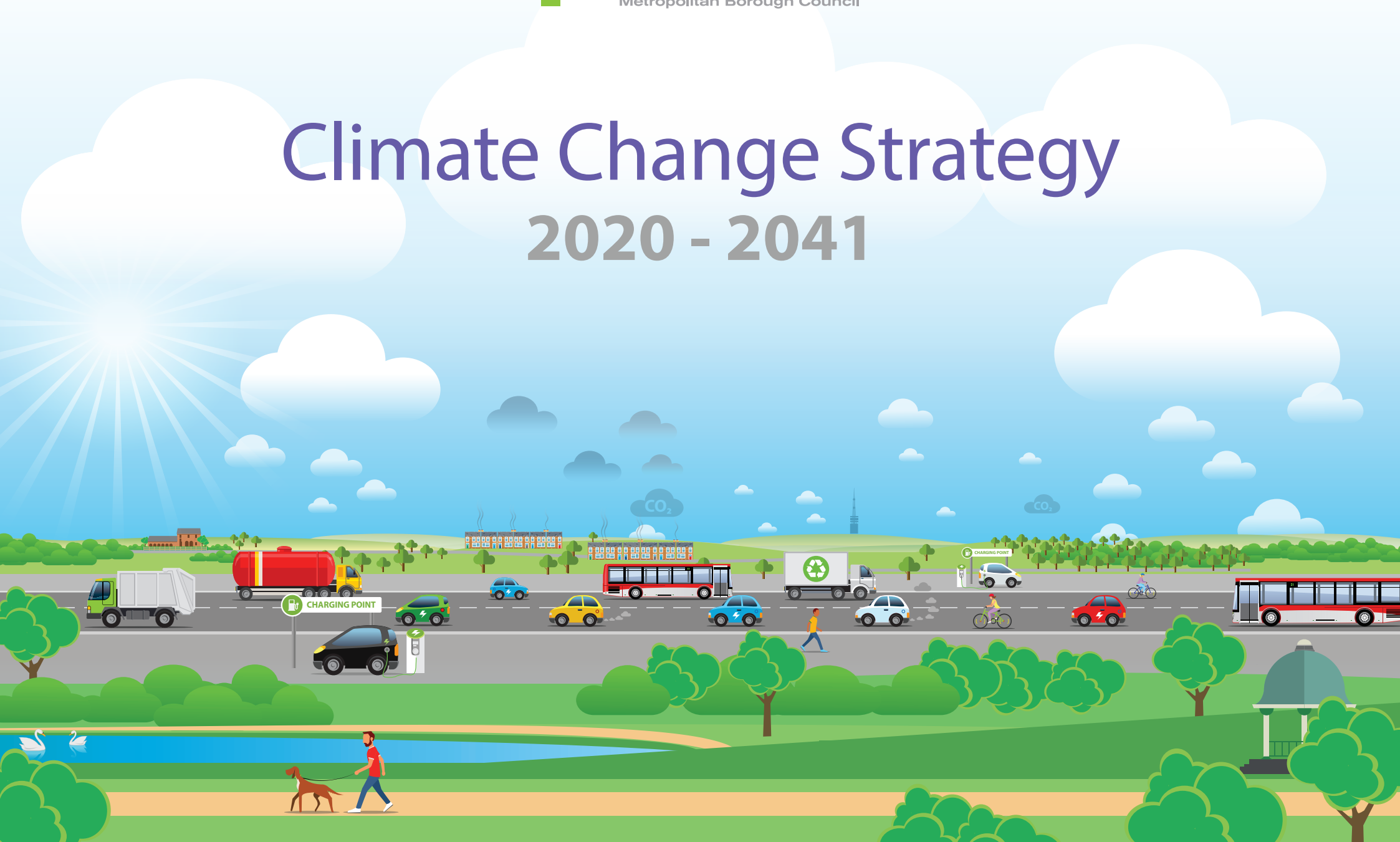


Climate Change Strategy

2020 - 2041



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Foreword

“ There is no greater challenge for our society than climate change. ”

As we battle against the current pandemic this may seem like an odd statement but for the sake of our long-term future we need to focus on climate change now to make the difference we need to make over the coming decades.

The current pandemic has altered all our lives dramatically -no war, no recession, no previous pandemic has had such a dramatic impact on emissions of carbon dioxide over the past century, as Covid-19 has in a few short months.

Whilst we need to do everything we can to minimise the impact of COVID-19 on our residents we do not want to return to ‘business as usual’ and we need to plan for a new fairer, more sustainable ‘new normal’ that will benefit both our communities and the environment.

Sandwell has a proud industrial past and together we need to create a green industrial revolution in the Borough. We also have a strong thriving community and these assets will be key to achieving the Borough’s carbon goals.

This strategy sets out the actions we need to take to get us to our target of net zero carbon emissions for the Council in 2030 and for the whole of the Borough in 2041 (in line with the West Midlands Combined Authority target).

Action is set out in six themes (1) Council Estate and Operations (2) The Built Environment (3) Transport (4) Waste (5) Adaptation and (6) Natural Capital.

This is the most important and complex challenge any society has faced, which is why the Council has taken it to the core of how it, operates, and why it will be so keen to work with residents, community groups, businesses and partners across the Borough to provide a genuine borough-wide response that can engage and support everyone in Sandwell



Councillor Wasim Ali
Climate Change Lead for Sandwell Council



Executive Summary

Climate change, driven by rising concentrations of greenhouse gases in the Earth's atmosphere, has been described by the Lancet medical journal as potentially the greatest threat to human health of the 21st century. This rising concentration of greenhouse gases has already led to significant global warming, with 19 of the 20 hottest years on record all occurring since 2001, and global mean average temperature almost 1°C warmer now than in the pre-industrial era.

In 2018 the UN Intergovernmental Panel on Climate Change released a report outlining that global emissions need to be reduced by 45% by 2030 if we are to have a reasonable chance of meeting the global goal, set out in the 2015 Paris Climate Agreement, to limit global warming to 1.5°C above pre-industrial levels. However, global carbon emissions rose rather than fell in the year following the Paris Climate Agreement.

Based on this evidence, Sandwell Council has joined other councils in England that have declared a Climate Emergency, and using

analysis conducted by the Tyndall Centre at Manchester University, have adopted a goal to become carbon neutral as an organisation by 2030, and as a borough by 2041.

Sandwell itself is likely to be affected directly by increased exposure to heatwaves, flooding and air pollution, and indirectly via the impact on the food system, livelihoods and the supply of goods and services. Sandwell therefore needs to both mitigate climate change (i.e. reduce greenhouse gas emissions) and adapt to the potential impacts of climate change as an integrated response.

The importance of this has been bought home by the impact of Covid-19 on Sandwell and elsewhere, demonstrating that shocks to our way of life do not affect everyone equally in terms of health or livelihoods, and often affect those already facing disadvantage the most. To protect against the impacts of climate change we need to prioritise the health of those who are most vulnerable to them, now and in the future.

Mitigation

A human intervention to reduce the sources or enhance the sinks of greenhouse gases

Adaptation

Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

This document represents a high-level strategy for meeting science-based targets that will enable Sandwell to make its fair contribution to reducing UK emissions. It has been produced by Sandwell MBC with involvement of and consultation with local partners and residents. However, this strategy alone cannot implement the full range of actions required and will need to influence other plans and strategies that guide the Council's operations and how its services are delivered.

The Council will continue to work closely with local communities, businesses and institutions to develop a holistic approach to addressing climate change and air pollution, whilst also working towards wider ambitions of the Borough and its residents.



1 Introduction to Sandwell Climate Change Strategy

In March 2020 Sandwell Metropolitan Borough Council (SMBC) declared a Climate Emergency. In doing so, members agreed that greenhouse gas (GHG) emissions need to be reduced to a level that is compatible with keeping global warming below 1.5C above pre-industrial levels. To achieve that, the Council has adopted a target of becoming carbon neutral in its own activities by 2030, and carbon neutral borough-wide by 2041.

This is a high-level strategy for meeting science-based targets that will enable Sandwell to make its fair contribution to reducing UK emissions. It has been produced by SMBC with involvement of and consultation with local partners and residents.

This strategy is accompanied by a Climate Change Action Plan detailing the first steps to be taken towards meeting these targets.

The Action Plan covers six key themes:

1. Council estate and operations
2. The built environment
3. Transport
4. Waste
5. Adaptation
6. Natural Capital

The Action Plan will develop as policy changes and opportunities for action emerge, and as technological developments influence the range of available interventions. Sandwell will also seek to align its work with approaches taken in the wider Black Country and West Midlands regions, and to influence upwards to call for national policy that supports progress towards our targets.

This strategy is also integrated with Sandwell's Air Quality Action Plan 2020-2025 (AQAP), and some points within the climate change action plan will cross-reference the AQAP in cases where emissions sources overlap.



2 Background

In 2016 the UK became a signatory to the Paris Climate Agreement – a global agreement between 195 countries to limit global warming to below 1.5C above pre-industrial levels. This is an ambitious target, which requires steep reductions in emissions from the UK and other high-income countries. Following the Paris agreement, in June 2019 the UK government legally committed to cut emissions of carbon dioxide and other greenhouse gases to net zero, (or carbon neutral), by 2050.

Nationally, the Climate Change Act 2008 sets the framework for how the UK will mitigate and adapt to the threat of climate change. This is only possible if clear, consistent and well-designed policies to reduce emissions are introduced. The UK Committee on Climate Change (UKCCC) was established to advise on how to meet national targets, and currently advises on UK carbon budgets on a five-yearly basis, i.e. the total amount of GHGs that can be emitted in each five-year period between now and 2050, and how this can be achieved with current technologies.

However, in 2018 the UN Intergovernmental Panel on Climate Change released a report outlining that global emissions need to be reduced by 45% by 2030 if we are to have a reasonable chance of meeting the Paris Climate Agreement goals. Meanwhile, global carbon emissions rose rather than fell in the year following the Paris Climate Agreement.¹

Based on this evidence, as of May 2020, 280 Councils in England have declared a Climate Emergency, and have sought to go beyond the legally mandated climate targets to align with science based targets for what is required.² Sandwell Council's carbon neutrality target of 2041 is compatible with having a 50:50 chance of keeping warming below 1.5°C, as per the Paris Agreement, and has also been adopted at regional level by the West Midlands Combined Authority. This is based on analysis developed by the Tyndall Centre at Manchester University that takes into account not only the remaining carbon budget globally, but how this should be fairly distributed.

Sandwell Council originally adopted a Climate Change Action Plan in 2006, which was progressed by a Local Agenda 21 team of officers. The new targets and emissions challenges mean however that Sandwell's work on climate change needs to be updated with a new Climate Change Strategy which will both reduce the amount of carbon produced (mitigation) and prepare for impacts (adaptation).

What does carbon neutral mean?

Being carbon neutral in 2041 means getting to a position where there is no net release of carbon dioxide into the atmosphere, i.e. anything we release is balanced by removing CO₂ from the air, typically via carbon capture and storage (CCS). In the absence of new CCS technologies, one option to achieve this is extensive tree planting. Based on currently available technologies, it is difficult to derive a pathway to zero emissions by 2041, and for this reason the Council have adopted a target of carbon neutrality.

The Borough will need to consider whether emissions are captured locally in Sandwell, or whether paying for forest protection or other CCS technologies available elsewhere may be more cost-effective.

¹ UN Environment Programme Emissions Gap report

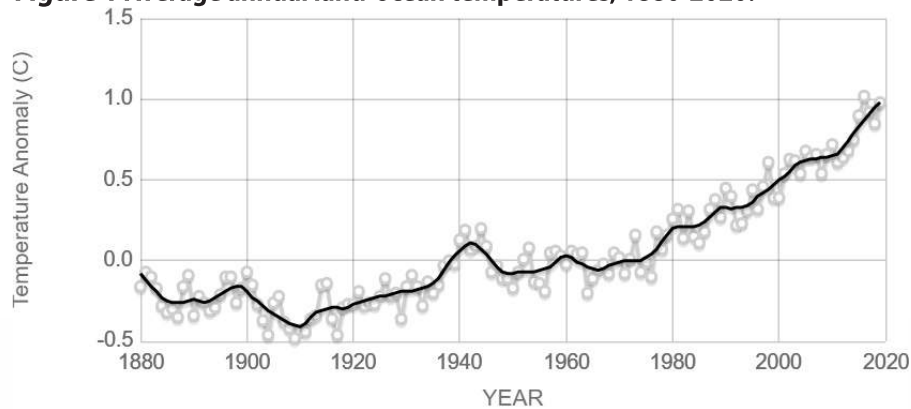
² <https://www.climateemergency.uk/blog/list-of-councils/> [accessed 20/05/2020]



2 Background | 2.1 Why is this important?

The process of climate change relates to levels of greenhouse gases (GHG) in the Earth’s atmosphere. GHGs such as carbon dioxide (CO₂), methane, nitrous oxide and fluorinated gases have a warming effect by letting in heat from the sun and trapping re-radiated heat from the Earth within the atmosphere. The most significant greenhouse gas, due to the quantity released, is CO₂. Since the pre-industrial era at the start of the 19th century, the concentration of CO₂ in the atmosphere has increased from about 280 parts per million to over 400 parts per million. This increase is due to emissions from the combustion of fossil fuels and human induced land use changes.

Figure 1 Average annual land-ocean temperatures, 1880-2020.



