education and understanding of climate change across the borough.

Working in partnership with our business community we will help them to make the changes needed. We will also listen, recognising that change can present challenges to businesses. By working in partnership, we aim to help our businesses be part of the solution to climate change in Southwark.

As Southwark and the country transition to a sustainable, low carbon future, we will invest in the green jobs of the future. We will work with business, charities and others to support the jobs we need to deliver zero carbon. These jobs and access to training will be open to all residents but we will target support most where it also reduces inequality and delivers other wider benefits to our community.

Taking Action

Our vision is for a carbon neutral Southwark where we have transitioned justly, we are reducing inequality and supporting a strong green local economy. To do this, we have set five priority areas where action is urgently needed to reduce our carbon. In each area, we have set out the actions that need to be taken to reduce our carbon. This focuses on changes that need to be taken now, together with progress that has already been made. They show that we can all play our part in the journey to a carbon neutral future. Within these priorities, we have also included the work that the council needs to do to reduce its own emissions. We will lead the way by not only reducing our own emissions but supporting the borough to do the same. The five priority areas are:

- **Greener Buildings:** these actions relate to Southwark's built environment and new developments e.g., emissions from privately rented homes, commercial offices and private property development. They cover scope one and two emissions.
- **Active and Sustainable Travel:** these actions relate to surface transport across the borough, e.g., emissions from private car travel. They cover scope one, two and three emissions.
- **A Thriving Natural Environment:** these actions relate to the maintenance and security of the borough's natural environment e.g., increasing tree canopy coverage.
- **A Circular Economy with Green Jobs:** these actions relate to waste within the borough e.g., emissions from non-recyclable waste disposal. They cover scope one and two emissions.
- **Renewable Energy:** these actions relate to the provision of more renewable energy within the borough i.e., local installation of technologies such as solar PV.

Defining our goals and actions

Each priority area contains detail about the current context, forward-looking emissions modelling, as well as immediate actions intended to bridge the gap to the 2030 target. Actions have been designed to set out a borough-wide programme of activity across the five key priorities.

Each priority has been split into themes of activity, which need to be undertaken. Within each theme we have set out a series of goals which define more specific areas of activity. To achieve these goals, we set out a range of actions. Actions represent the most granular level of activity and define the specific work that needs to happen to deliver carbon reductions. These actions focus on what needs to be done now, and which build on work already underway. Over the course of this strategy, we will develop new actions to reach the goals and deliver the carbon saving required.

Grouping actions in this way allows our response to the climate emergency to remain flexible whilst focused on delivering a carbon neutral future. This grouped approach also ensures consistency when monitoring and reporting progress into the future.

By working this way, the council can provide a clear picture of how actions will be delivered, whilst remaining open to additional actions in the future as circumstances change. This ensures the plan is robust enough to remain useful even as policy and/or technological advancements evolve. The strategy will need to be further developed and strengthened over time and we will do this on an ongoing basis.

Setting actions

Ambitious activity is required to meet the borough's climate action targets. In determining the actions in this strategy, we have been informed by the work done to date within the council, alongside modelling and research. We have also undertaken comprehensive engagement with our residents. In addition, we have also considered:

- Future emissions modelling: these forward-looking models give us an indication of the scale and nature of actions required to tackle the climate emergency in Southwark. They help predict what actions we will need to take in the future, considering newer technologies and decisions from government that we expect to see before 2030. The council commissioned *Carbon Descent* to carry out initial modelling in late 2020, which has subsequently been updated by *Anthesis* to form part of this strategy.
- Local contexts: Actions have been further streamlined according to existing work carried out by the council, future plans and aspirations for projects. Multiple teams from across the council have inputted into this process.
- Specific research: the council commissioned *Anthesis* to review existing policy and utilised their experience developing similar climate change action plans for local authorities across the UK.
- Consultation feedback: The council has engaged with residents, businesses and other groups in the borough to better understand the priorities and aspirations of the borough. We commissioned *Traverse* to carry out a programme of engagement, and combined this with our own consultation, events and direct feedback. This process informed our actions across the priority areas.

The role of the council

The council plays a leading role in climate work across London and will continue to engage with other councils to learn from and enable 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 where we:

- Directly manage such as the use of our buildings.
- Can enable through funding, such as through grants for community gardens.
- Can enable through policy, such as changes to use of residential streets by cars.
- Can influence locally, such as working with local businesses to reduce plastic use.
- Can influence or ask for nationally, such as decarbonising our national grid at a quicker pace or for funding to research new climate technologies.

A comprehensive approach to decision making recognises our role across these various levels and the multi-layered solutions that may be necessary to deliver change. 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.

Table 1.0 illustrates that scale of the council's ability to influence carbon reduction.

Influence	Description	Emissions affected
Direct control	Actions relate to emissions sources that are directly owned or operationally controlled by the council.	e.g., council's own scope one and two
Stronger influence	Actions relate to the council's ability to influence emissions outside of its direct control through policy making and/or certain procurement activities e.g., council's procurement policy.	e.g., council's own scope three, borough-wide scope one and two
Medium influence	Actions relate to other activities in the borough not deemed 'stronger'. This may influence some procurement and supply chain emissions sources but primarily is centred on borough-wide policy changes e.g., raising minimum energy standards for private-rented homes.	e.g., council's own scope three, borough-wide scope one and two
Weaker influence	Actions relate to the council's ability to convene and engage a wide range of stakeholders in the borough, lobby national government and influence behaviour changes e.g., the council is positioned to take a leading role in facilitating joint commitments, information sharing and maximising efficiencies.	All

Sequencing actions

Southwark has already made huge progress in reducing carbon. This varies across the different priority areas and so the actions need to reflect that and build on what has already taken place. When developing actions, we have considered the starting point and what is necessary to deliver savings in each area. We have considered the strategic actions required to set the groundwork and the direct actions to deliver tangible reductions.

The approach to setting actions is cyclical, enabling us to set the groundwork in a theme before moving onto the more tangible direct actions.

This cycle, in Figure 1.4 below, goes through three stages, with continued review and evaluation.

Research & Design (R&D) actions help us to understand the context we are working in, such as the existing evidence on a policy and the options available. These inform the design of solutions and shape next steps. For example: Baselineing impacts, new policy making, undertaking energy audits.

Engagement actions are specific supporting actions which can facilitate a carbon saving project, but do not lead to a direct saving themselves. For example: Establishing business partnerships, convening a citizens' jury, consulting low-carbon specialists, improving governance and accountability.

Implementation actions are those which lead directly to low-carbon projects. For example: Building retrofit programmes, construction of renewable supply infrastructure.

Continued review and evaluation shape this process to inform new initiatives and scrutinise progress.



Figure 1.4: Diagram which describes how actions can be sequenced together to deliver progress.

Cost of delivery

To develop this plan, the council commissioned *Carbon Descent and Anthesis* to carry out work to assess the scale of the challenge and the cost to meet our ambition. This work estimates the capital cost at around £3.92bn. To achieve our ambition, we will need considerable investment in the borough and for government to increase its commitment to the climate emergency.

While the figure of £3.92bn gives an overall indication of the scale, more work will be required as we identify the resources required to deliver. Likely costs are set out in the table below.

Table 1.1 illustrates the different costs that must be considered.

Capital costs	“Up-front” expenditure e.g., the material cost of implementation of a retrofit programme, that is recognised on a balance sheet.
Operational/ revenue costs	“Lifetime” costs e.g., monthly energy bills or asset maintenance that reduce the organisation’s annual surplus (profit)
Resource/ time costs	Typically, a type of operational cost, but often expressed in units of time or full-time employee equivalents, as a reallocation of an existing role may be possible e.g., one full time employee to design & oversee retrofit delivery.

Savings & payback	Financial benefit of a given action e.g., saved operational costs because of capital expenditure on retrofit.
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Investment in low carbon activities often brings direct and indirect benefits, many of which are financial.

As we develop further actions, we will make estimates of the costs and where possible identify a figure of 'pound spent per unit of carbon saved' metric (£/tCO₂). This means that we can report transparently. Given the significant likely challenges over funding, this will enable us to assess and prioritise measures to ensure the maximum saving for investment. It will also allow us to focus any lobbying or behaviour change initiatives in a similar way, while recognising the many co-benefits that the actions can deliver.

When considering costs, we will also consider operational implications. We will also consider any "additionality." Some investments may have needed to happen anyway; for example, there may be a requirement to make capital expenditure on assets that are coming to the end of their life. In this way, making the distinction between 'low carbon' spend and planned maintenance is important. For example, if a gas boiler needs replacing, it is important to look at the additional cost of a low-carbon heat pump relative to a gas boiler, rather than the cost and benefits of a heat-pump on its own. We will also consider other co-benefits. Benefits such as reducing inequality, improving health are important to our aim of social justice but sometimes harder to measure financially.

Action Plan

Priority 1 – Greener Buildings

Southwark is a diverse and exciting borough with approximately 15,000 businesses and a truly vibrant population that comes from being in central London. Within the borough 42% of all housing is social housing. The council is proud to be the largest landlord in London with over 52,500 properties and 14,500 leaseholders with a further 17,000 homes owned by housing associations. There are major anchor institutions with large buildings including hospitals, universities, large business and retail space. The council also has control of over 350 buildings including offices, schools and depots. The borough is growing and regenerating, creating opportunities for the council and its residents. We want to create a green economy that delivers co-benefits of economic growth, reduced inequality and carbon reduction.

To be carbon neutral by 2030 Southwark must:

- Commit to carbon neutral buildings in the borough.
- Require embedded building techniques such as green roofs and solar panelling.
- Repurpose existing buildings that are no longer fit for purpose or need modernising where possible.
- Use and create buildings that protect and enhance our green spaces.
- Ensure buildings are built to minimise carbon emissions in their use.
- Strengthen all policy documents including the New Southwark Plan with a carbon neutral commitment.

To deliver a carbon neutral future, our actions need to be aligned with and responsive to the national, regional and local context. This includes:

National Policy:

- In accordance with the Future Homes Standard (2021), gas boilers will be banned in new homes from 2025.
- The Government's Clean Growth Strategy (2017) set targets for non-domestic properties (DEC band B by 2030) and for as many homes as possible to be EPC Band C by 2035.
- UK Green Building Council Advancing Net Zero Programme (2018) provides guidance on delivering emissions reductions to the construction and property sectors.
- The Domestic Minimum Energy Efficiency Standard (MEES) (2017) in the domestic private rented sector currently prevents landlords from letting properties rated below EPC band E.

GLA Policy:

- The London Plan (2021) outlines net carbon zero targets for major new developments and further targets for emissions reductions beyond national policy for domestic buildings.
- The draft 'Be Seen' Energy Monitoring Guidance (2020) requires new developments to monitor and report on their actual operational energy performance for up to 5 years after completion.