Source: climate.nasa.gov

The rising concentration of greenhouse gases has already led to significant global warming, with 19 of the 20 hottest years on record all occurring since 2001. Figure 1 presents the change in average annual surface temperatures since 1880 as recorded by NASA’s Goddard Institute of Space Studies.

It is this relationship between CO₂ and global temperatures which means that staying within a given temperature threshold requires that only a certain total quantity of CO₂ is released into the atmosphere. This is known as the global carbon budget.³

If exceeded, the impacts that climate change has already had on natural and human systems, including increasing heatwaves, storms, wildfires, drought and flooding events, will accelerate, with impacts on human welfare and biodiversity that are difficult to predict. Nevertheless, the populations most at risk will be those that are already disadvantaged and vulnerable.

Sandwell itself is likely to be affected directly by increased exposure to heatwaves, flooding and air pollution (ozone formation in particular), and indirectly via the impact on the food system, livelihoods and the supply of goods and services. Sandwell therefore needs to both mitigate climate change (i.e. reduce GHG emissions) and adapt to the potential impacts of climate change as an integrated response. There will also be positive impacts of climate change – reduction in winter excess mortality, decreases in fuel poverty and longer growing seasons, that we need to maximise to our advantage. For that reason, both mitigation and adaptation are covered by this strategy, with Adaptation measures described in section 5 of the Action Plan.

There are 6 main heat-trapping greenhouse gases, but CO₂ is the single biggest contributor to climate change if it continues to accumulate unabated in the atmosphere. This is both because we have emitted more of it since the start of the industrial revolution than any other gas, and because it lasts longer in the atmosphere than any of the others - 40% will remain in the atmosphere for 100 years and 20% will reside for 1000 years. For this reason, the other greenhouse gases are often presented in terms of their equivalence to CO₂, or CO₂e.

³ Tyndall Centre for Climate Research, Climate Change pathway for the WMCA



2 Background | 2.2 Sandwell context

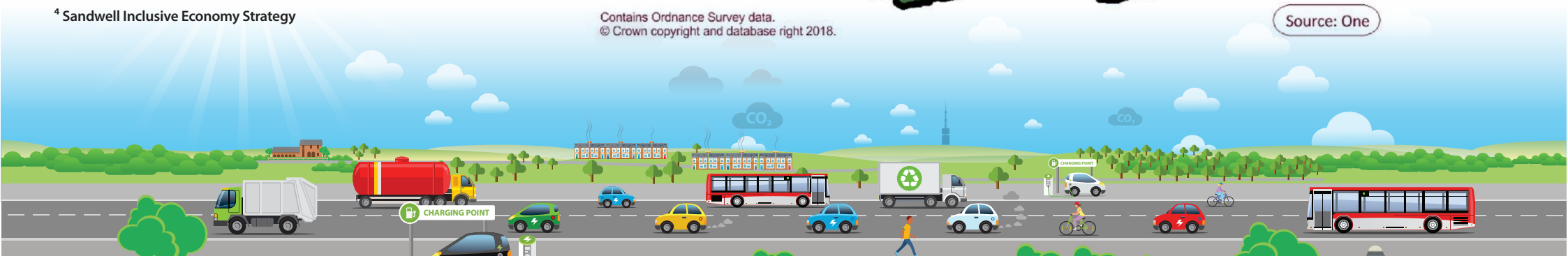
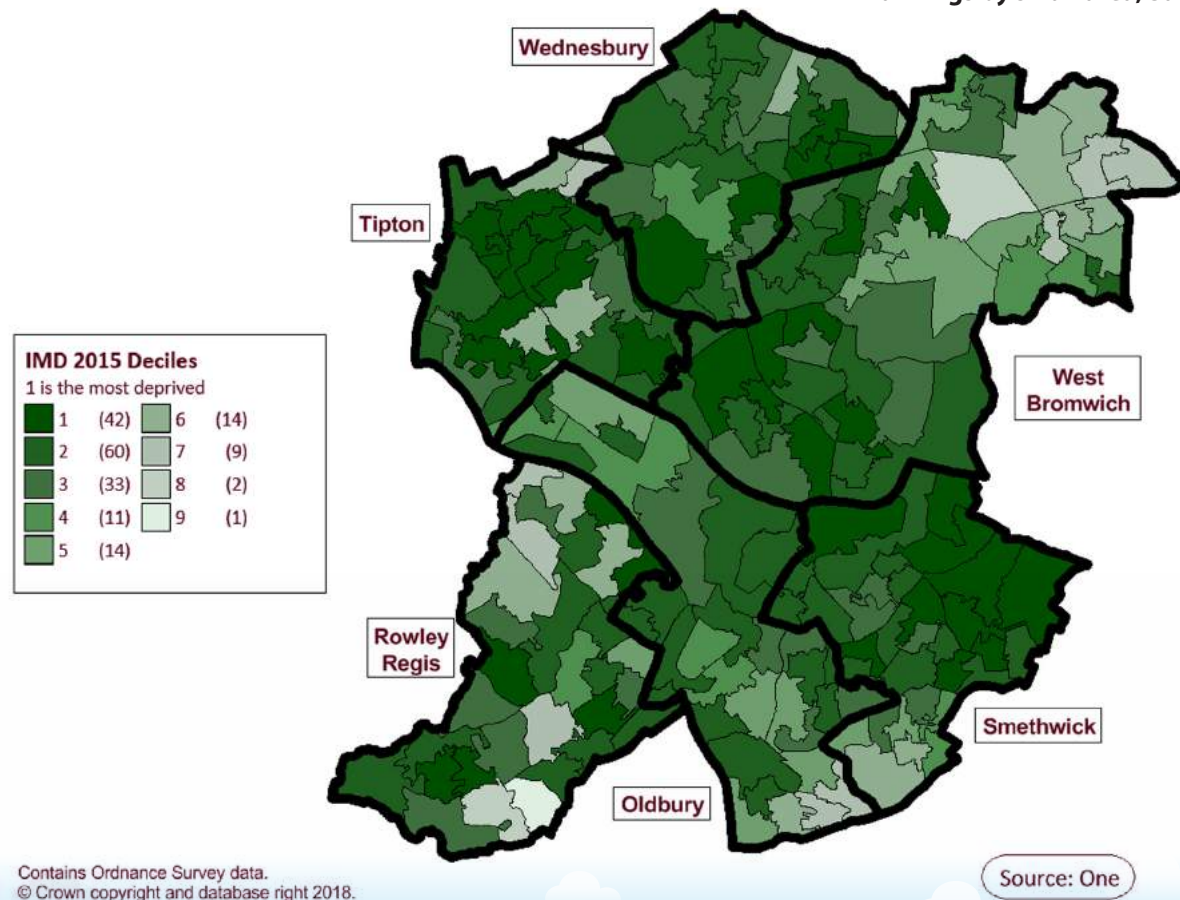
Sandwell is a metropolitan borough in the Black Country with a population of just over 325,000. Its population is younger than average for England, with just over 40% of residents aged under 30, compared with a national average of 30.7%. It is a diverse community, with 38.4% of residents from Black and Minority Ethnic (BAME) backgrounds, compared with a UK average of 14.0%. However, both incomes and productivity are lower in Sandwell than the average for England.⁴ Related to this, Sandwell also has lower earnings, employment rates and educational attainment levels than average for the region and the country.

Figure 2 displays the index of multiple deprivation by smallest administrative area in Sandwell, each with an average population of around 1,500. The Index is a ranking tool showing relative rather than absolute deprivation. Most areas of Sandwell are relatively more deprived than other areas of England.

Nevertheless, Sandwell has numerous assets and opportunities to benefit significantly from action on climate change, including a thriving voluntary, community and social enterprise (VCSE) sector that has demonstrated its creativity, adaptability and value to the area during the Covid-19 pandemic. In addition, 24% of the borough is green space, and 12 Sandwell parks have won Green Flag awards as of 2019.

⁴ Sandwell Inclusive Economy Strategy

Fig. 2
Map Index of Multiple Deprivation rankings by small area, Sandwell.



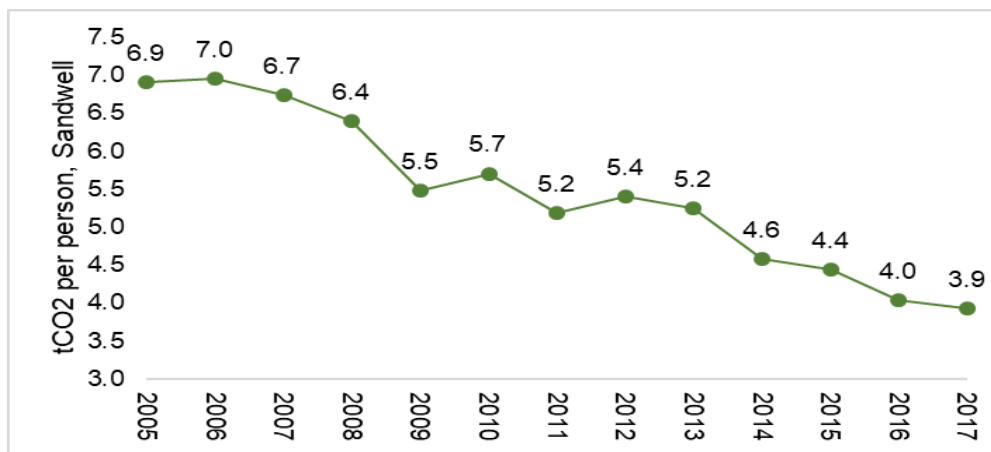
2 Background | 2.2 Sandwell context *(continued)*

The 2020-2030 Green Space strategy recognises the vital role Sandwell's trees and parks play in regulating air quality, providing drainage and cooling air.

Trees will also play a role in off-setting some of the residual emissions that cannot be eliminated before 2041, and towards this the Council has already committed to planting 15,000 trees, one for every new starter child in primary school, between 2020 -2022.

Finally, as a population in which almost 40% of households do not own a car, many in the population already have lifestyles with lower than average emissions who will benefit considerably from investments in walking, cycling and public transport.

Fig. 3 Sandwell per capita greenhouse gas emissions

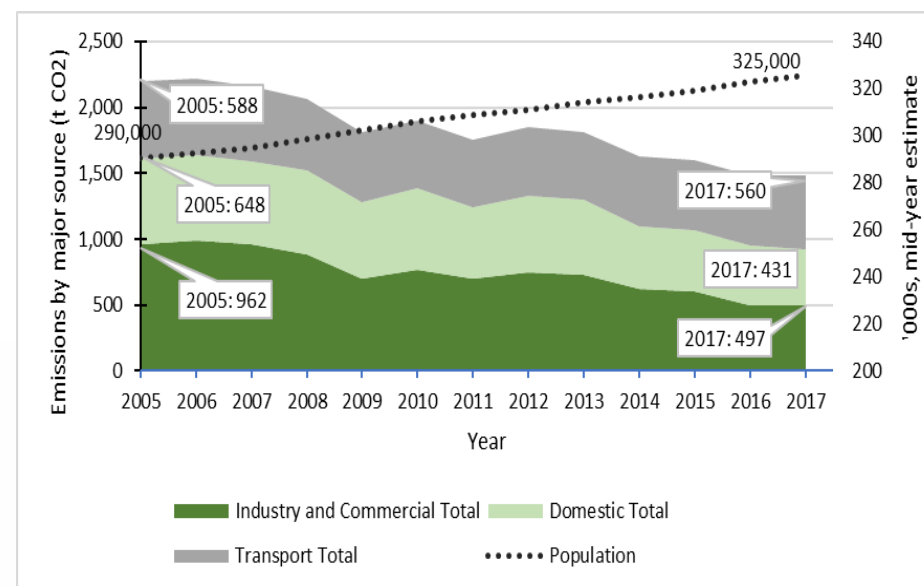


Source: BEIS, local authority scope 1 and 2 emissions ⁵

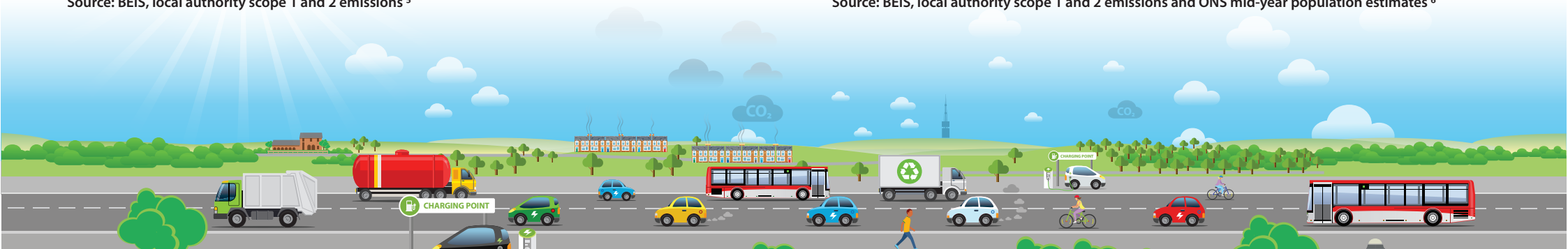
Figure 4 below displays recent trends in carbon emitted in Sandwell, either by residents or as a result of through-traffic, by major emissions source between 2005 and 2017. The right-hand axis displays population growth trends.

Together these illustrate that Sandwell has achieved significant reductions in per person emissions from domestic energy and industrial and commercial sources over the last 15 years. However, transport emissions remain high, with 97.6% of transport emissions produced by road transport.

Fig. 4 Historic emissions by major source, Sandwell, 2005-2017



Source: BEIS, local authority scope 1 and 2 emissions and ONS mid-year population estimates ⁶



2 Background | 2.3 Climate change and health in Sandwell

Health has been a central consideration when developing this strategy given our growing understanding of how much human health depends on the health of the planet and our natural environment. This strategy has also been developed during a period when Sandwell has been severely impacted by Covid-19, highlighting the need to strengthen local resilience to future health threats.

Healthy life expectancies in Sandwell are shorter than average for England at 57.1 years for men (63.1 in England) and 59 years for women (63.6 in England). Health and healthy life expectancy are put at risk by the impacts of climate change and air pollution, both directly and indirectly. According to the UK Climate Change Risk Assessment, the country will face increasing risk to the provision of vital goods and services provided by the natural environment, including food, water and wood, as well as threats to pollination of plants, natural flood defences and wildlife.

Extreme events, such as the winter storms seen in recent years, can cause the temporary loss of essential services and infrastructure in affected areas which all pose a greater risk to people who are already vulnerable.

The number of people living in areas at significant risk of flooding is expected to almost double by the 2050s, whilst heat-related deaths in the UK are also expected to rise by 250% in that period, up to around 5000 per year. Longer-term, these effects will become more severe and more unpredictable, impacting both directly and indirectly on the area's utilities, supply chains and livelihoods.⁶

There are also many immediate health benefits to the action we take on climate change, such as improved indoor and outdoor air quality, reduced heat and cold stress, increased levels of physical activity, and reduced obesity.

⁶ Source data: BEIS, UK local authority and regional carbon dioxide emissions national statistics 2005-2017.

These and other measures of health all stand to improve if we address many of the most significant drivers of climate change, including energy inefficient homes and buildings, road transport and consumption of foods with a large environmental impact such as red meat and palm oil. For example, it's estimated that in England, if current building regulations for ventilation were met, improved home energy efficiency could lead to 2200 quality adjusted life years (QALYs) gained per 10 000 people over 50 years, or an estimated additional 2.6 months in life expectancy per person.⁷

The graphic below shows some of the ways that in an urban area we can reduce emissions, adapt to climate change, and improve health and wellbeing at the same time.



⁷ Hamilton I, Milner J, Chalabi Z, et al. Health effects of home energy efficiency interventions in England: a modelling study. *BMJ*



2 Background | 2.3 Climate change and health in Sandwell *(continued)*

Overhanging these longstanding concerns however, is the impact that Covid-19 has had on Sandwell, its residents and communities as this strategy has been developed.

Among the contributing factors, it is clear that deprivation and inequality explain much of the difference in disease outcomes between different groups.

Covid-19 will have a deep and lasting impact on many families, care homes and the NHS in Sandwell, whilst also affecting the business, jobs and livelihoods of many residents.

Nevertheless, Covid-19 has also demonstrated the strength of the community, with over 700 hundred residents coming forward to offer their time to the local volunteer coordination centre and many more doing so via newly formed mutual aid groups across the borough.

Covid-19 recovery in Sandwell:

We know that to resume a business as usual pathway as we recover from Covid-19 implies temperature increases of 3°C or more by the end of this century, implying much greater future uncertainty, instability and climate damages than experienced to date.⁸ The impacts this will have on people already facing disadvantage highlights that future resilience demands we prioritise the health of those most at risk, now and in the future.

With low oil prices and pressure to restart the economy, there is a risk that the recovery will increase consumption of fossil fuels. Instead we need to participate fully in any forthcoming policy support for a Green Recovery and seek to ensure that new opportunities are compatible with meeting our local climate targets.

⁸ Hepburn C, O'Callaghan B, Stern N (2020) Working paper no.20-02: Will COVID-19 fiscal recovery packages accelerate or retard progress on climate change? Oxford Smith School of Enterprise and Environment.



2 Background | 2.4 Air quality and climate change

Sandwell is a borough-wide Air Quality Management Area (AQMA). Nitrogen dioxide concentrations have exceeded legal limits at seven air quality monitoring stations across the borough persistently over many years.

The Air Quality Action Plan (AQAP) 2020 is the Council's plan for ensuring emissions from transport are reduced in these hotspot areas within the timescale set by government.

There are clear synergies between reducing emissions of nitrogen dioxide (NO₂) and reducing emissions of greenhouse gases, as although NO₂ is not a greenhouse gas, it is produced by the same sources: notably transport, buildings, agriculture and industry.

The health impacts of air pollution are more immediate than climate change, including impaired lung development in children, exacerbations of asthma, and increased risk of death from all causes and cardiovascular disease.

Exposure to air pollution is not evenly distributed, and people living next to busy roads are often on the lowest incomes, with the least means to avoid exposure, yet among the most exposed.

This Climate Change Strategy and the Transport Action Plan therefore cross-reference the AQAP and seek to lay the groundwork for an integrated approach. Notably, a borough-wide air pollution screening exercise found that mean roadside concentrations of NO₂ were high along many of the main roads in the borough and not only at the hotspots.

This evidence strengthens the case for taking a whole systems approach to encouraging and enabling clean forms of transport, all of which is outlined in the Transport Action Plan later in this document.

**The health impacts
of air pollution are
more immediate than
climate change**



3 Aims, Objectives and Principles

Aims

In line with recommendations from the Tyndall Centre Analysis for Sandwell (see Box 1), Sandwell has adopted the following overarching aims:

1 To reach carbon neutrality across all Council functions by 2030.

2 To reach carbon neutrality borough-wide by 2041.

Objectives

The council will achieve these aims through implementation and further development of the Action Plan attached to this strategy.

This process will be enabled by a range of supportive activities and ways of working that cut across the delivery themes (see section 5.2) and include: communication and engagement; national and regional action; promotion of inclusion and skills; partnership working; evidence informed actions; and aligned with other key strategies and plans.

Box 1: recommendations of Tyndall Centre Analysis for Sandwell

For Sandwell to make its 'fair' contribution towards the Paris Climate Change Agreement, the following recommendations should be adopted:

- Stay within a maximum cumulative carbon dioxide emissions budget of **9.1 million tonnes** (MtCO₂) for the period of 2020 to 2100 (9,100 KtCO₂). At 2017 CO₂ emission levels, Sandwell would use this entire budget within **7 years from 2020**.
- Initiate an immediate programme of CO₂ mitigation to deliver cuts in emissions averaging a minimum of -13.4% per year to deliver a Paris aligned carbon budget. These annual reductions in emissions require national and local action, and could be part of a wider collaboration with other local authorities.
- Reach zero or near zero carbon no later than 2041.

At 2041 5% of the budget remains.

This represents very low levels of residual CO₂ emissions by this time, or Sandwell may opt to forgo these residual emissions and cut emissions to zero at this point. Earlier years for reaching zero CO₂ emissions are also within the recommended budget, provided that interim budgets with lower cumulative CO₂ emissions are also adopted.

Source: Tyndall Centre: Setting Climate Commitments for Sandwell⁹

⁹ Available at: <https://carbonbudget.manchester.ac.uk/reports/E0800028/> Accessed 20/05/2020



3 Aims, Objectives and Principles

There are several key principles upon which all of the Action Plan activities are based. Each principle helps to ensure that Sandwell MBC's response to the threats of climate change, means that all residents are considered and that their involvement and well-being lie at the heart of the whole Action Plan

| Principle | | What does this mean for Sandwell? |
|-----------|----------------|--|
| 1 | Fairness | We will ensure that the strategy distributes its benefits and costs in a way which decreases inequality and increase social justice. |
| 2 | Democracy | We need to maintain a democratic mandate for our actions. |
| 3 | Collaborative | We need to work with groups in the community and other institutions for input as well as vehicles for change. |
| 4 | Transformative | We will be proactive in identifying and acting on opportunities and will seek to influence the WMCA's policies and strategies |
| 5 | Learning | We will produce a dynamic strategy, that can be easily adapted to the inevitable developments of knowledge and science that will occur in the near future. |
| 6 | Evidence-Based | We will produce a strategy based on reliable and trusted science and resources. |



4

Carbon reduction targets



This section summarises the current major emissions sources in Sandwell and recommended pathways to achieve the local targets.



4

Carbon reduction targets

4.1 Emission categories

In carbon measurement and reporting tools, emissions are broken down into three scopes to better understand their source:

Scope 1

All Direct Emissions from the activities of an organisation or under their control, including fuel combustion on site such as gas boilers, fleet vehicles and air-conditioning leaks.

Scope 2

Indirect Emissions from electricity purchased and used by the organisation. Emissions are created during the production of the energy and eventually used by the organisation.

Scope 3

All other Indirect Emissions from activities of the organisation, occurring from sources that they do not own or control. These are usually the greatest share of the carbon footprint, covering emissions associated with business travel, procurement, waste and water.



4 Carbon reduction targets | 4.1 Emission categories (continued)

These scopes are displayed in Figure 5, which helps illustrate why all three scopes matter when trying to make an accurate assessment of the complete lifecycle emissions of products produced and consumed within the borough.

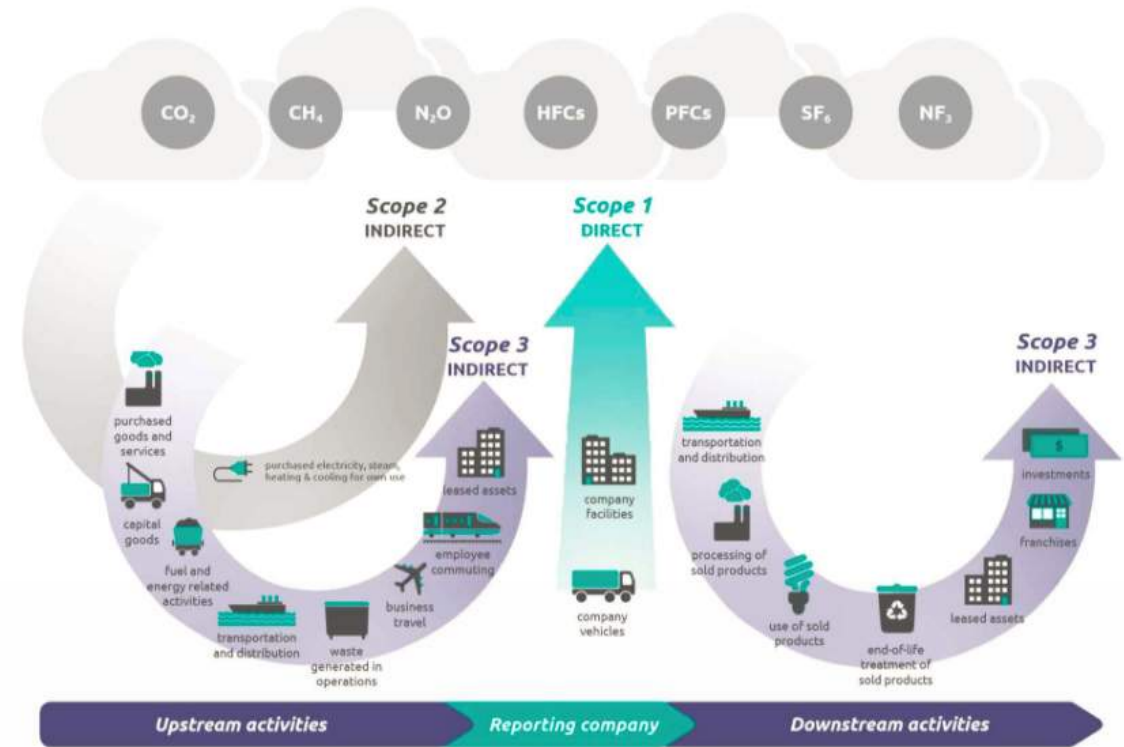
For example, whilst scope 1 emissions will measure the emissions from a company vehicle operating in Sandwell, it will not capture the emissions of the goods being transported except where those emissions are generated within the borough.

Most products rely on complex supply chains with emissions generated over the whole lifecycle of the product, from parts manufactured elsewhere, through to emissions from waste when eventually disposed of. Measuring all three emission scopes is therefore consistent with taking a science-based approach.

In England, however, emissions annual reporting by the Department of Business, Energy and Industrial Strategy includes scope 1 and 2, and only a small amount of scope 3 emissions.

Given these reporting standards and the methodological difficulty of estimating Scope 3 emissions borough-wide, the majority of this third category of emissions will be excluded from annual reporting.

Fig. 5 Scope 1, 2 and 3 emissions and what they measure



Source: GHG Protocol



4 Carbon reduction targets | 4.2. Sandwell's science-based carbon budget

The Tyndall Centre at Manchester University have recommended a science-based pathway to zero emissions for Sandwell.

This allocates a share of the global carbon budget to the UK based in recognition that high-income countries have higher per person and historical emissions and need to decarbonise faster than less developed countries.

The Tyndall Centre do not assume a significant role for technologies that enable us to capture carbon and store it, which would give us a larger emissions budget and longer time scale to reach net zero, but but do rely on technologies that do not yet exist at scale.

The steps taken to downscale the global carbon budgets to Sandwell involve taking the global carbon budget from the IPCC Special Report on 1.5°C and making various adjustments. This shows the share available to the UK, and from that, the share available to the WMCA area, and within that to each local authority. These steps are explained in detail in the Tyndall Centre's analysis for the WMCA area.¹⁰

The Tyndall approach notably requires steeper and deeper cuts in emissions than are likely to be feasible based on current technologies. Table 1 presents the carbon budget for Sandwell area recommended by the Tyndall Centre based on the cumulative emissions through to 2041.