- The draft Whole Life-Cycle Carbon Assessment Guidance (2020) sets out guidance for tackling the embodied carbon of existing buildings.
- The Warmer Homes Programme provides free retrofit improvements for low-income homeowners who own their own homes or rent privately.
- London Energy Transformation Initiative (LETI) network provides guidance and resources for borough energy policies and stakeholder collaboration across London.

Southwark Policy:

- The New Southwark Plan Policy P68 Sustainability Standards requires the majority of development over 500sqm to achieve a BREEAM rating of 'Excellent'.
- The New Southwark Plan Policy P69 Energy requires major developments (of less than 10 units) to reduce on-site carbon dioxide emissions by a minimum of 100% (for residential developments). For non-residential development a reduction of at least 40% should be achieved onsite beyond 2013 Buildings Regulations Part L standards.

Emissions Modelling

Southwark's emissions from buildings have been modelled to an ambitious pathway of decarbonisation – these are shown in Figure 1.5. This includes measures relating to building fabric, heating systems and new building development across the borough's domestic and non-domestic buildings. The graph shows the urgent need to move away from gas boilers as the primary source of heating in the borough.

The council's objectives around sustainable new build developments and low-carbon technologies relate closely to these emissions. To achieve the overall reductions needed for this model, it requires:

- As many homes as possible within the borough are connected to the SELCHP network or an equivalent district heating network. This includes the 17,000 or so homes currently on district heating networks, plus around 50% of other homes. The remaining are served by heat pump systems or other electrified heating networks by 2030. Any SELCHP expansion will require detailed feasibility, including a full legal assessment of increased connection to homes.
- Improved building fabric performance to increase energy efficiency to reduce energy demand. This can be achieved through ensuring all single-glazed windows, all lofts without insulation and all unfilled cavities and solid walls are insulated.

The emissions modelled below represent the decline in emissions because of the discontinued use of fossil fuel heating and cooling systems. As fuel consumption switches from gas to electricity, the incurred grid emissions from additional heat pumps (across new build, retrofit and SELCHP) are also included. Residual emissions are the result of the required use of the national grid to power the borough's electrified heating systems.

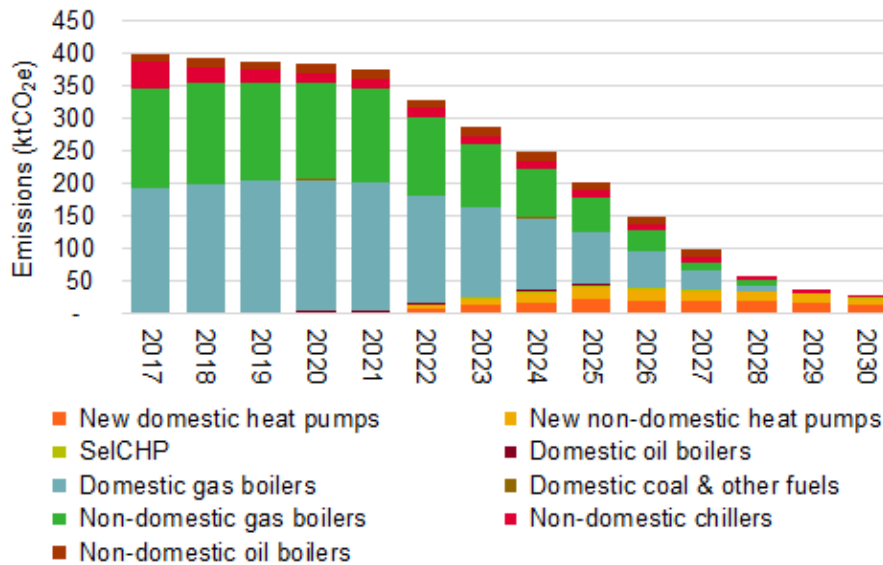


Figure 1.5: EnergyPRO modelling for emissions sources relating to fossil fuel building heating systems, SELCHP and heat pumps in new build developments.

Funding

There is a significant capital funding gap for the required level of retrofit and new build to progress towards carbon neutral. In total we estimate that £2.6bn of capital expenditure is required. Funding required would need to be a combination of the public sector, private sector and residents.

We estimate the required capital expenditure is.⁶:

- £603m relates to domestic insulation.
- £632m relates to domestic heating systems being added to the SELCHP network.
- A further £617m relates to domestic heating systems being updated with heat pumps.
- £710m relates to heat pumps in non-domestic buildings.

Additional revenue funding would also be required, to support the delivery of such a substantial change in how we build and heat our homes. These costs are not included above, but would help ensure enforcement of new building standards, alongside the promotion and awareness of a move away from domestic and non-domestic boilers.

There will also need to be a substantial upskilling of technical knowledge, in the building and heating industries, to allow this shift to happen. Investment in green jobs through a green new deal is therefore essential to ensure that Southwark has the skills and experience to deliver this change.

⁶ Full details of assumptions are found in the appendix.

Actions

Work is already underway to deliver this priority area. The themes and goals below show what we need to achieve to reach our vision together with the immediate actions that we need to take. Alongside this work, we will continue to develop new actions to ensure we stay on track to reach our goals and make the carbon saving.

Theme	Goal	Progress	Immediate Actions
A. Planning regulations that centre carbon neutrality	1. Policy is used to improve energy efficiency standards in existing buildings during redevelopment or retrofit when planning is required	Low carbon zone in Peckham, funded by Mayoral investment, gave support, funding and energy efficient improvements to local buildings. New carbon price of £95 per tonne for non-residential and residential development has been implemented and will be reviewed.	Explore options for energy performance standards in the early review of the New Southwark Plan
			Review planning policy to support the retrofitting of heritage buildings to reduce carbon emissions.
	Embed building technologies such as green roofs, facades and cool roofs to reduce carbon emissions and improve biodiversity and local air quality.		
	Explore options in the early review of the New Southwark Plan for encouraging the use of recycled materials in new development as a means of reducing the embodied carbon of new builds.		
	Explore options for standardised measuring frameworks to ensure compliance with planning policies for improved energy efficiency in all new build properties.		
2. Policy is used to drive higher energy efficiency standards in new developments	Approve the carbon offset fund within Southwark in Autumn 2021, including governance structure and approach to prioritising spend.		
B. Buildings minimise their carbon emissions and maximise their energy efficiency.	1. Guidance and support are made available to improve energy efficiency across the borough	Currently working with BEIS and Energy Hubs to secure funding to improve some of the least energy efficient properties in the borough.	Highlight best practice and leading examples of decarbonised buildings.
			Publicise opportunities associated with improving energy efficiency standards and provide

			communications to owner-occupied homes.
			Target energy saving advice and support households experiencing fuel poverty.
	2. Residents and businesses improve the energy efficiency of existing buildings		Raise the minimum energy efficiency standards (MEES) from the current D up to a C for private rented properties and improve its enforcement to capture non-compliance, providing support to tenants and landlords where needed.
C. Low-carbon technologies and practices are encouraged within the borough's buildings.	1. Maximise the use of low-carbon technologies for new and existing homes	<p>Work is already underway to expand the SELCHP network.</p> <p>Air source heat pumps will be installed in four libraries throughout 2021, which will replace the existing gas heating systems.</p>	Identify households not currently serviced by district heating that can be switched onto SELCHP or equivalent district heat system. Alongside this identify areas of the borough that cannot be served by heat networks and must look at communal ASHP, CHP or secondary source heat pumps.
			Provide specific policy and guidance to households and businesses relating to the transition onto heat pump technology and other low carbon technology.
			Develop an advocacy campaign calling on national government to establish a Green Homes Investment Fund and request changes in taxation (e.g, VAT) to make changes more affordable
D. Decarbonise operational council buildings.	1. Lead by example by making all operational buildings carbon neutral	All council buildings now run on 100% renewable electricity. We are moving to green gas for operations, and transition is underway to move communal areas in housing and schools over by 2022.	Carry out energy audits on the largest energy consuming properties in the council's portfolio to tailor support and improvements.
	2. Low-carbon technologies and practices in council-owned buildings		<p>Ensure all council buildings are moved to 100% renewable energy tariffs.</p> <p>Start the roll out and installation of heat pumps within council-owned/affiliated properties</p>

	3. Reducing energy demand and cutting energy waste in council-owned buildings	<p>Street lighting team have designed and installed over 4000 LED lanterns across the borough. All future lighting will be LED.</p> <p>Our modern lift motors and controllers are now low energy producers that improve efficiency.</p> <p>The council has begun a process of consolidating operation buildings, substantially reducing energy consumption.</p>	Replace energy inefficient appliances and lighting in council operational estate.
E. Decarbonise council housing.	1. Raise the energy efficiency of social housing with an EPC rating of D or lower	Improvements already underway including replacing gas burning boilers on the Wyndham, Consort and Newington Estates with modern water source heat pumps.	Prioritise energy efficiency improvements and maximise funding for the worst-performing social housing properties, i.e., those with EPC rating D or lower.
	2. Replacing gas with low-carbon technologies	The Tustin Estate has seen new insulated roofs and double-glazed windows installed to the three tower blocks, significantly improving their energy efficiency.	Increase the number of council-owned homes to the extended SELCHP network where feasible.
		Ann Moss Way development is an ongoing pilot project to investigate whether carbon neutral council homes can be developed to Passivhaus standard and the cost of doing so.	Continue to roll out of heat pumps within council housing stock and replacement of individual gas boilers.
			Work with residents to develop decarbonisation plans for every estate in the borough.

Next Steps

The list of actions above will be developed incrementally, but there will also be further new actions that may become a focus in the future and will be considered accordingly. Examples of such actions could be:

- Ensuring the operational carbon of new developments is accurately reported following building completion.

- Exploring voluntary licensing schemes for private landlords as an incentive to the private rental sector to improve the energy efficiency of their stock.

Beyond the council's own actions, there must also be a focus on what other partners and stakeholders can action themselves, from a central government to resident level. This highlights how important collective action will be. Central government need to significantly increase the level of funding available for renewable heat technology and for raising the thermal efficacy of existing buildings. Businesses can identify and maximise opportunities to install green roofs, facades and cool roofs on buildings, while residents can identify opportunities for renewable heat in properties. Both groups can also continue to engage with the council on energy efficiency standards and other behaviour change initiatives.

Priority 2 – Active and Sustainable Travel

Improving our streets to help with how we move around the borough of Southwark, encouraging sustainable travel and improving the environment is key to the success of reducing the impact of climate change. Emissions from transport accounts for 15% of the borough's emissions profile, of which around 99% comes from on-road transport. After buildings and associated energy supply, treatment of the borough's transport emissions is the next largest sector to tackle.

To be carbon neutral by 2030 Southwark must:

- Reduce car journeys to a minimum by 2030.
- End freight and commercial delivery in polluting vehicles.
- Encourage and support residents and businesses to switch away from petrol and diesel vehicles.
- Improve the accessibility and sustainability of public transport.
- Be a borough where walking and cycling becomes the default way to get around.