This is the total budget per five year interval period, using periods based on UK Committee on Climate Change carbon budget periods.

¹⁰ Tyndall Centre Analysis of Climate Change Pathways for the WMCA

Table 1. Tyndall Centre recommended carbon budgets for Sandwell

| Carbon Budget Period | Recommended Carbon Budget (Kt CO ₂) |
|----------------------|---|
| 2018 - 2022 | 6100 |
| 2023 - 2027 | 3000 |
| 2028 - 2032 | 1500 |
| 2033 - 2037 | 700 |
| 2038 - 2042 | 300 |
| 2043 - 2047 | 200 |
| 2048 - 2100 | 200 |

The Tyndall Centre's modelled pathway to net zero does not take account of non-CO₂ emissions, but they do recommend that to reduce other greenhouse gas emissions (e.g. Methane, sulphur dioxide, nitrous oxide, hydrofluorocarbons and black carbon) the borough and wider region consider adopting a Land Use Change and Forestry pathway that includes CO₂ sequestration sufficient to help compensate for non-CO₂ emissions within WMCA.



4 Carbon reduction targets | 4.3 Sandwell's current emissions by source

In Sandwell, the two single largest sources of Scope 1 (direct) emissions are residential buildings and on-road transport, which includes emission from fuel consumption and grid-supplied energy for electric vehicles.

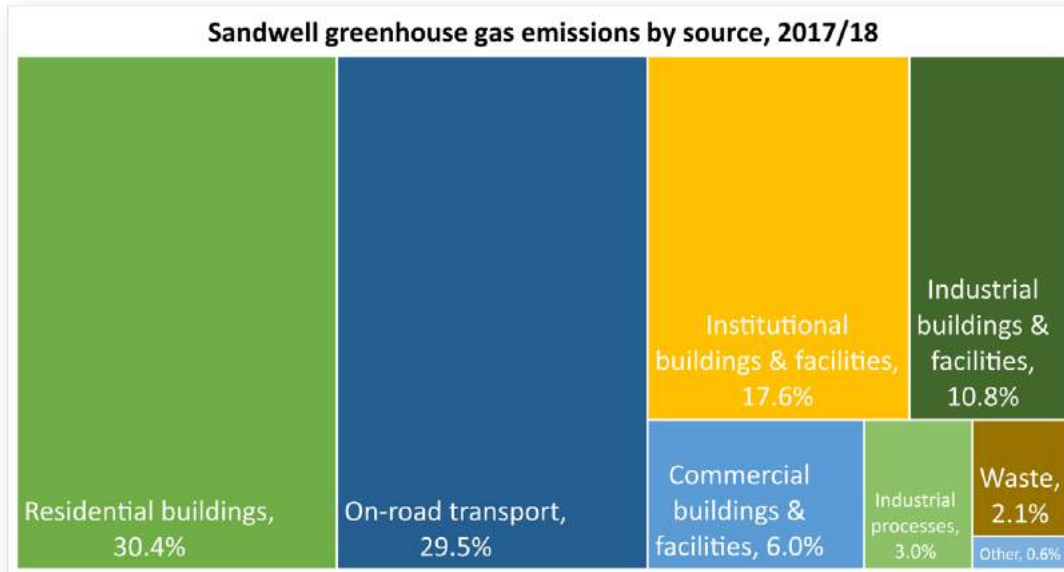


Fig. 6: Sandwell Greenhouse gas emissions by source, Scope 1 (direct) emissions only

Scope 2 includes indirect emissions that can be attributed to Sandwell due to electricity consumption.

This covers emissions from use of grid-supplied energy by buildings, equipment and facilities within the borough, as well as fugitive emissions from production, transformation and distribution of fuels.

Figure 7 displays the main users of electricity by source, showing that residential and institutional buildings account for most of the electricity consumed within the borough.

Worth noting however, is that all emissions from electricity consumed within the borough is roughly equal to the emissions from road transport (436.5 and 439.5KtCO₂ respectively).



Fig. 7: Scope 2 (indirect, electricity) emissions by source, Sandwell.



4 Carbon reduction targets | 4.4 Alternative pathways to carbon neutrality

The Setting City Area Targets and Trajectories for Emissions Reduction (SCATTER) project (see Appendix 1) commissioned by the Department for Business Energy and Industrial Strategy (BEIS) developed a methodology for Local Authorities to set carbon emissions targets that will support achieving net-zero by 2050 using currently available technologies.¹¹

For this strategy the SCATTER tool has been used to analyse current greenhouse gas emissions and their sources (see above), and model a realistic pathway to achieve our target based on currently available technologies.

SCATTER includes a function to model different pathways based on the level of ambition and the actions being taken.

A low/ base ambition pathway assumes that the council and borough go no further than national policy dictates and do not decarbonise electricity at a faster rate than the national grid.

The High Ambition pathway assumes that Sandwell exceeds national policy on both supply and demand measures and implements a range of interventions that are summarised below.

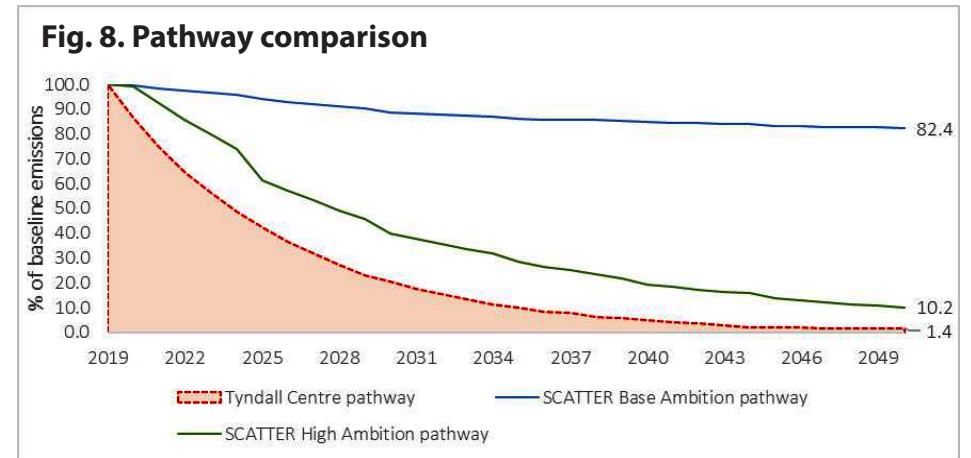
The difference in pathways is stark and demonstrates the challenge of meeting local targets without national policy support, with a 17.6% reduction in emissions by 2050 if Sandwell does nothing, compared with a 89.8% reduction if pursuing every available option for reducing emissions from all sources.

Importantly, the SCATTER pathways exclude most scope 3 emissions which are produced outside the borough, therefore to achieve reductions across all 3 scopes requires all other areas to pursue the same high ambition pathway as well.

Figure 8 presents the percentage emission reductions possible in pathways recommended using the Tyndall approach compared with those that could be achieved with low or high levels of ambition derived from SCATTER.

¹¹ Kuriakose, J., et al., *Quantifying the implications of the Paris Agreement for Greater Manchester*. 2018, Tyndall Centre for Climate Change Research

The complete set of actions recommended by SCATTER if following a high ambition pathway using currently available technology are presented in Appendix 1.



Many critical factors to influence this pathway are beyond the scope of Sandwell and depend on national action. The SCATTER pathway also recommends that the region and Sandwell consider strategies for limiting growth that relies on aviation and shipping, as these are two major emissions sources that are not factored into the local carbon budget but which do determine the carbon budget allocation available to Sandwell if these industries expand nationally and encroach on the carbon budget elsewhere.

In Sandwell, whilst the Tyndall pathway presents a high bar of ambition for emissions reductions, the SCATTER tool suggests that even under the most ambitious pathway, in 2041 the borough will still be emitting around 22% of the baseline emissions in 2019. It is realistic to assume that offsetting will therefore be required to achieve the target of carbon neutrality by 2041 and eliminate these residual emissions.



4 Carbon reduction targets | 4.5 Climate Change Strategy Consultation

In early 2020 Sandwell Council conducted a consultation with residents and businesses and VCSE sector organisations in the borough.

The consultation covered the major emissions sources in Sandwell, including transport and buildings, and the actions required if we are to achieve our ambitions borough-wide. Surveys were completed by council staff, voluntary sector organisations and residents, who were reached via invitation emails, social media, news media, screensavers and business card distribution.

The online consultation received responses from 642 residents, whilst 15 face-to-face consultation events were also held. In total 787 people or organisations responded to the consultation.

Participants were drawn from across the borough. The consultation did not reach a fully representative sample however, and more work is needed to engage black and minority ethnic communities who formed only 12% of respondents despite making up almost 30% of the population.

Consultation results

Of 642 survey respondents, 90% agreed or strongly agreed that dealing with climate change should be a key priority for Sandwell, whilst 93.6% agreed or strongly agreed that improving air quality should be a key priority.

The survey spanned the sectors covered by the Climate Change Action Plan and full details are provided in appendix 3. On housing energy efficiency, consultation responses favoured making **higher energy efficiency standards** apply first to council owned and new build homes, with 57.6% and 47.4% responding that this was a priority respectively, with privately owned and occupied or tenanted homes a lower priority. This may reflect a perception that it is expensive to improve the energy efficiency of your own home.

There was strong support for **public transport and active travel** as mechanisms to reduce emissions from transport. Of ranked responses, almost 70% wanted increased investment in public transport, with just over 50% favouring investment in electric buses. Whilst **44% were keen to encourage more walking and cycling**, only 24.6% supported discouraging use of private cars in congested areas and only 7% increasing the cost of workplace parking.

Almost two-thirds of respondents favoured increased use of **renewable energy and investment in energy efficiency** measures to reduce emissions from buildings. The preference was for these 'high impact' investments over behavioural interventions such as encouraging energy saving behaviours and reducing paper usage.

Regarding general lifestyle related emissions of residents, 69.1% of respondents considered **waste reduction** a priority and 64.9% considered **recycling** a priority, whilst almost half (46.5%) favoured **reducing unsustainable travel**. However, only a small minority favoured two actions that will be essential to meeting our climate targets – changing diets (22%) and shopping locally (21.2%) – suggesting that further work needs to be done to engage the community on these issues and develop solutions that work with the culture and values of our residents.



5 Governance and Approach

As we develop the system of governance for this strategy and action plan the Council will be guided by the following aims:

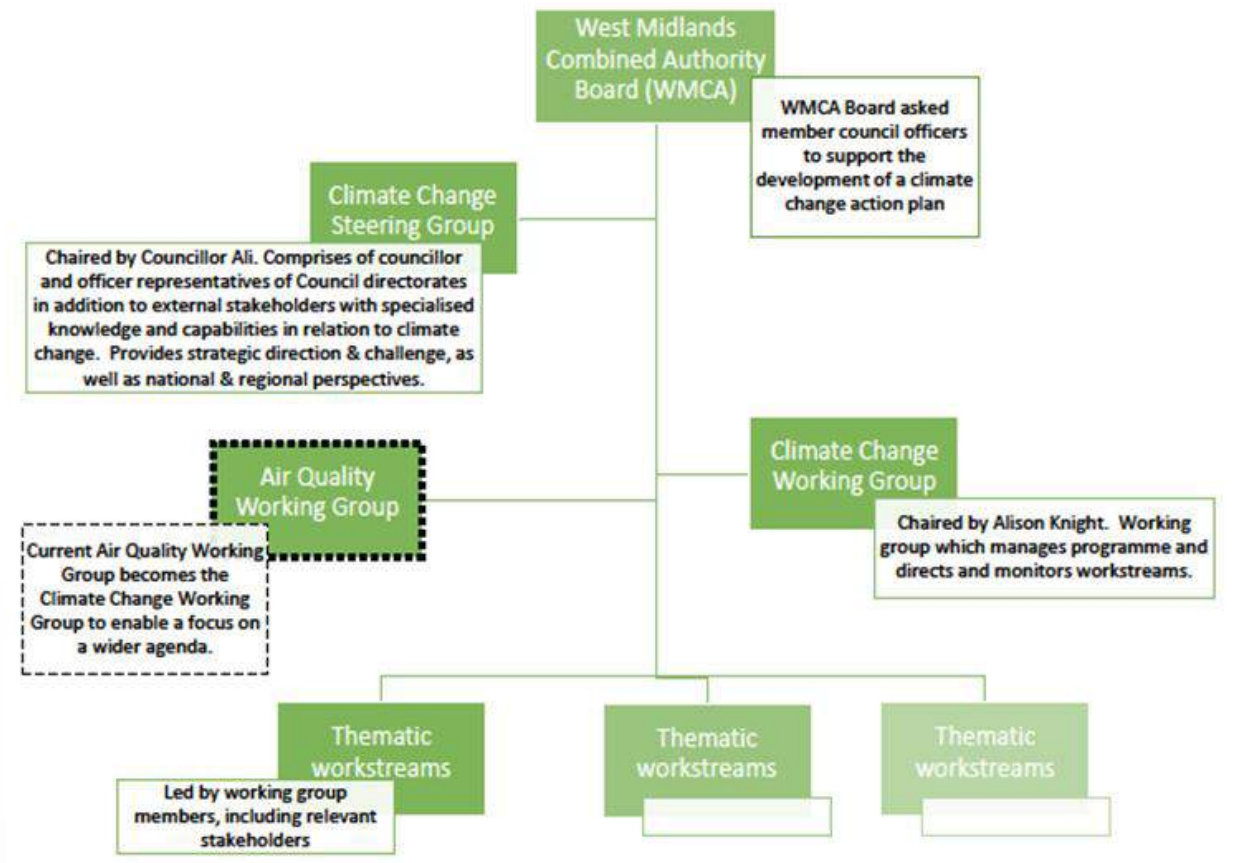
1. To continue to consult with, inform and as far as possible involve residents and businesses in decisions about how we develop and implement Sandwell's Climate Change Action Plan.