To deliver a carbon neutral future, our actions need to be aligned with and responsive to the national, regional and local context. This includes:

National Policy:

- The UK Transport Decarbonisation Strategy states the current challenges and steps to be taken when developing the transport decarbonisation plan and will be published in 2021.
- The Road to Zero Strategy (2018) sets out new measures to establish the UK as a world leader in the development, manufacture and use of zero emission road vehicles.
- The Ten Point Plan for a Green Industrial Revolution (2020) states that from 2030 new petrol and diesel cars and vans can no longer be sold. From 2035 all new cars and vans must be fully zero carbon emission at the exhaust pipe.

GLA Policy:

- The Mayor's Transport Strategy (2018) aims for 80% of all London journeys to be completed on foot, by bike or public transport by 2041.
- Vehicle usage and emissions within London are regulated by Transport for London's Low Emissions Zone (LEZ), Ultra Low Emissions Zone (ULEZ), and Congestion Charge.
- The Mayor is committed to supporting boroughs to create town centre Zero Emission Zones (ZEMZ), with plans to make central London a ZEMZ from 2025 alongside plans for a zero-emissions bus fleet.

Southwark Policy:

- Southwark's Movement Plan (2019) sets out our approach to improve people's experience of travel to, within and around the borough including a mission to reduce traffic. The Movement Plan will be reviewed in 2022 to align the targets with this strategy.
- The New Southwark Plan Policy P48 Public Transport requires development to improve accessibility to public transport by creating and improving walking and

cycling connections, and Policy IP2 Transport Infrastructure requires developers to collaborate with Transport for London and other stakeholders to improve transport infrastructure and promote active travel.

- The New Southwark Plan Policy P53 Car Parking requires development to provide electric vehicle charging points (EVCP) where onsite parking is permitted.
- We will continue to run our campaigns on the Bakerloo line extension, a river crossing at Rotherhithe, and the Camberwell Overground. We will also explore options for trams as part of the council's work on options for Low Carbon Public Transport over the next decade.
- The council is working with the Port of London Authority to develop innovative and strategic solutions to the climate emergency across London as part of the development of a 2050 plan for the River Thames, and we will develop an engagement exercise with our local communities in Autumn 2021, building on the work of the Southwark Stands Together programme to develop the most creative response to this emerging vision.

Emissions Modelling

Southwark's emissions from on-road transport have been modelled and are shown below in Figure 1.6. This includes an overall reduction in vehicle trips, more of those remaining trips being undertaken by foot and by bike, and a transition away from petrol and diesel vehicles. These journeys are to be replaced by a combination of increased walking and cycling, reducing unnecessary journeys, greater use of public transport and when necessary, switching to electric vehicles. In addition to reducing emissions from travel within the borough, we also want residents to reduce travel outside the borough including flying. Figure 1.7 below shows details of carbon emissions from flying in relation to Southwark residents.

To achieve the emissions reduction in the model below, we need:

- An absolute reduction in vehicle kilometres travelled of 9%, achieved through modal shifts to active & public transport.
- All petrol and diesel cars & buses to be removed from circulation by 2030 and where necessary replaced with electric equivalents.

Emissions from flying remains a challenge. The adopted aviation scenarios below are based on Government forecasts with even the most ambitious forecast seeing a growth in aviation emissions to 2030. The "low" forecast assumes lower economic growth worldwide with restricted trade.

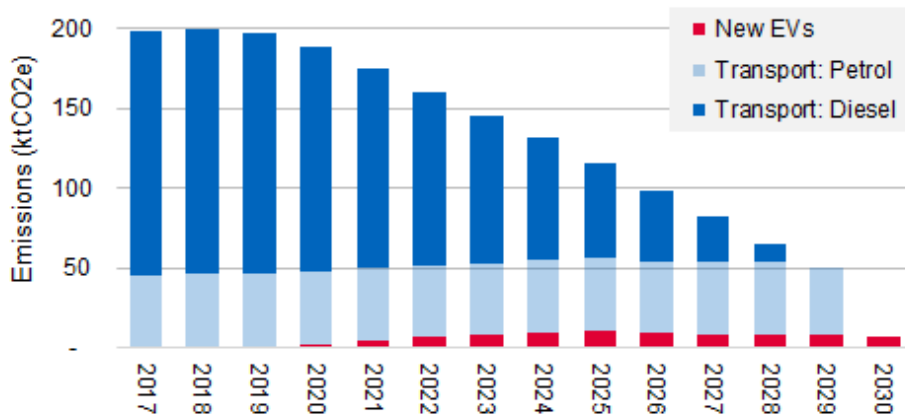


Figure 1.6: EnergyPRO modelling for Scenario 3, for emissions sources relating to transport and travel.

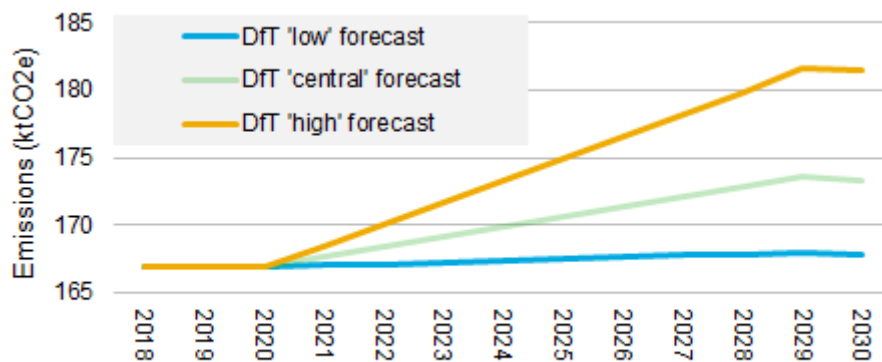


Figure 1.7: Department for Transport forecasts for aviation industry growth underpin SCATTER modelling of Southwark's Scope 3 aviation emissions.

Funding

As with many of the other sectors, there is a significant capital funding gap to facilitate the scale of change required to move towards carbon neutral. We estimate that £967m of capital expenditure is required for measures relating to transport. This funding would need to be incurred by a combination of the public sector, private sector and residents. As with other areas major government investment will be required:

- £885.9m relates to electric cars
- £18.9m relates to electric buses
- £37.9m relates to electric heavy goods vehicles (HGVs)
- £25.0m relates to active transport infrastructure⁷

In addition to capital expenditure significant revenue funding is also required, to allow the council to scale up resource in vital areas. This includes funding for research and feasibility studies, consultation with businesses and residents, behaviour change

⁷ See appendix for a full list of assumptions.

campaigns, promotional activities and increased enforcement, for example on anti-idling restrictions.

Funding streams through Transport for London, which the council would usually have access to, have been severely restricted due to the COVID-19 pandemic and the associated pressures on TfL's finances.

Actions

Work is already underway to deliver this priority area. The themes and goals below show what we need to achieve to reach our vision together with the immediate actions that we need to take. Alongside this work, we will continue to develop new actions to ensure we stay on track to reach our goals and make the carbon saving.

Theme	Goal	Progress	Immediate Actions
A. Make cycling and walking easier.	1. Infrastructure, building developments, and policy are designed to facilitate walking and cycling	Since March 2019, the council have installed exactly 100 new pedestrian crossings, nearly 4km of new cycle route and installed 117 cycle hangars.	Continue to develop the cycling network in conjunction with the installation of LTNs.
		Walworth Low Emission Neighbourhood project underway to encourage active travel, reduce traffic and increase green infrastructure.	Review the 11 existing LTNs over the next 18 months including impact on carbon emissions.
B. Discourage the ownership and use of polluting private cars.	1. EV infrastructure is improved across the district to facilitate more electric vehicles on the road	The Go Ultra Low City Scheme has so far led to the installation of 240 lamp post EV charging points.	Continue to install cycle hangers to meet the borough target of 500 by March 2022
		Southwark successfully partnered with EV charge manufacturer Char.gy to install the world's first highway induction charge pad.	Install 200 new EV charge points by 2022 and confirm longer term implementation strategy.
	2. Electric vehicles are actively incentivised to boost uptake	Since March 2019, the council have installed 36 measures outside schools including timed camera-controlled closures.	Work with the industry, Mayor of London and government to develop the charging infrastructure needed to switch all taxis in Southwark to EV.
3. Neighbourhoods and community areas are modified to reduce the distance		Explore the feasibility of emissions-based parking permits as part of review into permits on streets and estates.	
			Develop and deliver a Low Traffic Southwark Plan which will set out in more detail how we aim to

	needed to travel to essential services	A diesel surcharge has been in place since April 2021 on parking permits and pay and display bays.	reduce vehicle travel within the borough.
	4. Ownership of private cars and behaviour patterns of their use are influenced		Increase enforcement on idling, introduce parking zones and road closures near schools during peak hours, improving air quality and reducing emissions. Support with public awareness campaigns.
C. Improve accessibility and sustainability of public transport.	1. Accessibility to public transport is improved to increase uptake and inclusivity	The Inclusive Transport Strategy has provided funding options for improved station accessibility. Commenced campaign to extend the Bakerloo Line to Old Kent Road, install a walking and cycling crossing in Rotherhithe and extension of Camberwell Overground.	Encourage and collaborate with transport operators including Transport for London to improve frequency, capacity and access to public transport.
			Campaign for re-opening of Camberwell Station and for zero carbon public transport initiatives.
			Work with the Mayor of London to secure the national investment needed to decarbonise bus and rail network
D. Reduce unnecessary journeys.	1. Remote working is increased to reduce commutes in the borough	Working on a project to promote low carbon/low emission delivery methods and consolidation from a delivery hub in Dartford.	Use the Digital Infrastructure Strategy to facilitate the provision of widespread wi-fi and high-speed internet to less well-connected areas across the borough to facilitate agile/teleworking.
	2. Commercial journeys across the district are influenced and consolidated to be more efficient		Co-ordinate at the Greater London level to ensure companies with large fleets of freight/HGVs are efficient in their processes, such as in the planning permission of the location of distribution centres.
			Explore potential for a small business grant for businesses who use carbon-neutral "last mile" deliveries, such as cargo bikes.
			Explore greater use of the Thames for freight and delivering into the borough, minimising impact of polluting vehicles on roads.

E. Cut down unnecessary flying & encourage offsetting flight emissions.	1. Aviation-based journeys are reduced in frequency to reduce associated carbon emissions		Promote reduction of flights (targeted more at frequent fliers) and promote alternative means of transport (partial rail journeys)
F. Decarbonise Council travel	1. Total number of journeys are reduced by staff in the borough	<p>Moving to fully EV parking enforcement fleet.</p> <p>Greater use of bicycles including 18 bicycles for Park Liaison Officers and Community Warden patrols</p> <p>Commercial fleet is now fully ULEZ compliant, including 14 full EV being used by Southwark Building Services, Cleaning and Parks.</p>	Support long-term smart working practices for council employees.
	2. Journeys across the borough are low carbon and efficient		Use information from a review of council staff's commuting and general travel patterns to set targets, actions and develop guidance on sustainable travel.
	3. Decarbonise council owned/rented vehicle fleet		Launch an internal educational campaign advertising the funding schemes available which subsidise the cost of EV.
			Identify opportunities for installation of EV charging points on council premises.
			Implement a strategic plan to trial low emissions vehicles into the LGV/HGV fleet (including waste and highways)
			Review and update fleet management procurement guidelines to specify that for certain vehicles, only Ultra Low Emissions Vehicles (ULEV) are permitted.

Next steps

Alongside working on the actions above, the council will continue to deliver the objectives set out in the Movement Plan, alongside regular monitoring of movement patterns in the borough to ensure our approach is targeted to the areas with most benefit. The COVID-19 pandemic has resulted in large shifts in travel patterns in the borough, and we want to retain the benefits to health and the environment that results from a greater level of active travel.

National government must lead the transition to zero carbon vehicles, provide certainty and encourage EV manufacturers to supply more affordable vehicles to the UK market. Alongside this government must support research and development into other low carbon fuels e.g., hydrogen while prioritising funding for active travel and public transport ahead of new road building programmes. We will be considering how we can best influence government to make the necessary changes.

At an individual level we will consider a range of actions to promote locally that can have a positive impact in this area. This could be opting to walk or cycle for short journeys, using public transport for longer journeys and shopping locally and reducing travel miles.

Priority 3 – Thriving Natural Environment

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. 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. We recognise that parks, open spaces, fields and allotments are also important for supporting good health and wellbeing, reducing health inequalities, improving social cohesion, and managing health and social care costs. They help to reduce levels of depression, anxiety, and fatigue; mitigate air pollution, heat and flooding; and enhance quality of life for both children and adults.

To be carbon neutral by 2030 Southwark must:

- Improve biodiversity and introduce new green corridors to help wildlife to move.
- Make our streets a green place to walk, play and relax.
- Further increase tree canopy coverage across the borough with more planting, ensuring any loss of existing trees cover is a last resort and that those trees are replaced.
- Increase food growing in the borough, expanding allotments and community gardening.
- Enable building and development that works alongside and enhances our natural environment.

To deliver a carbon neutral future, our actions need to be aligned with and responsive to the national, regional and local context. This includes:

National:

- The 25 Year Environment Plan (2018) focuses on the protection and development of new and existing woodland. The associated draft Environment Bill mandates that planning permission be dependent on new developments achieving a biodiversity net gain of 10% minimum.
- The Woodland Trust Emergency Tree Plan (2020) for the UK makes a series of recommendations to local authorities on the maintenance and improvement of policies and actions regarding trees.

GLA Policy:

- The London Environment Strategy (2018) sets out a target of increasing London's tree cover by 10% by 2050.
- The Mayor of London's Greener City Fund (launched 2017) is a £12m fund to support community initiatives, strategic green infrastructure, woodland development, and community engagement.
- Transport for London's Healthy Streets Approach (2017) includes provision for improvements to the city's green infrastructure and sets a number of indicators to deliver healthier streets for Londoners.

Southwark Policy:

- Southwark Nature Action Plan (SNAP) (2020) sets out the vision and strategy for the continued protection, conservation and enhancement of nature in the borough.
- The New Southwark Plan Policy P56 Open Space protects Metropolitan and Borough open land (MOL and BOL) from development except in exceptional circumstances.
- The New Southwark Plan Policy P58 Green Infrastructure requires major development to support green infrastructure with arrangements in place for long term maintenance, with new publicly accessible open space and green links.
- The New Southwark Plan Policy P59 Biodiversity requires development to deliver net gains in biodiversity.

Emissions Modelling

Analysis has been carried out using the SCATTER Pathways Tool (a tool which is used to set emissions baselines), shown in Figure 1.8. The modelling considers factors such as tree coverage and identifying potential areas for urban greening through land use change.

To deliver the carbon savings that we require, we need:

- A 24% increase in forest coverage by 2030.
- A 30% increase in tree planting outside of woodlands, including lone trees, hedges and small woodlands. Tree planting is expected to increase from 20 hectares to 26 hectares.
- A 2% decrease in grassland and a 5% increase in land designated for biodiverse plants (i.e., crops) to improve carbon sequestration potential.

This modelling is particularly challenging for an inner-city area like Southwark where there is considerable pressure on land use. This modelling however shows what is required if we are to make the necessary carbon savings.

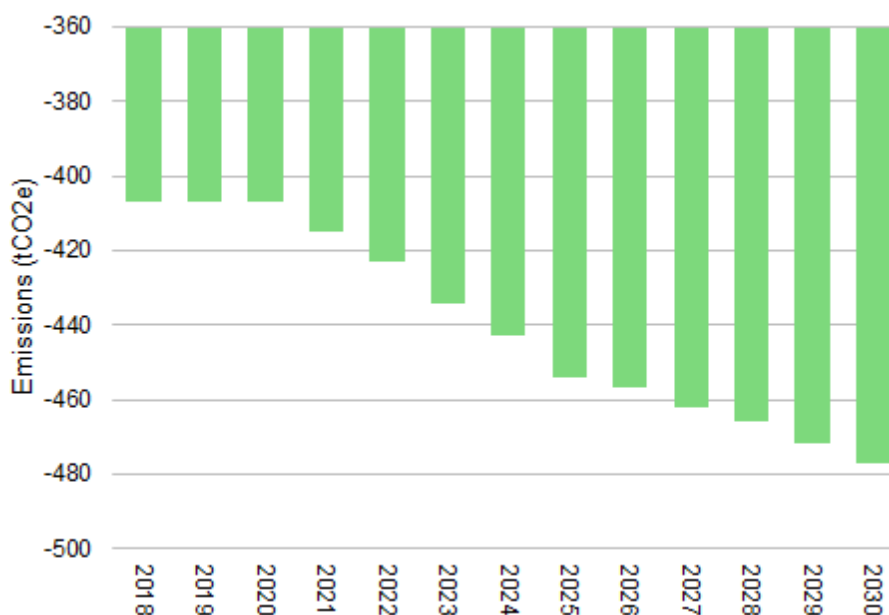


Figure 1.8: SCATTER modelling for an ambitious approach illustrating the associated carbon savings

Funding

Increased expenditure will be required to meet the required targets and contribute towards the carbon neutral target. Costs include:

- Trees - £5m has been allocated for tree planting up to 2030, which includes, but is not limited to, the council's existing tree planting goal of 10,000 trees by May 2022.
- Urban green corridor infrastructure, rewilding and provision of habitat support for biodiversity projects can run to a scale of £1-10m.
- Green roofing infrastructure costs can vary between £80-200 per square meter.

In addition to capital expenditure there are ongoing revenue costs to maintain trees and other green areas.

Actions

Work is already underway to deliver this priority area. The themes and goals below show what we need to achieve to reach our vision together with the immediate actions that we need to take. Alongside this work, we will continue to develop new actions to ensure we stay on track to reach our goals and make the carbon saving.

Theme	Goal	Progress	Immediate Actions
A. Create greener streets with more planting.	1. Improved urban greening and biodiversity	Investing in sustainable urban drainage including recently completing a scheme on Coleman Road.	Develop an urban greening strategy and urban greening factors for our neighbourhoods in line with the London Plan.

			Review the current approach to the use of pesticides in the public realm to better protect residents, wildlife and promote biodiversity.
	2. Key sites for biodiversity are identified and protected		Identify potential green corridors between key green spaces/Sites of Importance for Nature Conservation (SINCs)
			Develop, support and expand Southwark's Biodiversity Partnership and their capacity to bid for and deliver local schemes.
B. Increase tree coverage across the borough	1. Tree coverage is maintained and increased, with tree planting encouraged amongst residents	On track to plant 10,000 trees by May 2022	Shape the new Tree Planting Strategy to target residual emissions in 2030.
C. Residents have greater access to nature.	1. Green space is valued and protected in the borough and opportunities to expand green space are explored	At Burgess Park we have expanded the nature area by over 8,000m ² , a growth of 32%. Expansion of our Allotment Guarantee underway. Rewilding actively being progressed for those tenants that wish to trial and expand it on estates where appropriate.	Develop a community garden plan with a sustainable garden template for social housing tenants and promote the allotment expansion guarantee. Designate more land in the borough for allotments.
D. Building and development works alongside and enhances our natural environment.	1. Policy is used to protect and enhance the natural environment	Southwark Nature Action Plan adopted in 2020 to enhance and protect our environment.	Impose more ambitious requirements in planning policy for the enhancement of existing open space, the creation of new open space and the improved carbon capture in land use.
F. Defining an offsetting strategy for residual emissions.	1. Develop an offset strategy for residual emissions	86% of Southwark's sites of importance for nature conservation are positively managed to improve their ecological value and ability to support biodiversity. This is the 6 th highest rate in England.	Develop an offsetting strategy to address the 13% residual emissions in 2030 not tackled by direct actions in the borough.
	2. Green spaces within the borough are protected and assessed for sequestration potential		Retain and protect existing key open spaces and soil carbon stocks which store CO ₂ in the borough.

Next steps

Beyond the actions above, there are a range of areas the council will consider when developing this action plan further. These include:

- Co-ordinate with community groups (e.g., friends of parks groups) and schools to co-ordinate work to install green infrastructure in streets.
- Map key green spaces, SINC's and soil carbon stocks which store CO₂ in the borough.
- Plan tree planting and ongoing tree maintenance and monitoring with community groups (e.g., friends of parks groups) and schools.

As with the other key themes within this document, it is imperative that action occurs at all levels. The council can achieve much but will only go so far without significant investment at a national level down to individual behaviour change and reduction of energy consumption. We all have a role to play, and the council will set the example through progress against those actions listed above.

Priority 4 – A Circular Economy with Green Jobs

What our residents and businesses 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 its consumption levels are high on average.

As well as what we consume, we need to think about how we dispose of the things we use and how the work we do impacts on the climate. Southwark has the highest recycling rate in inner London at 35% of waste recycled. There is however still a lot 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.

How we use water is also an important part of reducing our consumption. We need to find new ways to reduce our water use and the energy needed to supply it. This includes techniques like solar-powered water heaters and on-site water recycling through rain. Water is a finite resource, and we risk serious shortages if we do not adapt.

We will focus our economic renewal from COVID-19 as an opportunity to root our climate change commitments in the local economy and business growth, by supporting a green new deal that creates jobs, cuts emissions and generates a new wave of profitable environmental innovation. We want our residents to benefit from the green jobs of the future, with the skills and training they need to transform the borough and drive economic and environmental change. Moving to more sustainable diets can also help to bring about a number of public health benefits.

To be carbon neutral by 2030 Southwark must:

- Deliver a green new deal which creates 5,000 green jobs over the next decade and invests in green skills training to support green jobs of the future.
- Encourage a more circular economy that reduces consumption, keeps resources in use for as long as possible, and recycles used materials.
- Change how the council, businesses and organisations procure and invest, ending investment in fossil fuels, and considering the carbon impact of doing business.
- Support local supply chains and local businesses to be more sustainable.
- Work with large businesses to move away from carbon heavy methods of delivery and production.