2. To establish a system of Climate Change Strategy governance in partnership with public, private and community organisations and implement a system for monitoring and reporting progress against the action plan.

Sandwell's Climate Change Action Plan will require high-level strategic governance alongside more detailed routine monitoring and reporting of progress against the action plan.

Figure 9 opposite, presents the Climate Change Strategy governance arrangements, which may change as the action plan is implemented.

Fig. 9: Climate Change Strategy Governance structure



5 Governance and approach | 5.1 Monitoring and reporting

Currently the Member Steering Group is the overarching governance structure, with an Officer Working Group spanning multiple departments which develops proposals that are submitted to the Member Steering Group for ratification. Monitoring of individual projects will be undertaken by council officers and project leaders and reported to regularly via the Officer Working Group.

As the Action Plan is implemented and updated, new initiatives will continue to be submitted to the Member Steering Group and where needed, to Cabinet for approval.

Contributions of actions and interventions to the climate change and air quality targets will be monitored and reported to ensure that positive contributions are made to the WMCA target and the agreed role which Sandwell will play in meeting this target.



5 Governance and approach | 5.2 Next steps

At both a strategic and action planning level, with our communities we will look to build on the consultation and the existing Youth Assembly and develop initiatives such as a Climate Assembly or equivalent forum for engaging with interest groups, communities, local and national partners and elected members to consider progress and ideas for actions.

One of the first steps towards the above will be to develop a system for working with local businesses, either collectively or in series of partnerships, that will consider and adopt additional interventions required to achieve net-zero from the major industrial and commercial sources. Businesses also play a vital role in supporting low carbon lifestyles and energy generation and will be central to efforts to achieve the borough-wide net-zero target of 2041.

Annual monitoring reports will be prepared for the Members Steering Group outlining progress on action plan projects. For the Covenant of Mayors requirements, a more in-depth report will be produced biannually using the SCATTER tool provided for this purpose, combined with data on all actions to date and the quantifiable reductions in carbon emissions where possible.

The action plan highlights the initial steps we will be taking towards these ends. However, we cannot be sure what the future of our energy or transport systems will look like, given emerging technologies and to an extent the lasting impact of Covid-19. To ensure uncertainty is taken into account, we will review progress regularly and evolve the plan as new opportunities emerge.



5 Governance and approach | 5.3 Enabling whole-systems change in Sandwell

As is clear from the pathways and target, the window of time available to act on climate change is narrowing fast: the more we delay action the more steep and dramatic the cuts in carbon emissions will need to be when we do act.

To achieve Sandwell's ambitions, it will not be sufficient to work within the existing systems and processes.

A whole systems approach will be crucial to realign all working parts of the Sandwell ecosystem towards this carbon-neutral vision. This is essential to ensure that action in one part of the system does not lead to negative feedback and adaptations elsewhere.

The following supportive ways of working will be essential in enabling this.

5.3.1 Communication and engagement

Sandwell Council have consulted widely with individuals and organisations in the development of this Strategy and Action Plan and have established the strength of public support for action.

In the free text section of the consultation, 21% of respondents spontaneously raised the need for greater education and engagement. To achieve Sandwell's ambitious targets requires a shared understanding that we both impact and rely on the natural environment for reasons detailed in the section on health and climate change.

In Sandwell there will be many people leading low carbon lifestyles already, not always for environmental reasons, and the council and partners will need to involve those individuals and communities, learn from them and ensure that they also benefit from green investments made within the borough.

This can build on a diversity of current activities, such as community food growing and local energy generation, which, if sustained and scaled up, could help us achieve our targets. This will involve working alongside organisations, groups and individuals already active in their communities to give them permission and some support to make the changes that they can see will make a difference in their area.

To meet the targets, it will be essential to enable and support further action and the council will seek to develop a communication and engagement plan to do so. To facilitate this, SMBC will explore options such as creating an online platform where residents can map problem areas and suggest solutions.

There are other existing participation mechanisms, such as the Sandwell Youth Assembly, and learning from these can be used to develop a model of participation in climate actions at a place-based level.

The council will seek to support, where possible, initiatives led by residents, groups and organisations in Sandwell that will contribute to achievement of the borough-wide carbon targets.



5.3.2 National Action – infrastructure and investment

The Tyndall Centre recommend that whilst Sandwell can seek to deploy low carbon electricity generation locally, they should also seek to influence national policy and how electricity is produced for the national grid.

Many of the changes we need to see require major infrastructure investment locally, for example to move towards decarbonised home energy or to improve new build standards.

To achieve this will require a shift in the incentives and regulations that apply. This cannot be achieved with current local powers and will require Sandwell Council and partners to advocate for regulatory, policy and financing changes that make climate friendly decisions economically and politically viable as well.

Specific policy areas developed nationally and regionally which can influence the management of emissions include:

- **National Planning Policy Framework**
- **Black Country Plan (formerly the Black Country Core Strategy)**
- **Sandwell Council's planning and transportation policies as set out in the Local Plan (Black Country Core Strategy, Site Allocations & Delivery Plan, SPDs)**
- **Sandwell Council's Development Management & Building Regulations Service**
- **WMCA Housing and Health design principles and WMCA Design Charter**
- **Policies and strategies developed by Transport for West Midlands.**

Sandwell Council will seek to advocate as a council and as part of the wider Black Country region, and support local stakeholders to connect with decision makers regionally and nationally to influence where and how decisions are made that affect Sandwell.



5

Governance and approach

5.3 Enabling whole-systems change in Sandwell *(continued)***5.3.3 Inclusion and skills**

Sandwell Council will seek to recruit locally for any newly created opportunities. As well as financial investments, Sandwell will therefore also require a workforce trained in the skills needed. This will mean working with training providers in the borough and wider region to ensure that training is available and connecting local people with the training and work opportunities that arise from it.

Sandwell Council will seek to develop a skills and training delivery plan for the climate action plan, covering school curricula and adult learning and development opportunities, including further education, apprenticeships and job roles across the six delivery themes.

The council will include climate change training as part of our induction process for new staff to consider their personal and work-related emissions and how they can contribute to meeting our climate targets.

We will work with a wide range of organisations to ensure we are all delivering the same messages to our staff and stakeholders.



5

Governance and approach

5.3 Enabling whole-systems change in Sandwell *(continued)***5.3.4 Partnership working**

The council recognise that as its own carbon footprint is only around 1% of the borough's total emissions it is vital to bring together the full spectrum of businesses and organisations who need to lead on delivering on this action plan to come up with an approach for dealing with the other 99% of emissions.

There are several models for doing this and the council will build on existing partnerships and links within the borough to develop the most effective approach for reducing the borough's emissions, whilst also delivering;

- **improvements in public health**
- **reduce costs for public services**
- **improved air quality**
- **increases in job and economic opportunities**
- **greater community engagement**
- **an enhanced natural environment**

Internal partners necessary to involve for the Council's own 2030 target include the Health & Wellbeing Board, Planning, Transportation, Highways, Housing, Education and Facilities management.

5.3.5 Evidence informed

This strategy and the linked action plans will seek to draw on the latest evidence regarding emissions sources and how to reduce them.

The council will seek to be informed by evidence that clearly applies best to Sandwell and its residents, bearing in mind wider health and inclusion considerations to maximise the wellbeing of the community.

The evidence for interventions is not fixed and will change over time. To meet the targets will require on-going learning from all involved to overcome challenges and respond to new research, technology and opportunities.



5.3.6 Aligning with other key strategies and plans

For this strategy to be deliverable it needs to align with and ensure other strategies are mutually reinforcing. In 2018 Sandwell Council adopted a Vision for the borough in 2030 that spanned all key council functions. Sandwell's Vision 2030 is wide ranging and multisector with 10 overarching ambitions spanning health, education, businesses and community development among others. Each of the ambitions included in Sandwell's 2030 Vision can be linked to this strategy, thereby enabling it to influence other plans and strategies that guide the Council's operations and how its services are delivered. Appendix 2 presents the list of Ambitions in Vision 2030 and how these relate to the Climate Change Strategy.

Linked to the Vision, Sandwell's Inclusive Economy Strategy recognises that some groups are at risk of being excluded from the benefits of local economic activity. Sandwell has a higher than average proportion of working age residents who have no formal qualifications (32.3%, compared with a national average of 18.4%). The need to ensure everyone benefits from local investment can go hand in hand with the need to deliver investments based on this strategy, but this is not inevitable, and we will seek to ensure that opportunities created from these actions reach those with the most potential to benefit.

Other strategies considered in the Action Plan attached to this strategy include, but are not limited to:

- **The Strategic Transport Plan – Movement for Growth**
- **West Midlands Low Emissions Trains and Cities Project**
- **Sandwell Community Wealth Strategy**
- **Sandwell Green Space Strategy 2020-2030**
- **Sandwell Strategic Plan for Assets**
- **Corporate Plans**
- **The Sandwell Air Quality Action Plan**
- **Stronger Sandwell: the council's approach to ensuring procurement decisions favour locally run organisations.**



6 The Climate Change Action Plan

We have set out six delivery themes for Sandwell to deliver our vision. These represent our baseline commitment to maximising opportunities and responding to the challenges of reaching our carbon neutrality target for the council by 2030 and for the borough by 2041.

Over time as we develop partnerships and engage further with our communities we plan to keep raising the level of ambition, so these actions by no means represent all the steps required to achieve carbon neutrality.

Each section of the action plan includes a brief background, progress to date, future ambitions and immediate actions for that service area.

1. Council estate and operations
2. The built environment
3. Transport
4. Waste
5. Adaptation
6. Natural Capital



Action Plan 1

Council estate and operations



Action Plan 1

Council estate and operations

Corporate Carbon Emissions

In line with reducing emissions across the borough, the Council recognises the significance of its own carbon emissions. Although these only account for a small percentage of Sandwell's total carbon emissions they are an area in which the council can have the most control and influence. In recognition of this and in order to help mitigate its own contribution to Climate Change, the Council has committed to its Scope 1 & 2 emissions being carbon neutral by 2030.

In line with standard methodology for greenhouse gas reporting, the council's own carbon footprint is broken down into three categories or Scopes with the data below from 2019.

| Scope | Details | Equivalent tonnes Carbon Dioxide (tCO ₂ e) |
|---------|--|---|
| Scope 1 | Direct emissions from buildings and fleet including emissions from heating buildings and driving fleet vehicles. | 10,489 |
| Scope 2 | Indirect emissions from purchased electricity, steam, heating and cooling for own use. | 9,841 |
| Scope 3 | Indirect emissions from council operations. | Not included |

Table 2: summary of Scope 1 & 2 emissions





Action Plan 1 Council estate and operations

Carbon Footprint Boundaries

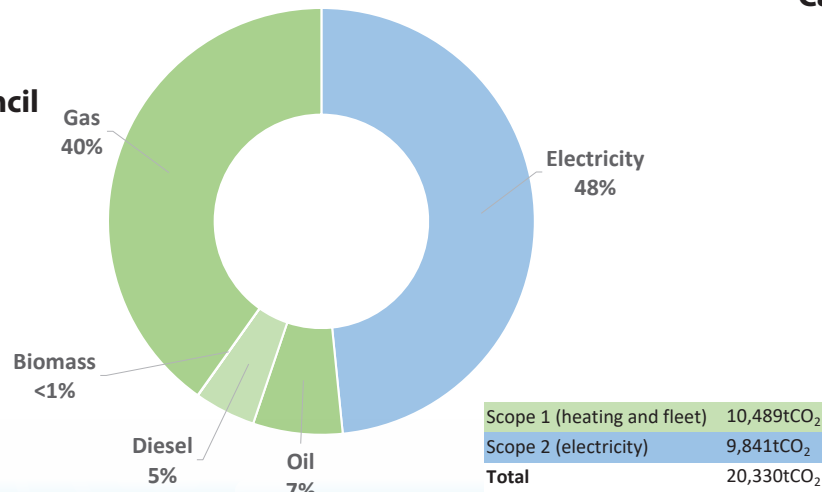
Scope 1: Direct emissions from the combustion of gas and other fuels. These are emissions produced directly as a result of the Council's operations and includes gas and oil use within operational buildings, such as office space, libraries, schools and leisure centres where we are directly responsible for the maintenance. Scope 1 emissions also includes fuel use from fleet vehicles. Fugitive emissions from air conditioning systems will be included from 2020 with systems being put in place to ensure the data can be accurately recorded.

Scope 2: Indirect emissions from electricity generated off site. This is electricity used by our buildings, including the main communal supplies for landlord provisions that do not feed domestic properties, street lighting and also any fleet electric vehicles.

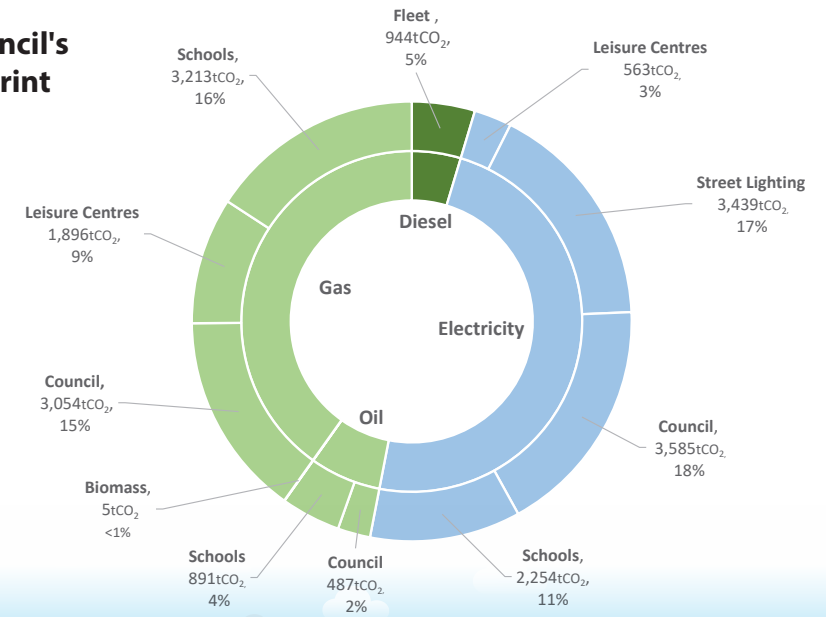
Scope 3: Emissions are other indirect emissions but which are outside of our direct control. Examples of scope 3 emissions include those from business mileage; waste; water or the supply chain when the council procures goods or services. Scope 3 emissions are not included in the 2030 target but specific sources of CO₂ may be monitored and reported on in future as data becomes available.

Emissions from Scope 1 & 2 are broken down further in Fig. 10 and Fig. 11

**Fig. 10:
Sandwell Council
Scope 1 & 2
emissions**



**Fig. 11:
Sandwell Council's
Carbon Footprint**



Action Plan 1

Council estate and operations

Progress to date

Over the last 10 years the council has made significant strides in reducing its own carbon emissions. This can be seen in Fig. 12 below* which shows how CO₂ emissions by the council have reduced from over 27,500tCO₂ in 2009/10 to 12,200t CO₂ in 2018/19, representing a reduction of more than 50%. As emissions can be reduced by factors including the carbon factor of the national grid or through a change in building stock, looking at the average rating for Display Energy Certificates (DECs) in our buildings has also been used to monitor change.

Over the last 10 years a steady reduction has taken place with the average rating improving from an E120 to a D100 as can be seen in Fig. 13 below. Whilst there has been a significant improvement there is still much more that can be done.

Fig. 12

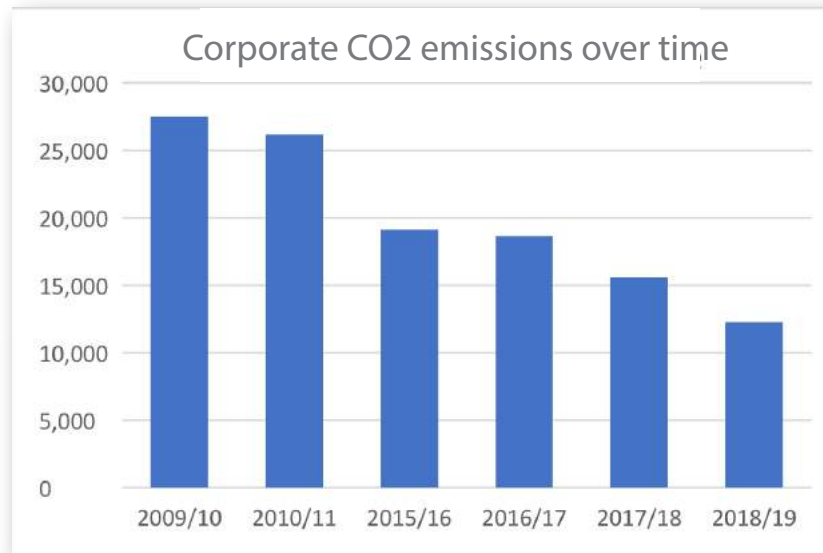
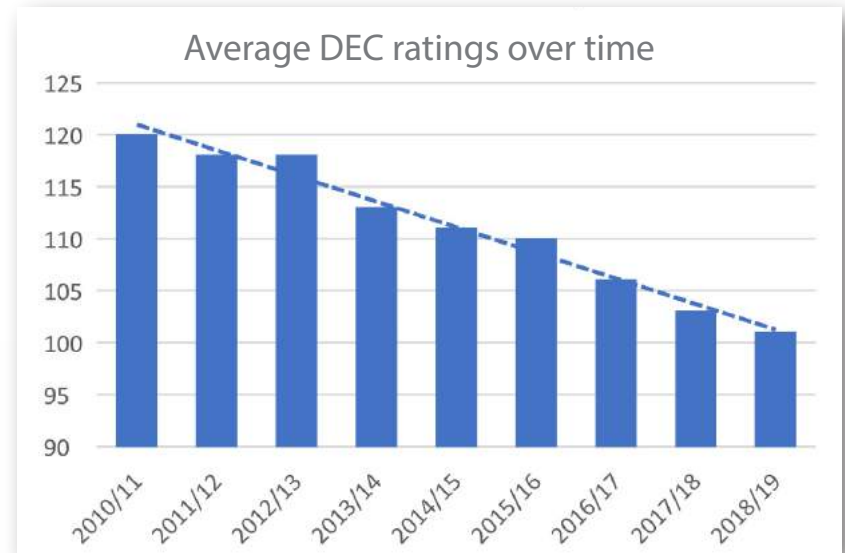


Fig. 13



* The figures used in the above reporting are calculated using a different methodology to the carbon footprint report and do not include for example, schools or emissions from fleet vehicles. The figures should therefore be seen as indicative of the reduction in emissions and not used for direct comparison.

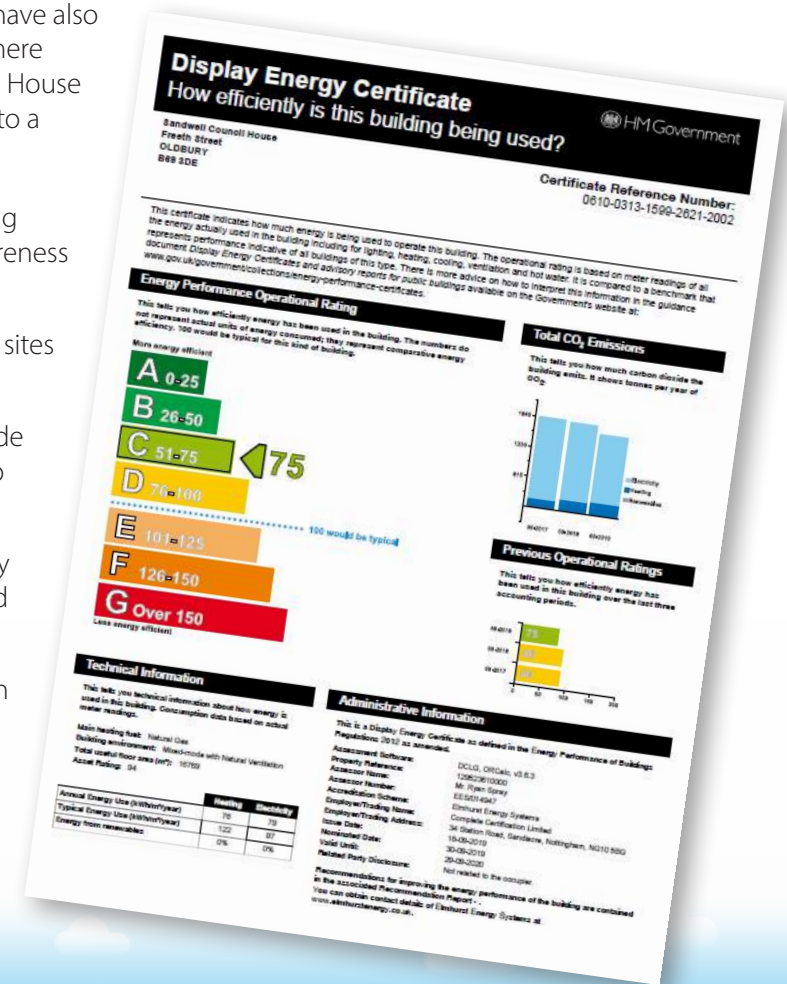


Action Plan 1 Council estate and operations

Projects to date

The savings delivered so far have been achieved through a wide range of energy saving projects and have also made use of funding schemes such as Salix to allow additional energy saving measures to take place where resources would not have normally been available. The Display Energy Certificate for Sandwell Council House shows the effect from some of these measures. It has improved from a DEC rating of G197 in 2010 up to a rating of C75 in 2019. Examples of the improvements made to date include:

- A rolling programme of upgrading heating systems, improving distribution pipework and changing from oil fired systems to gas.
- Upgrading and expanding the use of building energy management systems (BEMS); moving from modem based technology to more reliable wireless M2M systems.
- Replacing older lights fittings with LED lighting in a large number of properties across the estate, including schools, leisure centres admin buildings and housing.
- Replaced over 4,000 street lights to date with a further 7,000 scheduled for replacement over the next two years.
- Use and optimisation of CHP systems in new leisure centres.
- Improvements to and addition of insulation across the estate, including pool covers, pipe lagging etc.
- Improved communications with staff and sites around heating requirements and timetables.
- Purchasing of a monitoring and targeting software package to facilitate greater awareness and control of energy use.
- Bill validation and increased liaison with sites on reductions to gas or electricity use.
- Upgrading of air handling units to include high efficiency motors and CO2 sensors to control fan speeds.
- Increased communications between key personnel around behavioural change and opportunities for energy savings.
- Increased monitoring and rationalisation of ICT servers in addition to upgrades to thin client and laptops.
- Transformation of the two computer suites and infrastructure at Sandwell Council House.



Action Plan 1

Council estate and operations

Actions to achieve aims and objectives

The action plan presented below does not represent all actions that will need to be taken but is instead the next step in building on our previous carbon savings.

| Objective | Action | Responsibility | Timeframe |
|--------------------------------------|--|----------------------------------|------------|
| 1.1 Reducing energy use in buildings | Complete a review of all non-domestic corporate properties and schools, identifying opportunities where solar PV might be installed. | Urban Design & Building Services | Short Term |
| | New commercial properties acquired by the council are to have an EPC rating of C or higher. | Strategic Assets & Land | Short Term |
| | Include building EPC and energy efficiency as a primary metric in future property reviews. | Strategic Assets & Land | Short Term |
| | The refurbishment or renovations of corporate buildings will aim to achieve an EPC rating of C or above. | Strategic Assets & Land | Short Term |
| | Streamline and increase the use of finance schemes such as Salix to accelerate carbon reduction improvements. | Urban Design & Building Services | On-going |
| | Reduce energy demand from properties through the use of retrofit measures such as improved insulation, upgrading lighting or more efficient equipment. | Urban Design & Building Services | On-going |
| | Any retrofit of heating systems should include a cost benefit analysis of low carbon technologies or heat networks where available. | Urban Design & Building Services | On-going |
| | Introduce smart energy management systems to help reduce energy use, including AMR and access to historic and half hourly data where practical. | Urban Design & Building Services | Short Term |

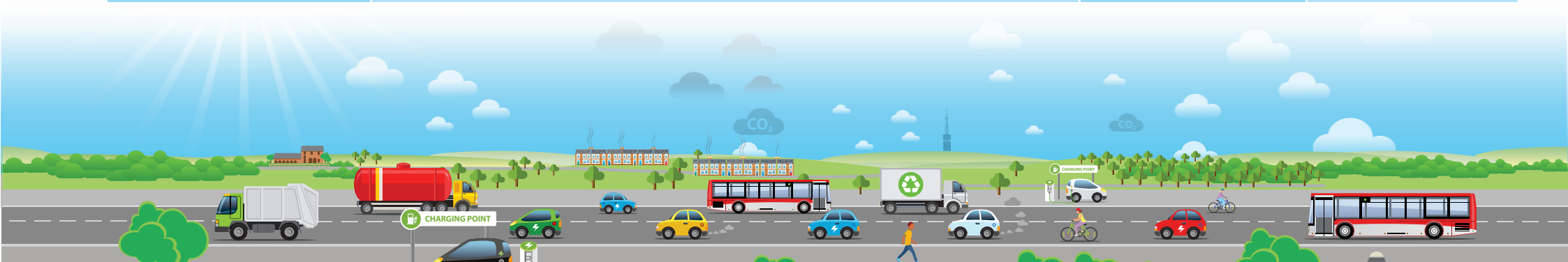


Action Plan 1

Council estate and operations

Actions to achieve aims and objectives (continued)

| Objective | Action | Responsibility | Timeframe |
|---|---|---------------------|-------------|
| 1.2 Improving the efficiency of street lighting | Continue with existing programme to upgrade 11,000 low pressure lamps to LED over a 3 year period. | Highways | Ongoing |
| | Upgraded LED lamps to continue the strategy of dimming and trimming where viable. | Highways | Ongoing |
| | Follow upgrade of SOX lanterns with a review of opportunities and finance mechanisms to upgrade all high pressure sodium lamps to LED. | Highways | Medium Term |
| Objective | Action | Responsibility | Timeframe |
| 1.3 Reducing carbon emissions through procurement | Social value metrics will be updated to allow increased use of carbon reduction and climate change in future procurement exercises where appropriate. | Procurement | Short Term |
| | Investigate opportunities for the additional promotion of carbon reduction such as mandatory carbon reporting by contractors. | Procurement | Short Term |
| | Review mechanisms to embed sustainability into the council's decision making process. | Democratic Services | Short Term |