This section of the strategy sets out the priority actions for the council, businesses and residents going forward on reducing consumption. To ensure a comprehensive and robust approach it is important to consider the policy context, the scale of the challenge and associated emissions alongside the funding that would be required to deliver against our 2030 target.

Actions in this plan have been informed and shaped by a range of policy initiatives, from the national to the local level. This includes:

National Policy:

- Our Waste, Our Resources: A strategy for England (2018) works towards eliminating food waste to landfill by 2030, all plastic packaging placed on the market being recyclable, reusable or compostable by 2025 and the elimination of avoidable waste of all kinds by 2050.
- Waste and recycling: Consistency in Recycling Collections in England [1] (2019). The government are working with local authorities and waste management businesses to implement a more consistent recycling system in England. The measures are expected to come into effect in 2023.

GLA Policy:

- The London Plan (2021) Policy SI 7 Reducing waste and supporting the circular economy outlines how stakeholders can successfully conserve resources, reduce waste, increase in material re-use and recycling and reduce the disposal of waste.
- The London Plan (2021) Policy SI 8 Waste Capacity states that London should attain net waste sufficiency (100% of London's waste managed within London) by 2026 and outlines how development plans and development proposals can contribute to this commitment.
- Circular Economy Statement Guidance (2020) sets out how Circular Economy Statements, which demonstrate how developments incorporate circular economy principles into all aspects of their design, construction and operation, should be prepared.

Southwark Policy:

- The New Southwark Plan Policy P61 Reducing Waste requires developments to reduce waste in alignment with the waste hierarchy. Circular Economy Statements are required for major developments.
- The 2003-2021 Waste Strategy is due to be reviewed and extended this year and will shape our approach to consumption in the borough.

Emissions modelling

Analysis has been carried out using the SCATTER Pathways Tool as shown in Figure 1.9.

SCATTER includes two waste measures. The first relates to reducing the overall quantity of waste produced within the borough, across domestic, commercial and industrial activities, as well as construction and demolition. The second relates to an improved recycling rate. Our modelling prioritises the waste hierarchy of reduce, reuse and recycle. Reducing the quantity of waste should be the priority.

To achieve the carbon reductions set out in this model we must:

- Reduce the total volume of waste produced within Southwark by 24%.
- Increase the recycling rate by 50%

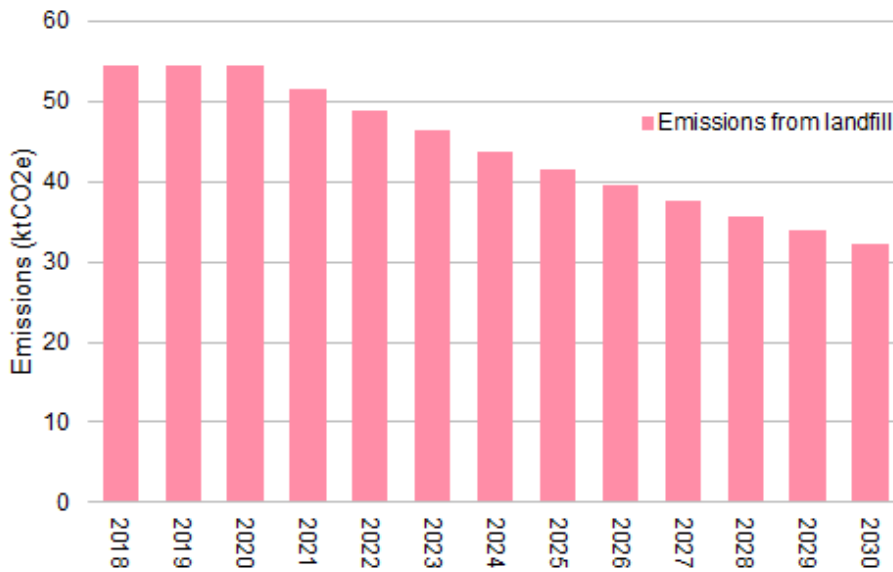


Figure 1.9: SCATTER modelling for an ambitious pathway

Funding

Increased capital and revenue expenditure will be required to meet the targets and contribute towards the carbon neutral target. New waste infrastructure costs have not been quantified due to uncertainty of national policy and existing long-term nature of local municipal waste contracts. However, capital expenditure will be required for work such as supporting more repairs facilities to open and operate in the borough.

Ongoing revenue costs will also be required. This could include funding for:

- Behaviour change and education campaigns for businesses and residents to reduce waste.
- Establishing better forums for engagement with businesses on the topic of reducing industrial emissions and supply chain emissions impact
- Research and feasibility assessments across different topics including exploration of recycling reward schemes, recycling contamination levels, new consolidation centre locations.
- Engaging with businesses and developing a standardised reporting framework for waste disposal

Actions

Work is already underway to deliver this priority area. The themes and goals below show what we need to achieve to reach our vision together with the immediate actions that we need to take. Alongside this work, we will continue to develop new actions to ensure we stay on track to reach our goals and make the carbon saving.

Theme	Goal	Progress	Immediate Actions
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A. A more circular economy	1. Households are supported to reduce consumption, improve rates of re-use and improve rates of recycling/waste collection	<p>Taking steps to expand food waste collection with a pilot of food waste collection in 15,000 communal properties.</p> <p>Work underway to understand the shift in waste from commercial to residential that has taken place during COVID-19.</p>	<p>Promote and partner with and invest in community groups to develop sharing/circular economy e.g., repair café, library of things, community fridge, food redistribution centres.</p> <p>Support for residents to improve recycling in areas with low rates.</p> <p>Explore development of Recycling Reward Schemes which would incentivise commercial sites and workplaces based on the amount of waste they avoid throwing away.</p>
	2. Drive behaviour change in Southwark businesses to reduce consumption		
B. Sustainable diets	1. Consumption patterns of diets in the borough are more sustainable	<p>Council redistributed good quality food to food-aid organisations, including low-cost social supermarkets, breakfast clubs, foodbanks and community cafes. During 2020-2021, this equated to 700 tonnes of food.</p> <p>Food waste collection now expanded to 50,000 street level properties and 15,000 flats.</p> <p>Work is underway on the council's first sustainable food strategy.</p>	<p>Create a Southwark pledge for more climate-friendly, healthy and sustainable diets across the borough, such as the Planetary Health Diet</p> <p>Set up a campaign to encourage workplaces to provide more sustainable catering.</p> <p>Organise a food waste campaign using community growing projects, education in schools and working with caterers, retail and hospitality.</p> <p>Expand local networks such as the Southwark Food Action Alliance (SFAA), that promote the use of surplus food amongst its members.</p>
	2. Waste from food consumption is reduced		
C. Greener businesses and supply chains	1. Improved sustainability of local supply chains	<p>The council ensures the thousands of unsafe and/or counterfeit products seized each year are re-processed and recycled where possible, resulting in only 2% ending in landfill.</p> <p>Work is underway exploring new approaches to</p>	<p>Encourage and promote shopping locally to support business and reduce miles travelled.</p> <p>Use connections to businesses and markets to facilitate shorter supply and distribution chains.</p> <p>Develop a Southwark Sustainable Business Forum to promote consolidation of waste collection and recycling.</p>
	2. Businesses are supported to improve rates of the re-use and recycling of materials		

	3. Delivery methods are transformed to reduce delivery miles and associated carbon emissions	procurement with local anchor institutions.	Assess the feasibility and most effective possible locations of local distribution hubs for home deliveries which utilise low carbon "Last Mile" deliveries. Organise trials for e-cargo bikes for local deliveries.
D. Green New Deal	1. Creation of 5,000 new green jobs	Commenced new research into London's green economic recovery to COVID-19, in partnership with other central London councils. Developing business recovery programmes to support SME decarbonisation and green business growth.	Map and forecast jobs and skills demand from Southwark's climate change investment and track jobs created.
	2. Growth of the local green economy and innovative new green businesses		Develop options for supporting innovation in green business sectors through council business support and workspace programmes. The council commit to establishing a green jobs / skills / technology hub in the borough.
	3. Local businesses decarbonise		Develop options for supporting SME decarbonisation through council business support and workspace programmes.
E. Sustainable Operations and Procurement	1. Council minimises its operational waste	Increased working from home of council staff and the installation of technology that facilitates remote meetings within the council, consolidation of office space.	Ban single use plastics in council buildings. Work with the Council's waste management contractor to maximise route optimisation and the use of low-carbon vehicles.
	2. Reduce direct carbon impact of procurement contracts	Shift to e-billing and reducing printed resources to residents and moving other council services online, for example citizenship ceremonies.	Establish standards of effective carbon management in contracts.
		Procurement of CCTV repair and maintenance contracts included environmental and social commitments to climate change. Managed our pension fund to reduce exposure to fossil fuels by 43% with a commitment to fully divest by 2030	Introduce a carbon neutral aligned procurement policy.

Next Steps

Future actions that the council may consider include:

- Organise a plastic-free campaign across the hospitality sector in the borough to help businesses and residents reduce their reliance on single-use plastics, similar to the City of London.
- Update planning policy for food retail to prioritise areas in the borough identified as food deserts.
- Provide locally sourced, vegetarian or vegan meals in offices and at events across the borough.
- Identify key partners/stakeholders in the region to increase the sustainability of local diets.

Beyond the council's own actions, there must also be a focus on what other partners and stakeholders can action themselves, from central government to resident level. This highlights how important collective action will be. Central government need to significantly increase the level of funding available to improve waste management and develop new technologies. Businesses can identify ways in which they can reduce packaging in their products, while residents can think about how they can make the way they shop and consume more climate friendly. Both businesses and residents can also continue to engage with the council on how to reduce consumption, reuse materials already in circulation and recycle more.

Priority 5 – Renewable Energy

Generating energy from renewable sources can help reduce our dependency on fossil fuels. We have two ways we want to achieve this; leading by example as a council and reducing our own energy use and to work with others to encourage residents and businesses within Southwark to reduce their carbon emissions. We must press the government to decarbonise faster so that it can supply the green energy that we need.

To be carbon neutral by 2030 Southwark must:

- Deliver a decarbonised heat strategy for all residential housing that ends our reliance on gas and other fossil fuels and improves reliability for residents.
- Work with government to make retrofitting of homes and businesses affordable and deliverable.
- Increase local and community sustainable energy production.
- Tackle fuel poverty by promoting and providing cleaner, more affordable sources of energy.
- Reduce energy demand and cut energy waste.

Actions in this plan have been informed and shaped by a range of policy initiatives, from the national to the local level. This includes:

National Policy:

- The National Planning Policy Framework (NPPF) (2019) states as a core principle that planning should support the transition to a low carbon future and stipulates requirements for renewable energy projects.
- The UK National Energy and Climate Plan (2020) sets out integrated climate and energy objectives, targets, policies and measures covering the 5 dimensions of the Energy Union.
- The UK Energy White Paper Powering our Net Zero Future (2020) draws on the government's Ten Point Plan to tackle climate change, with the aim to deliver 600,000 heat pump installations per year by 2028.
- The Renewable Heat Incentive (opened 2014) and Smart Export Guarantee (enforced 2020) reward the use of community and domestic scale renewable energy technologies.

GLA Policy:

- The London Plan (2021) Policy SI 2 Minimising Greenhouse Gas Emissions requires all major development to be carbon neutral and achieve a minimum 35% improvement on Building Regulations 2013 standards, with strict criteria on when offsetting via borough level funds is allowed.
- The Mayor's Solar Action Plan (2018) sets the ambition for London to have 1GW of installed solar capacity by 2030 and 2GW by 2050.

Southwark Policy:

- The New Southwark Plan Policy P69 Energy requires:
- All development to minimise carbon emissions on site through energy efficient design and construction, low carbon energy supply and on-site renewable energy generation and storage.

- Major development should be carbon neutral (100%).
- Major non-residential development should meet this by aiming to achieve at least 40% carbon reduction onsite against 2013 Building Regulations Part L Standard.
- Major residential development should aim to meet 100% carbon reduction onsite against 2013 Building Regulations Part L Standard.
- For any shortfall not achieved onsite, applicants should pay a financial contribution per ton for carbon offsetting offsite of any carbon not reduced onsite.
- Proposals of less than 10 units and equivalent floorspace for non-residential are not subject to these requirements; we aim to address carbon reduction onsite for small sites in our early review of New Southwark Plan.

Emissions modelling

Our emissions modelling looks at emissions from electricity consumption and local PV installations – these are shown in Figure 1.10. This trajectory involves measures such as the installation of local PV and progress towards a nationally decarbonised grid. Also considered within this projection is the improved energy efficiency of lighting and appliances, as well as a transition to electric cooking systems.

These modelled emissions relate to the local uptake of renewable energy as well as reducing energy wastage, both of which are key objectives for the borough and relate closely to action themes. This demonstrates the scale of the change needed to move the borough towards carbon neutral by 2030.

To deliver the savings in this model, we need:

- A rapid de-carbonisation of the national grid by 2030. This modelling uses the CCC's Balanced Path (2020) projections for the national grid. This results in a small grid factor being sustained to 2030 (46gCO₂/kWh).
- Solar PV installations are maximised. In this model we estimate 23,000 homes are retrofitted with 4kW systems, along with installations on non-domestic buildings equivalent to around 20% of overall floor-space.
- All gas hobs and ovens are replaced by electric equivalents, all non-LED lamps are assumed to be replaced by LED equivalents, and the average annual household consumption from appliances falls around 30% against a 2016 baseline.

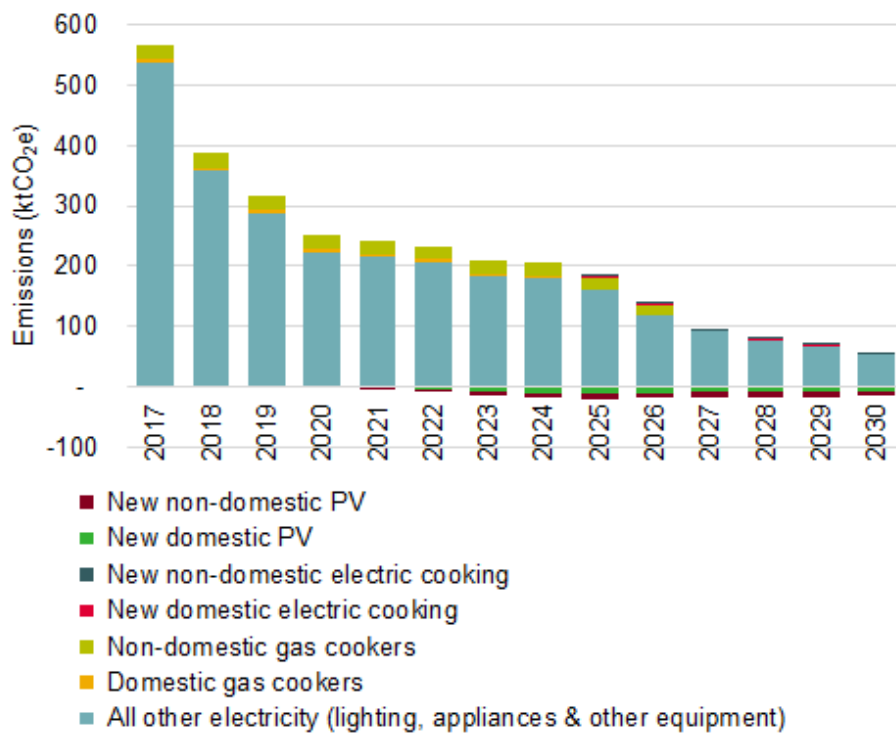


Figure 1.10: Modelling for emissions from electricity consumed within the borough for lighting, appliances and cooking, as well as carbon savings brought with the installation and local usage of newly installed solar PV.

Funding

The carbon modelling work undertaken estimates the capital cost for this change at £238m, however this relates to physical changes within the borough around renewable energy generation and improved energy efficiency. It does not include the broader cost of increasing the share of renewables used to power the national grid, nor does it include increased revenue costs at a local level for necessary research and feasibility, or behaviour change initiatives.

This cost is to be incurred by a combination of the public sector, private sector and residents, and is estimated to be split as follows:

- £144m relates to domestic solar PV installations.
- £180m relates to non-domestic solar PV installations.
- £7m relates to domestic lighting, appliances and cooking.
- £62m relates to non-domestic lighting, appliances and cooking.

In addition to capital costs, we would expect revenue costs including research and feasibility studies and providing support for businesses and residents to access funding to carry out works.

Actions

Work is already underway to deliver this priority area. The themes and goals below show what we need to achieve to reach our vision together with the immediate actions

that we need to take. Alongside this work, we will continue to develop new actions to ensure we stay on track to reach our goals and make the carbon saving.

Theme	Goal	Progress	Immediate Actions
A. Improve renewable energy infrastructure.	1. Maximise the opportunity for renewable energy installation and storage	Initial feasibility work completed into potential for solar PV on council housing.	Review renewable potential across the borough and identify barriers and enablers through a renewable energy feasibility study.
	2. Full access to renewable energy from the nation grid		Work with the Mayor of London to lobby government on the transition to a zero-carbon national grid.
B. Move towards green energy for businesses, residents and other organisations	1. Increase proportion of residents and organisations using renewable energy	Initial feasibility work completed into community energy projects.	Promote resources which are available for residents, businesses, and other organisations which make options for grants, loans or subsidies to install renewable technology clear.
	2. Businesses use economies of scale to maximise the uptake of renewable energy		Business Forum to consider options to coordinate and aggregate investment in energy infrastructure.
	3. Installations of renewables are prioritised and encouraged by Council policy		Explore increased support of renewables within early review of New Southwark Plan.
C. Tackle fuel poverty by promoting and providing accessible energy alternatives.	1. Specialist support is provided to lower-income and fuel-poor households	Southwark and Lewisham councils are working together to provide home visits to give guidance on reducing energy and saving carbon, to help address fuel poverty.	Provide direct guidance and support to fuel poor and lower-income households to leverage funding.
	2. Promote community renewable technology projects		Provide guidance and support to fuel-poor and lower-income households to switch to renewable energy providers (i.e., London Power). Explore the feasibility of community renewable technology projects, such as through the co-operative ownership model, to understand if these can help tackle issues associated with fuel poverty.

D. Reduce energy demand and cut energy waste.	1. Shift to low carbon and energy efficient appliances	The council delivered a solid fuel awareness raising project last year to build up to the new Environment Act requirements.	Provide guidance and support to residents and businesses on low carbon energy efficiency.
	2. Increase use of smart controls in homes and businesses		Work with energy providers to provide smart controls for gas and electricity usage across Southwark's households.
E. Boosting renewable energy.	1. Solar PV capacity is maximised in the borough	Completed a "Heat mapping and master planning" exercise which included development of a ground source heat pump map showing potential for this technology around the borough. This information is available for developers / private sector as well as the council.	Develop a strategy to maximise the installation of solar panels on council buildings.
	2. Council operations drive the development of renewables		Progress the feasibility of a borough solar panel park. Increase the requirements for renewables in the Local Plan to scale with the projected increased demand for electricity.

Next Steps

Future actions that the council may consider include:

- Developing a solar map for businesses, residents and local organisations to indicate how appropriate their building is for rooftop solar panels.
- Coordinating with UK Power Networks to improve understanding of energy profiles across the borough to highlight the needs of the grid and where future improvements will be required.
- Developing business-owned renewable technology projects in commercial areas through collaborations and partnerships.

As with the other key themes within this document, it is imperative that action occurs at all levels. The council can achieve much but will only go so far without significant investment at a national level, individual behaviour changes and reduction of energy consumption. We all have a role to play, and the council will set the example through progress against those actions listed above.

Adaptation

Whilst making the changes needed to be carbon neutral it must be recognised that the world is already experiencing an increase in average global temperatures. Efforts being made now are necessary in order to avoid a catastrophic increase of more than 1.5 degrees, but we must of course also prepare for different scenarios. This strategy focuses on reducing emissions in Southwark but will be followed by work to strengthen our adaptation plans and to address our climate resilience as a borough.

Learning and Engaging

A key element of our work will be recognising that we need to continue learning and improving as new opportunities and challenges arise. We do not know all the answers, and it is important that we listen and share information with partners throughout the process. We need to engage actively with each other to tackle the emergency effectively and the council will put in place processes and mechanisms to make sure this happens.

To achieve the emissions reductions required, everyone must play their part across the borough, and the council is committed to lead a climate conversation that engages, educates and empowers residents to contribute.

Engagement - The council will proactively reach out using its communication channels and through community groups and forums to promote action to address the climate emergency and to ensure that people are able to input into our future plans. We will engage with existing groups and networks such as TRAs, parks and greenspace groups, and will also seek to bring more people into the conversation. In particular, we want to partner with young people who have been at the forefront of pressing for global change, to build on and respond to their energy and ideas.

Education - To build greater understanding of the climate emergency and its impacts, we will support and implement education programmes about the climate emergency to help the community understand its impact. This includes working proactively with schools, colleges and universities to bring learning out of the classroom into the community. This also includes a consideration of our advertising policies to ensure that they are in line with our climate emergency declaration.

Empowerment - This is an agenda that everyone needs to feel ownership over, so the council will aim to create an enabling environment and support residents to take action in their own lives, equipping people with the information they need to make positive decisions as citizens and consumers.

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 those that are often less engaged with. 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 continue to work with young people and seek their advice on how to best engage so that our approach is relevant and impactful with our young residents. We will ensure that young people's voices are always part of the debate by establishing channels where they can be heard. We will work closely with our Youth Parliament, which is expected to start in 2021.