Action Plan 1

Council estate and operations

Actions to achieve aims and objectives (continued)

| Objective | Action | Responsibility | Timeframe |
|--|--|--------------------------------|------------|
| 1.4 Increase efficiency of ICT | Cloud based servers, improved equipment. | ICT | Ongoing |
| Objective | Action | Responsibility | Timeframe |
| 1.5 Reduce carbon emissions from fleet vehicles and business mileage | Develop a plan to roll out electrification of Council fleet vehicles. | Waste & Fleet Services | Short Term |
| | Update the existing 'Workplace Vision Travel Plan'; investigate options to reduce carbon emissions from staff commuting or business travel from e.g car sharing or 'staff pool bikes' and increase awareness of available options. | Workplace Vision Project Board | Short Term |
| Objective | Action | Responsibility | Timeframe |
| 1.6 Assess opportunities from Waste & Recycling | Review existing waste collection and recycling services and identify opportunities for to reduce emissions in line with principles of reduce, re-use, recycle. | Waste & Fleet Services | Short Term |



Action Plan 1

Council estate and operations

Actions to achieve aims and objectives (continued)

| Objective | Action | Responsibility | Timeframe |
|--|---|------------------------------------|------------|
| 1.7 Support staff in reducing emissions through behavioural change | Develop an advocacy scheme and offer training to staff, increasing awareness of how to reduce carbon emissions and environmental impacts. | Climate Change Programme Manager | Short Term |
| | Investigate options of subsidies to support staff use of public transport. | Workplace Vision Project Board | Short Term |
| | Support schools in reducing their energy use and environmental impacts through behavioural change and awareness campaigns. | Urban Design and Building Services | Short Term |
| | Explore the opportunities for increasing the take up of smart/homeworking across the council. | Workplace Vision Project Board | Short Term |
| Objective | Action | Responsibility | Timeframe |
| 1.8 Finalise governance arrangements | Investigate the feasibility of establishing an over-arching mechanism for the implementation of this Strategy across the borough. | Neighbourhoods | Short Term |



Action Plan 2

The Built Environment



Action Plan 2

The Built Environment

Introduction

Sandwell's industrial heritage has left it with a densely populated built environment; a complicated mixture of domestic properties, commercial activities and the public estate. Fuel poverty is a significant issue in many areas (this is largely driven by the quality of existing housing and the income of residents). Sandwell, is amongst the worst 10% of UK local authorities for incidence of fuel poverty.

In the case of domestic energy costs, the annual spend on energy is significantly higher than elsewhere because of the poor overall quality of domestic buildings. This is a perennial challenge, but one of increasing urgency as the search for cost-effective and socially acceptable responses to the challenge of climate change gathers pace.



Action Plan 2

The built environment

Council Homes

For some years we have been carrying out energy efficiency improvements to the Council's own stock, including double glazing, loft insulation and cavity wall insulation.

We start by insulating first and making sure the properties are properly draught-proofed. Once these elements have been completed, we consider more expensive energy efficiency solutions. In practical terms, this means most of our properties with suitable lofts and cavities have now been insulated and we have also applied external insulation to some of our high-rise buildings and solid wall houses.

Recognising the inevitable demise of natural gas as an energy source, we are looking to include more renewable energy technologies into the design of new-build council homes and high-rise refurbishment schemes.

This includes on-going studies exploring the potential for heat networks utilizing, where possible, heat recovery from renewable sources, such as Energy from Waste facilities, canals and redundant coal mines.

Whilst CO₂ reduction figures emissions for Sandwell are in line with those for the West Midlands, fuel poverty rates have increased significantly since 2014.

To help address this, we have recently undertaken a Warm Homes Funded project for the installation of first-time wet central heating systems and replacement of outmoded electric storage heaters with more efficient gas wet central heating systems. This area-focussed project has successfully included both Council and privately-owned dwellings.

Private Sector Homes

In terms of energy efficiency, it is generally recognised that much of the private sector housing stock in Sandwell is of poor quality. This includes a large proportion of pre-1930's terraced with solid walls which have suffered from lack of investment and an on-going trend to be used as rented accommodation.

The Citizen and Consumer Protection (Accommodation) Team respond to complaints regarding disrepair within the Private Rented Sector. As part of the investigation the EPC is checked and any remedial works required to improve energy efficiency are requested and enforced as necessary. Since 1 April 2020, landlords can no longer let or continue to let properties covered by the MEES Regulations if they have an EPC rating below E, unless they have a valid exemption in place.

Landlords that apply for licensing of HMO properties should expect to have a condition in the licence that properties must have a minimum EPC rating of E before occupation.

Sandwell has recently undertaken a consultation exercise regarding the implementation of selective and additional licensing within the West Bromwich area. If approved these schemes will be enforced within an area of the borough where private rented stock is known to be in poor condition. Licence conditions will be included to ensure minimum energy standards are enforced.



Action Plan 2

The built environment

The Black Country Plan

The Black Country Plan (2023 to 2038), is currently being developed, includes a range of policy aspirations for high quality design and climate change mitigation and adaptation. As set out in national guidance, an effective way of ensuring these aspirations are delivered in a consistent manner is using tools for assessing and improving design quality. The Building Research Establishment (BRE) administers a range of robust, national standards which can support this approach. BREEAM standards are well established and the new Home Quality Mark (HQM) standard is based on the BREEAM approach. Both BREEAM and HQM certify quality and sustainability in the built environment, including running costs, health and wellbeing and environmental impact. The Council welcomes developers using these, or similar tools to support their designs.

Businesses

The Black Country has ambitious plans to develop a High Value Manufacturing City alongside 40,000 new homes and other infrastructure improvements, in line with the Smart City concept. Sandwell has a potential competitive advantage over other regions in that its industrial heritage has left it with a reasonable energy distribution infrastructure with some spare capacity. It also has a relatively dense and diverse concentration of energy demand.

These characteristics mean that it is highly likely that attractive commercial opportunities exist for investments in local power generation facilities which offer energy intensive industries lower cost, more secure power (while also creating local employment and offering economic opportunities).

For example, gas turbines could be used to generate electricity at MW scale (suitable for energy-intense manufacturing) with heat that would otherwise have been wasted used locally to provide low cost process and space-heating heat for nearby commercial buildings and/or housing.

A key issue is energy costs for industry, which are sometimes up to 44% higher than in competitor economies. New connection costs can also act as a constraint on expansion. It is likely that continuation of the current market design which does not recognize a strategic role for regions will result in higher costs for customers and constrain our ability to deliver carbon and/or fuel poverty targets.

The Black Country LEP is playing a leading role in this debate nationally, leveraging the power of working together with the other two West Midlands LEPs and the Mayor to access government at appropriate levels.



Action Plan 2

The built environment

The Inclusive Economy

We are committed to building a strong economy with a focus on “inclusive growth” that helps all of Sandwell’s residents to benefit and enable us to tackle the root causes of poverty currently experienced across our borough.

An Inclusive Economy is one in which there is expanded opportunity for more broadly shared prosperity especially for those facing the greatest barriers to advancing their well-being.

The positive impacts of an Inclusive Economy on Climate Change could be significant. Sandwell’s aim is to develop a thriving economy where local people are provided with an opportunity to benefit from economic activity in the borough.

One concept we are actively promoting is the “Circular Economy”. This encourages the use of locally obtained materials to feed manufacturing processes and wherever possible these materials should be from a sustainable or re-cycled source.

Several Sandwell based SME’s have joined forces to innovate and re-think Climate Change impact through using circular procurement and leading-edge regenerative design when tendering for £multi-million contracts on cross-regional construction projects in the West Midlands.



Action Plan 2

The built environment

| Objective | Actions Sandwell Council can take | Timescale | |
|--|--|-------------|--|
| 2.1 Ensure a transition to more eco-friendly homes | Incorporate more renewable energy measures into the design of new-build Council homes including modern methods of construction. | Short Term | |
| | Ensure procurement processes consider Climate Change as part of tender assessments for all contracts (new-build/maintenance/refurbishment). | Short Term | |
| | Progress On-going studies around the development of Heat Networks. | Medium Term | |
| | Gain a better understanding of EPC ratings across all tenures. | Short Term | |
| | Improve the EPC ratings of Council stock by investment in energy-efficient improvements. | Long Term | |
| | Continue partnership involvement with energy-saving schemes for residents (Local Energy Advice Partnership, ECO3 Flexibility, fuel switching etc). | Long Term | |
| | Encourage private sector residents/landlords to carry out energy-efficient improvements to homes using grants and schemes where eligible. | Long Term | |
| | Work with the Combined Authority to influence the design of new buildings and lessen the carbon impact of supply chains. | Medium Term | |
| | Actions residents can take | | |
| | Actively uptake grants/schemes to improve energy- efficiency of homes. | Medium Term | |
| | Consider Climate Change implications when planning improvements to homes. | Medium Term | |
| | Undertake regular fuel-switching utilizing the Council's service or price comparison sites. | Short Term | |
| | Use less gas and electricity. | Short Term | |



Action Plan 2

The built environment

| Objective | Actions businesses can take | Timescale | |
|--|---|-------------|--|
| 2.1 Ensure a transition to more eco-friendly homes | Businesses involved in building and maintaining homes should consider the carbon footprint of their supply chain. | Medium Term | |
| | Construction companies should regularly review their materials/products to ensure they are as environmentally friendly as possible. | Medium Term | |
| | Actions partners can take | | |
| | Follow the Council's lead regarding Climate Change. | Long Term | |
| | Inform the Council of any innovative schemes or projects being undertaken elsewhere. | Long Term | |



Action Plan 2

The built environment

| Objective | Actions Sandwell Council can take | Timescale | |
|---|---|-------------|--|
| 2.2 To reduce emissions from businesses | Work with businesses to promote Climate Change priorities. | Short Term | |
| | Encourage businesses to talk to one another and share good practice/ideas. | Short Term | |
| | Consider a scheme whereby businesses supporting the green economy are recognised as such. | Medium Term | |
| | Develop a platform that enables local businesses to interact with each other to support the local 'Circular Economy'. | Short Term | |
| | Actions residents can take | | |
| | Aim to purchase goods and services from local companies that support the Green/Circular Economy (see above). | Medium Term | |



Action Plan 2

The built environment

| Objective | Actions businesses can take | Timescale |
|---|---|-------------|
| 2.2 To reduce emissions from businesses | Introduce advanced manufacturing techniques. | Medium Term |
| | Introduce procurement processes that consider Climate Change/carbon footprint for supply of goods and services. | Medium Term |
| | Encourage innovation. | Medium Term |
| | Consider the introduction of workplace levies for parking. | Medium Term |
| | Recruit local people into local jobs. | Medium Term |
| | Actions partners can take | |
| | Aim to purchase goods and services from local companies that support the Green/Circular Economy (see above). | Medium Term |





Action Plan 2

The built environment

| Objective | Actions Sandwell Council can take | Timescale | |
|-----------------------|--|-------------|--|
| 2.3 Energy devolution | Work with representatives and the Mayor of the Combined Authority to lobby for local influence over funding for energy projects (ECO funding etc). | Short Term | |
| | Introduce the concept of heat networks and other local-based energy generation to both residents and businesses. | Medium Term | |
| | Work with developers and businesses to understand the barriers preventing investment in Sandwell. Particularly the impact of new electrical connections and grid capacity. | Medium Term | |
| | Consider potential location of Energy Innovation Zones (EIZ's). | Medium Term | |
| | Actions residents can take | | |
| | Be receptive to new ideas and technology, including new ways of receiving/purchasing heat and power. | Medium Term | |
| | Actions businesses can take | | |
| | Work with the Council to help us understand the problems faced by local businesses, particularly around the cost of energy and its impact on competitiveness. | Medium Term | |
| | Actions partners can take | | |
| | Work with the Council to help us understand the problems faced by local businesses, particularly around the cost of energy and its impact on competitiveness. | Medium Term | |



Action Plan 3 Transport





Action Plan 3 Transport

Introduction

Government figures show that carbon dioxide (CO₂) emissions in the borough reduced by 32 percent between 2005 and 2017. The most significant reduction has been for the industrial sector, where emissions fell by almost 50 percent over the period.

Emissions from domestic activities reduced by around 34 percent, with transport achieving just a 5 percent reduction. With transport related CO₂ emissions amounting to 38% of Sandwell's total CO₂ emissions, along with the associated emissions of particulates and nitrogen dioxide, a robust action plan is needed.

The scope to reduce transport emissions is however significant and can be achieved primarily through reducing the need to travel, changing the way people make their journeys and making motorised travel more energy efficient. Such a reduction would also enable significant improvements in air quality to be realised.

Being positioned between Wolverhampton, Walsall, Dudley and Birmingham, Sandwell is served by a dense transport network incorporating roads, railways and canals which are well connected regionally and nationally.

Sandwell's associated densely populated area, high concentration of local commercial activity and proximity to Birmingham city centre has resulted in high levels of transport demand within Sandwell, both between its neighbours and for traffic traveling through the borough. Reductions and changes in travel demand therefore need to happen in relation to organisations and places outside Sandwell.