We will also work with the many schools, colleges and universities in the borough to engage with young people. As part of our engagement we will work with schools and

young people to develop resources for schools to educate and empower young people to take action. We will also work with students and universities to ensure that new ideas, and innovation that is coming from our higher education establishments helps to shape and build our work going forward.

Black, Asian, and Minority Ethnic Communities – Southwark is home to a racially diverse population. We will work with groups that represent our different Black, Asian and Minority Ethnic communities, but also identify where communities are not represented, and reach out directly to them. This includes large diaspora communities in Southwark from areas such as Latin America, West Africa and South Asia. We will ensure that we also work with 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.

Faith communities – Southwark is home to people of a wide range of faiths and faith communities. Good stewardship of our world and natural resources is central to the beliefs of many faiths and so we will work with our faith communities to ensure that they are engaged in this plan and its delivery.

We will also engage with older people, less mobile people and disabled people throughout this process.

Our community is tied to communities across the world. 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.

Resourcing

To become carbon neutral, Southwark will require considerable government investment. We estimate that this will cost over £3.92bn in capital expenditure, supported by additional revenue funding.

Potential investment or funding streams include, but are not limited to, the council's carbon offset fund, HRA funding, central government grants, revenue and capital funding from the GLA or TfL and various funding bids across the public, private and charity sectors. To put the scale of this challenge into context, Southwark's revenue budget for 2021-22 was just over £293million. In addition to this, the Government also needs to invest in further decarbonisation of the grid.

This strategy sets out what needs to happen, but where we do not have the resources, the council will need to work with both public and private sector partners to secure the

funding. Without considerable government investment it will not be possible to become carbon neutral and so lobbying will be a central part of our response to the climate emergency. The council will call on the government for the required financial and political resource to achieve our target including for a Green Homes Investment Fund at the required scale.

The council will be open to all opportunities to increase investment into initiatives that promote climate neutrality and ecological protection. For example, it should explore ideas like municipal community investment bonds, introducing workplace parking levies and collaborating 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-offset fund to ensure it is used effectively to deliver reductions in carbon.

The COVID-19 pandemic has had a severe impact on the council's finances. It is not yet clear what the long-lasting impact will be. Government will not fill the gap left by the pandemic and councils will need to make tough decisions about their finances going forward. 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 by government. We will therefore lobby government for the resources necessary to deliver the solutions necessary for the climate emergency.

The council will also work to support our staff through training in carbon literacy, ecological protection and a range of other areas which relate to the climate emergency. We recognise that for the council to effectively deliver change, all staff need to have a good level of knowledge of the impacts and response to climate change.

There will also be cost to individuals and to businesses. It is important that these individual costs are met by those who can most afford them, and in some cases, those who are responsible for higher emissions, so that we do not increase inequality in the borough.

Governance and Accountability

Good governance is essential to deliver our climate emergency response. While this strategy is a council strategy, it should represent an approach for the whole borough. To deliver this and ensure good governance we will use the following mechanisms:

Council Executive and Scrutiny Functions – the Cabinet will have responsibility for the delivery of this work. They are accountable to the council and scrutinised by relevant scrutiny commissions as well as being open and transparent to the public.

Expert Advisory Panel – we have established an expert advisory panel, which brings together experts in climate change to advise the council and provide challenge to our work. They will help ensure that we have access to the latest thinking and learning and that our approach is constantly being monitored to ensure it is delivering on our priorities.

Partner Engagement – we will review and build on the existing Partnership Steering Group, to support the delivery of this strategy and action plan, strengthening our partnerships and enhancing our community engagement.

Citizens' Jury We will establish a citizens' jury to assess our actions to date and make recommendations to the council on how our work can be improved and prioritised so that we can go further faster. The jury will help us to tackle some of the biggest challenges and answer difficult questions about how we can become carbon neutral in a way that is fair. This builds on the engagement work that has already taken place, allowing a group of residents to think through problems, test ideas and make recommendations to the council. This jury will have the time to develop an understanding of challenging issues and give them their informed consideration. The jury will be selected to represent the diverse makeup of our borough and will help ensure that the thoughts and ideas of our residents inform our work.

A central principle in this strategy is transparency and we will aim to enhance our engagement with partners and community groups to take forward this strategy and action plan. We will hold an annual climate change conference which brings together different community groups, residents and partners to openly discuss progress, the challenges and find solutions to overcome them together.

The council will also 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.

Reviewing our approach

This strategy sets out our ambition and how we will approach the climate emergency. It outlines our commitment to engage and empower our communities and work in partnership with organisations in the borough to achieve our aim.

We will engage with, and respond positively to, scrutiny and learn from the ideas and experiences of others including experts and best practice in other local authorities. Our focus will be on delivery, making the changes needed to reach our goal. We will publish an annual progress report where we will also take corrective action for areas which are off-track. We will review our overall strategy and approach in 2025, the midpoint to our 2030 target.

We will continuously look for ways to move further faster to tackle the climate emergency and achieve our ambition to make Southwark carbon neutral by 2030.

Conclusion and Next Steps

This strategy and action plan sets out our ambitious approach and roadmap to a carbon neutral future. It demonstrates the scale of the change necessary and emphasises that we can only make this change working together across the borough. It also highlights the need for Government to step up and do more to support the work of local authorities like Southwark if we are to become a carbon neutral borough.

Action is required across many areas to deliver the borough's ambitious targets. As a council we have finite staff and capital resources and so it is essential to prioritise how we allocate our resources, but also work with government and others to secure the investment which is needed for this ambitious plan.

We have built this plan on the back of extensive consultation, but this is just the start of our conversation with our residents, businesses and partners. We are establishing a citizens' jury, we will work with our new expert panel, and continue to talk with and listen to our residents, businesses and others with an interest in the future of our borough.

This strategy sets out our approach. What we have done already, and what our priorities are for the future. It also sets out the next steps and how this plan will continue to evolve and develop as we deliver. To be effective we need to prioritise our actions. To do this we will consider:

- **Speed & magnitude of carbon reduction** – We will assess the relative carbon impact of projects, including the time sensitivity of the savings. This strategy and action plan is the start of that process. Potential carbon savings will need to be considered in all decision-making within the council. It will not be possible to undertake all actions immediately, due to financial and resource restraints. We will need to prioritise those actions that offer the greatest carbon saving for the budget available.
- **Alignment with other council goals** - Given that the actions in this strategy and action plan promote a range of other benefits we will ensure that this strategy is aligned with other policy documents. Boosting the local economy post-COVID-19 and narrowing the inequality gap will help us to achieve a just transition.
- **Playing to Southwark's strengths** – Southwark has a range of engaged and active stakeholders. To deliver this programme we must build these partnerships and help those already undertaking work in this area to scale up initiatives. This will also inform priorities moving forward.
- **The importance of timing** - It is important to consider the future cumulative carbon legacy of decisions made to today, the emissions produced over the operational life of assets or projects. Some actions carry an element of short-term disruption before longer term gain can be realised.

- **Technology costs** – We have an important role to play in stimulating demand and helping to bring costs of low carbon technology down. Waiting for this to happen may compromise carbon targets and cost savings for other stakeholders within the borough. We will look for ways to do this and help bring down costs.

In declaring a climate emergency and setting forward our plans to become carbon neutral borough by 2030, the council has established its level of ambition in response to this truly global threat. We have already achieved a huge amount that we can be proud of, but the scale of the task must not be underestimated, and the council will be looking to the government as it hosts the COP 26, to ensure that local authorities are regarded as key partners in addressing climate change, and resourced accordingly. The pathway to becoming carbon neutral will be challenging but also full of vast opportunity, and the vision set out in this document – of greener buildings; active and sustainable travel; thriving natural environment; a circular economy with green jobs; and renewable energy – is a positive, exciting vision for Southwark. It is also one that we must follow for the sake of our planet and our future generations.

Glossary of Terms

A

Adaptation – Actions that help prepare for and defend against the effects of climate change. For example, protecting against rising sea levels by building river or sea barriers.

Anthesis – Anthesis are a sustainability consultancy who have worked with the council on developing our climate strategy.

B

BEIS - Department for Business, Energy and Industrial Strategy.

Biodiversity - The variety of plants, habitats and animal life in a particular place. A high level of biodiversity shows that the ecosystem is thriving, and species can be supported. In Southwark, we are aiming to increase our biodiversity.

BREEAM Rating – A method of assessing, rating, and certifying the sustainability of buildings.

C

Carbon Budget - The cumulative amount of carbon dioxide emissions permitted over a period to keep within a certain temperature limit.

Carbon capture and storage - The collection of carbon dioxide gas from large emission sources, such as factories or power stations. Carbon is often stored underground. Carbon capture is sometimes referred to as carbon sequestration.

Carbon dioxide (CO₂) - Carbon dioxide is a gas that can occur naturally and can also occur due to human activities, such as manufacturing or using fossil fuel-based energy. The more carbon dioxide we produce, the greater the impact on Earth's atmosphere. Carbon dioxide is the greenhouse gas that human activity produces the most.

Climate emergency - A recognition that urgent action is now required to reduce or halt climate change, and that irreversible environmental damage is a result from our rapidly changing climate.

Carbon emissions - Carbon produced by human activity, which is released into the atmosphere.

Carbon neutral - A process where there is no net release of CO₂. A process is said to be carbon neutral when the amount of carbon taken out and the amount of carbon

released is identical. Carbon offsetting is a tool used by organisations to achieve carbon neutrality.

Carbon offsetting – A way of compensating for carbon emissions by participating in, or funding, efforts to take carbon out of the atmosphere elsewhere. Offsetting often involves paying another party to save emissions equivalent to those produced by your activity. For example, a company might pay another company to offset their carbon emissions by planting trees.

Carbon sequestration - The process of storing carbon dioxide. See Carbon capture and storage.

Circular economy – A process of keeping resources in use for as long as possible in order to reduce waste. It is used to move away from our current model of disposing products after use.

Climate change - A shift in an environmental variant such as average temperature or rainfall, which affects an existing climate and can lead to an increase of extreme weather conditions. This may be caused by both natural processes and human activity, and global warming is one aspect of climate change.

Climate Change Committee (CCC) - an independent, statutory body established under the Climate Change Act 2008. Advises the UK and devolved governments on emissions targets and reports to Parliament on progress made in reducing greenhouse gas emissions and preparing for and adapting to the impacts of climate change.

Council Emissions – Emissions that the Council has a direct influence over, such as council offices.

CO2 - See carbon dioxide.

Co-benefits - positive effects of a policy that cover more than one objective. For example, becoming more energy efficient will help with our climate targets but may also help tackle fuel poverty.

D

Decarbonise - To remove or reduce the amount of carbon.

DEFRA – Department for Environment Food & Rural Affairs.

E

Ecological Emergency – The rapid and continual loss of natural assets like green space, wildlife, ecosystems and natural habitats. Urgent action is required to address this.

Embodied carbon - Embodied carbon consists of all the emissions associated with the construction of buildings. This includes emissions from transport, manufacturing and installing building materials. It also included the operational and end-of-life emissions of those materials.

Energy efficiency - Eliminating energy waste by using less energy to perform tasks.

EPC rating - An EPC rating gives a property an energy efficiency rating from A (most efficient) to G (least efficient) and is valid for 10 years.

F

Fossil fuels - Natural resources, such as oil, coal, and natural gas that can be used as fuels. These fuels produce carbon dioxide when burnt.

Food Insecurity – Someone who does not have enough money to buy food, has to skip meals or has to cut down on quantities due to money, or does not have the money for a balanced diet.

Fuel Poverty – Fuel poverty is caused primarily by low incomes, the poor energy efficiency of homes, and high energy prices. If the fuel costs required to heat and power a home adequately are above the national median level, and if this would leave a household with a residual income below the poverty line, this household would be considered in fuel poverty.

Future emissions modelling - Helps predict what actions we will need to take in the future, considering newer technologies and decisions from government that we expect to see before 2030.

G

Global South - The phrase “Global South” refers broadly to the regions of Latin America, Asia, Africa, and Oceania. It is a term that denotes regions outside Europe and North America that are mostly (though not all) low-income and often politically or culturally marginalised.

Global warming - The steady rise in global average temperature in recent decades, which experts believe is largely caused by man-made greenhouse gas emissions.

Green Corridor - Continuous areas of open space leading through the built environment which allow animals and plants to be found further into the built-up area than would otherwise. Green Corridors often consist of rivers, railway embankments and cuttings, roadside verges, canals, parks, playing fields and extensive areas of private gardens.

Green New Deal - Links investment in carbon reduction programmes with inclusive economic renewal. A Green New Deal for Southwark is one of the six headline

commitments of our economic renewal plan and a new commitment within the Borough Plan up to 2022.

Greenhouse gases - Natural and industrial gases that trap heat from the Earth and warm the surface. Carbon dioxide is the main greenhouse gas. Other greenhouse gases are given a carbon dioxide equivalent value. This means that we can calculate all greenhouse gases on the same scale and so refer to carbon to mean carbon dioxide and all other greenhouse gases.

I

Impermeable surface - Mainly artificial structures (such as pavements, roads, driveways, parking areas and rooftops) that are covered by materials impenetrable to water (such as asphalt, concrete, brick and stone). Impermeable surfaces also collect solar heat in their dense mass. When the heat is released, it raises air temperatures.

IPCC - The Intergovernmental Panel on Climate Change is an international body reporting to the UN which reviews work relevant to climate change. It received the 2007 Nobel Peace Prize.

L

London Councils - An organisation that represents London's 33 local authorities, and lobbies on their behalf.

Low carbon economy - An economy that attempts to minimise or halt the carbon produces from activity within it.

M

Methane – Methane is the second most important man-made greenhouse gas. There are natural sources for methane, such as wetlands and wildfires, and human activity such as agriculture.

Mitigation - Action that we can take to reduce man-made climate change. This includes action to reduce our carbon or absorb greenhouse gases.

N

New Southwark Plan - - The New Southwark Plan (NSP) is the new borough-wide local plan for planning and regeneration up to 2036. Once finalised and adopted, it will replace the current local plan, comprised of the saved Southwark Plan policies and the Core Strategy, and Area Action Plans.

Nitrous Oxide - A gas formed by combustion, which is harmful to human health as an air pollutant.

P

Paris Agreement - Signed in 2016, the Paris Agreement is an international agreement to limit global temperature rises to below 2 °C above pre-industrial levels; and to pursue efforts to limit the increase to 1.5 °C. The UK is a signatory of this agreement.

R

Renewable energy - Energy created from sources that after a short period can be replenished. This includes biomass, water-based energy, geothermal, wind, and solar.

Resilience - The ability of a system to recover from the effect of extreme condition that may have caused harm.

Retrofit - To modify existing and in use infrastructure using new parts to reduce the impact on the environment e.g., installing solar panels or green roofs on existing social housing.

S

SELCHP network - South East London Combined Heat & Power. The plant in Lewisham provides heat and hot water to some homes in Southwark. It generates heat from non-recycled waste which would have otherwise gone to landfill to provide heat to communal heating and hot water systems through a network of underground hot water pipes to the boiler houses, removing the reliance on using gas.

SCATTER - Anthesis-developed tool which is used to set emissions baselines and reductions targets.

Scope One Emissions - Emissions that are generated in the borough e.g., driving a car.

Scope Two Emissions - Emissions generated elsewhere but where the energy that they generate is used in the borough e.g., turning on a light where the generation happens at a power station, but the energy use is in the borough.

Scope Three Emissions - Indirect emissions that are produced to provide something in the borough e.g., the emissions produced to make a product that is consumed in the borough.

Social Housing - Refers to rental housing which may be owned and managed by the council or a not-for-profit organisation with the aim to provide affordable housing.

Social Justice - Justice in terms of the distribution of wealth, opportunities, and privileges within a society.

Sustainable - To ensure it causes little or no damage to the environment or economy and therefore is still able to continue for a long time.

T

Traverse – Traverse are an engagement consultancy that helped the council with their consultation on the climate strategy.

Scrutiny review scoping proposal

1 What is the review?

Sustainable technologies to help Southwark's buildings meet the Climate Emergency with a particular focus on Community Energy

This review will follow up on the work of the previous scrutiny review into Community Energy, culminating in a report completed June 2019, and further subsequent work tracking this in the 2019/20 and 2020/2021 iterations of the Environment Scrutiny Commission.

The review aims to assist with the delivery of the Council's commitment to: "support the creation of community led sustainable energy projects on estates to help residents reduce their energy bills".

The review will also look into some of the different technologies available to deliver renewable energy, heat and energy savings not just on estates but across Southwark's buildings including schools, leisure centres, and local businesses. (Previous evidence received suggests these locations are a good fit for solar based Community Energy projects, as the day time consumption of electricity matches energy generation.)

Alongside this the review will consider how to reduce the carbon footprint of Southwark's estate and wider built environment by engaging with key stakeholders; including developers and landowners, with a particular focus on reducing energy consumption and opportunities for renewable energy generation.

2 What outcomes could realistically be achieved? Which agency does the review seek to influence?

The review seeks to primarily influence the council and to assist the lead Cabinet Member in delivering green energy including via the Community Energy model. The review will seek to provide a forum to explore opportunities, blockages and avenues for delivery of Community Energy, by drawing on good practice in other Local Authorities and community expertise to positively influence implementation going forward.

Other potential agencies are schools, community spaces and local business who could benefit from Community Energy, as well as Housing Associations, TMOs, local council and social housing tenants, Tenants and Residents Associations and community groups with an

environmental, housing, or green energy focus.

The review will also consider how the council and other partners are reducing energy on their existing estate through retrofitting, and how the council and key stakeholders are working together to deliver the highest environmental and energy standards in new developments.

3 When should the review be carried out/completed?

The review will take place this administrative year 2021/22.

4 What format would suit this review? (eg full investigation, q&a with executive member/partners, public meeting, one-off session)

The review will start with exploration of the council's Climate Emergency Strategy including a presentation and Q &A with the Cabinet Member for the Climate Emergency and Sustainable Development.

The review will seek a suitable forum of engagement with Southwark's developers, landowners and other stakeholder to explore current approaches to sustainable development/retrofit. This will be considered in the framework of the council's Climate Emergency Strategy, with view to laying some pointers towards some of the changes required to meet the council's sustainable development objectives, with a particular focus on energy descent and renewable energy production.

The review will take a look at previous scrutiny work on Community Energy, receiving a recap on progress from officers, and hear from community energy groups with view to plotting a path towards the council's delivery of Community Energy projects in Southwark.

5 What are some of the key issues that you would like the review to look at?

- How Community Energy can contribute to Climate Justice and tackling the Climate Emergency
- The current funding model for Community Energy
- Community Benefit Companies capacity to deliver community energy
- The GLA's role in facilitating and supporting Community Energy
- The best sites for Community Energy eg Housing Estates, Schools,

Community Centres

- The different renewable energy/heat and energy saving technologies available and how these fit into new development and retrofit models
- Opportunities for the Carbon Offset Fund to invest in Retrofitting and Community Energy
- Exploring the value of Southwark devising an Energy Plan

6 Who would you like to receive evidence and advice from during the review?

[The Cabinet Member for the Climate Emergency and Sustainable Development](#)

Local authority best practice (e.g. Islington, Lambeth, Hackney, Kensington and City of London)

Developers and landowners operating in Southwark (e.g. Peabody, L&Q, Lendlease, The Dulwich Estate...)

Repowering London <https://www.repowering.org.uk/>

SE24: <http://www.se24.co.uk/>

Energy Sparks, an online, school-specific energy analysis tool & energy education programme <https://energysparks.uk/>

Community Energy London
<http://communityenergy.london/>

South East London Community Energy <http://selce.org.uk/> (working in Lewisham & Greenwich)

Mayor of London / GLA work to support Green and Community Energy
<https://www.london.gov.uk/what-we-do/environment/energy>

Construction Declares : a global petition uniting all strands of construction and the built environment. It is both a public declaration of our planet's environmental crises and a commitment to take positive action in response to climate breakdown and biodiversity collapse.
<https://www.constructiondeclares.com/> and

<https://uk.buildersdeclare.com/>

Greater Brighton Energy Plan - launched in 2020. Its broad membership, led by the Greater Brighton, has world leading thinkers, engineers and enterprises, including local authorities, universities, a world leading engineering firm, airports, ports, buses, major consultancies, utilities companies, Coast-to-Capital LEP, and the Department for Business, Energy and Industrial Strategy (BEIS).

<https://present.brighton-hove.gov.uk/documents/s155841/Greater%20Brighton%20Energy%20Plan%20Summary.pdf>

7 Any suggestions for background information? Are you aware of any best practice on this topic?

Community Energy Coalition

<https://www.forumforthefuture.org/community-energy-coalition>

Community Energy England <https://communityenergyengland.org/>

This is a political party document but useful background from the Co-operative Party: <https://party.coop/wp-content/blogs.dir/5/files/2014/12/next-gen-final-web-1.pdf>

8 What approaches could be useful for gathering evidence? What can be done outside committee meetings?

e.g. verbal or written submissions, site visits, mystery-shopping, service observation, meeting with stakeholders, survey, consultation event

Externally organised events to equip members with background knowledge in advance of meetings of the commission as appropriate.

Roundtable with stakeholders on sustainable development, renewable energy generation and retrofitting.

Environment Scrutiny Commission**MUNICIPAL YEAR 2021-22****AGENDA DISTRIBUTION LIST (OPEN)****NOTE:** Original held by Scrutiny Team; all amendments/queries to Fitzroy Williams Tel: 020 7525 7102

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