Support for decarbonising transport and changing travel behaviour is available through the planning and transportation policies stated in the Black Country Core Strategy (to be replaced by Black Country Plan when adopted in 2024) and other documents contained in Sandwell's Local Plan, along with the regional and sub-regional transport measures and facilities developed by the WMCA and Black Country authorities respectively.

The wide range of actions required to address transport decarbonisation, as outlined below, will need to be implemented by Sandwell Council and Sandwell's residents, business and other organisations.





Action Plan 3 Transport

Action Plan Themes

1. Promotion of sustainable travel

Sustainable travel should be promoted using a public-facing campaign that regularly provides information about how places can be accessed by cycling, walking, public transport and car sharing. Incentives to use such methods of transport, particularly those that involve physical activity, should be promoted and provided through the various digital and social media platforms that the council and other agencies use to disseminate information about its activities.

The most difficult challenge in relation to bringing about a reduction of transport related CO₂ emissions and other pollutants involves travel behaviour change. Set against a background of car travel being cheap, relative and convenient, promotion of sustainable travel will need to relate to making other journeys more attractive especially leisure and shopping.

Commuting can be changed by home working, but manufacturing jobs need to be physically accessed, therefore accessibility needed.

2. Develop a low carbon transport system

The council needs to work towards a low carbon transport system that supports Sandwell's economy and delivers multiple benefits, such as reduced carbon emissions, improved air quality, reduced congestion, improved health and road safety.

Electric vehicle charging, cleaner public transport, last-mile travel and freight solutions, walking and cycling networks and road-space reallocation are examples of what such a system needs to include.

The shared transport agenda will also need to be developed, with assistance from the WMCA and other partners, such that current public transport modes are supported by bicycle hire and car club vehicles.

This will also help to develop Mobility as a Service (MaaS) platforms to be developed which further reduce the need for private car ownership.





Action Plan 3 Transport

Action Plan Themes

3. Reduce Sandwell Council's transport emissions

Transport emissions from the services that the council commissions and delivers can be reduced by various means, including reduced emissions from its transport fleet and through the development of a travel plan.

4. Planning policies to support sustainable transport choices

Planning policies that encourage developers to promote sustainable transport choices and reduce car dependency need to be established.

The Black Country Core Strategy (to be renamed as the Black Country Plan when adopted in 2024) includes policies to support this need, although further assistance from central government will also be needed. Mitigating and adapting to climate change and promoting sustainable development are key principles which underpin the vision for transforming the Black Country environmentally, socially and economically.

The role of transport and the location and design of new development are important factors that need to be considered in order to achieve sustainable development. Place-making that both supports physical activity and reduces car dependency should be prioritised.

Planning policies to support sustainable transport and travel can also assist with building an inclusive economy in Sandwell through reducing congestion and improving access to employment for local people.

Progress to Date

Transport-related CO₂ emissions have reduced by 5% between 2005 and 2017, although against a background of increased vehicle engine efficiency over this time period, the opportunity to significantly reduce CO₂ has been lost due to vehicles becoming larger, increased travel distances for commuting and leisure, low take-up of sustainable travel modes for short journeys and developments that have increased car dependency.

The ability to reverse these trends is becoming increasingly difficult to realise as people become locked into patterns of travel behaviour that they do not see themselves being detached from.

There has at least been an increased appreciation by people that particulate matter and nitrogen dioxide (NO₂) air pollution, which in urban areas is caused primarily by motor traffic, needs to be reduced and that car travel will not be able to satisfy the travel needs of a significant proportion of the population.

Along with renewed interest in and concern about climate change, the need to reduce transport-related CO₂ is being addressed more seriously by all sectors of society.





Action Plan 3 Transport

| Objective | Actions Sandwell Council can take | Timescale | |
|---|---|-------------|--|
| 3.1 Promotion of sustainable travel | Continuous borough-wide promotion through various media channels, events and an annual climate change festival about travel awareness and the advantages of public transport, car sharing, walking and cycling. | On-going | |
| | Engage with employers to help them to adopt travel plans that promote and facilitate sustainable employee travel. | On-going | |
| | Work with schools to promote walking and cycling, including effective engagement with parents and carers to create awareness about the health benefits of reducing car dependency. | On-going | |
| | Promote the use of digital platforms for incentivising sustainable travel, consultation and journey planning, particularly to increase the use of walking, cycling and public transport networks. | On-going | |
| | Actions residents can take | | |
| | Make more local leisure, education, commuting, healthcare and shopping journeys by walking, cycling and public transport and, where and when possible, commit to working from home on a regular basis. | On-going | |
| | Actions businesses can take | | |
| | All workplaces to register with the Modeshift STARS Business platform to create nationally accredited travel plans. | Medium Term | |
| | Change terms and conditions, working practices and parking management to increase the use of sustainable travel. | Short Term | |
| | Actions partners can take | | |
| Travel services, ticketing and information for commuter, leisure and young persons' travel developed by the WMCA (working with transport operators) to enable flexibility at low cost, plus the development of travel demand initiatives. | Short Term | | |
| Public-facing services (eg schools, museums, visitor attractions, parks and libraries) to be involved in public awareness campaigns on transport, highlighting the financial and health benefits of sustainable travel. | Short Term | | |





Action Plan 3 Transport

| Objective | Actions Sandwell Council can take | Timescale |
|---|--|-------------|
| 3.2 Develop a low carbon transport system | Implement highway measures and transport facilities that fully accommodate and promote the use of public transport, cycling and walking, making journeys by such methods easier, faster and safer, alongside measures to discourage car use. | Short Term |
| | Increase the use of lower carbon vehicles through policies and pricing, and support the development of suitable infrastructure, in particular for electric vehicles in car parks and for car users without off-street residential car parking. | Short Term |
| | Introduce facilities at developments through the planning system to increase use of shared and cleaner transport modes. | Short Term |
| | Engage with the WMCA and Black Country authorities to review and continually improve the statutory Movement for Growth Local Transport Plan to address accessibility, transport inequality, congestion, modal shift and energy use. | On-going |
| | Implement and enforce road closures near schools at start/finish times and develop safer routes to school. | Short Term |
| | Increased bus lane enforcement along with other traffic management measures which improve bus reliability and speeds. | Short Term |
| | Implement weekly road closures for car free days in town centres and local centres to encourage local people to use shops and services closer to where they live. | Short Term |
| | Carry out a consultation and audit of the travel and transport needs of residents, businesses, healthcare facilities, education sites, leisure and retail facilities to inform a transport strategy for the borough. | Short Term |
| | Use the air pollution model, which will be developed for Sandwell to identify additional air quality hot spots, to influence the management of traffic flows through Sandwell. | Medium Term |





Action Plan 3 Transport

| Objective | Actions residents can take | Timescale | |
|---|--|------------|--|
| 3.2 Develop a low carbon transport system | Replace petrol and diesel vehicles with a combination of bicycles, travel cards, Mobility as a Service (MaaS) platforms, car club vehicles and low emission vehicles. | Short Term | |
| | Participation in Sandwell's Local Access Forum and Cycling Forum to ensure that walking and cycling networks meet the needs of people and attract continued funding for their development. | On-going | |
| | Actions businesses can take | | |
| | Review/audit workplaces to improve access by walking, cycling, public transport and electric vehicles. | Short Term | |
| | Local bicycle shops to offer discounted bicycles and maintenance to employees from workplaces and schools registered with the council's Modeshift STARS Business and Education platforms. | Short Term | |
| | Employers to offer services and products to assist residents and other employers with low carbon travel. | Short Term | |
| | Freight companies to develop low carbon systems that use electric vans/lorries and cargo e-bikes for last-mile delivery. | Short Term | |
| | Public transport operators to purchase electric and/or hydrogen powered buses. | Short Term | |





Action Plan 3 Transport

| Objective | Actions partners can take | Timescale |
|---|--|-------------|
| 3.2 Develop a low carbon transport system | WMCA, Black Country LEP, Government, Highways England, Network Rail and other agencies to assess and fund transport schemes on the basis of their ability to reduce carbon emissions and reduce car dependency. | On-going |
| | WMCA to develop strategies for public transport use and help to implement lower emission buses and trains, along with a bicycle hire scheme, support for the development of Mobility as a Service platforms and demand responsive transport. | On-going |
| | Government to fund both the West Midlands and Sandwell Local Cycling and Walking Infrastructure Plans (LCWIP). | Short Term |
| | Canal and River Trust to work with the council and developers to increase the number of step-free access points on Sandwell's canal network, along with upgrading to all-weather towpaths. | Medium Term |
| | Electricity infrastructure to be capable of supporting a significant increase in the use of electric vehicles, including automotive research and development into battery technologies and ultra low emission vehicles. | Short Term |
| | Taxi owners/companies to purchase low emission vehicles at times of renewal. | On-going |





Action Plan 3 Transport

| Objective | Actions Sandwell Council can take | Timescale | |
|---|---|-------------|--|
| 3.3 Establish planning policies that encourage developers to promote sustainable transport choices. | Develop planning policies which encourage developers to reduce car dependency. | Long Term | |
| | Reduce the number of car parking spaces required at residencies in new housing developments. | Short Term | |
| | Planning conditions and obligations and the community infrastructure levy to promote and facilitate sustainable travel. | On-going | |
| | Develop and raise the profile of the council's Sustainable Modes of Travel Strategy (SMOTS) for schools in Sandwell. | On-going | |
| | Actions residents can take | | |
| | Residents, employers and representatives of other agencies to engage in policy development and participate in panels to discuss their travel and transport needs to form the On-going review of a transport strategy for the borough. | Medium Term | |
| | Actions businesses can take | | |
| | Employers to regularly engage with the council through representative bodies to discuss travel and transport issues. | On-going | |
| | Actions partners can take | | |
| | WMCA/other agencies to collect data/information to research changes in travel patterns/needs and how these can be influenced by planning/transportation strategies/policies to support sustainable travel choices. | On-going | |



Action Plan 4

Waste and Recycling



3

general waste only

Please place waste that can be recycled/composted in the appropriate container

2



wood

Yes Please ✓
✓ PAINTED WOOD
✓ CHIPBOARD
✓ LAMINATES
✓ PLYWOOD
MDF WOOD

No X
X PLASTERBOARD
X FABRIC
X GLASS
X METAL

Action Plan 4 Waste and recycling

Background

Recycling has the ability to minimise the rate of global climate change by reducing the extraction of raw materials from the earth and the amount of fossil fuel burnt in the manufacturing process. Waste prevention is even more effective — like recycling, it diminishes the need for raw materials, saves energy and fossil fuels, and diverts materials away from landfills and incinerators.

Climate change is a public health crisis and to remedy this problem, we need to make a global move toward a circular economy — wherein we use resources for as long as possible, get the maximum value from them while in use, and then reclaim and regenerate resources at the end of their service life.

The European Union, as well as the UK and Japan, have each already implemented a circular economy at some level, and have seen positive results. If the rest of the world were to follow suit, it could reduce the demand for energy, raw materials and fossil fuels, and, consequently, the volume of greenhouse gases being released into the atmosphere would be greatly diminished.

The UK recycling rate for waste from households was 45.0% in 2018, decreasing from 45.5% in 2017. The UK Government has a target to recycle at least 65% household waste by 2035 and a target of zero food waste to landfill by 2030. The recycling rate in Sandwell for 2018 to 2019 was 35.8%.

In 2018, total 'waste from households' decreased to 22.0 million tonnes, a 1.8 per cent decline from 2017, in which it was 22.4 million tonnes. This is equivalent to 394 kg per person, down from 403 kg per person in 2017, a decrease of 2.2 per cent. The kg per person rate in Sandwell for 2018 was 593kg.

The need to reduce food waste has been acknowledged for many years. In the UK alone, an estimated 10 million tonnes of food and drink are wasted post-farm gate annually, worth around £20 billion. Excess food waste costs us money and is environmentally damaging. Growing excess food that no one eats damages the Earth's ecosystems when we dispose of it. Moreover, a fifth of UK greenhouse gas (GHG) emissions are associated with food and drink, mostly created during production (agriculture and manufacturing) – and needlessly if the food and drink are wasted.



Action Plan 4 Waste and recycling



New Resources and Waste Strategy

At the time of writing, the government is consulting on a Resources and Waste Strategy which will have significant impacts on the way we recover and recycle waste. The Strategy sets out how it will preserve our stock of material resources by minimising waste, promoting resource efficiency and moving towards a circular economy.

At the same time it will minimise the damage caused to our natural environment by reducing and managing waste safely and carefully, and by tackling waste crime. It combines actions it will take now with firm commitments for the coming years and gives a clear longer-term policy direction in line with the Government's 25 Year Environment Plan.

It will strive to eliminate avoidable plastic waste over the lifetime of their 25 Year Plan, doubling resource productivity, and eliminating avoidable waste of all kinds by 2050.

In the 25 Year Environment Plan, the Government pledged to leave the environment in a better condition for the next generation. Their Strategy sets out how to meet that commitment and will be supported by a series of consultations on known problem areas, such as packaging waste.

They want to prolong the lives of the materials and goods that are used, and move society away from the inefficient 'linear' economic model of 'take, make, use, throw'. A more circular economy will keep resources in use as long as possible, and extract maximum value from them.

Actions we should all be taking now

Reduce

We should all avoid products with excessive packaging - the production of the packaging uses additional energy. The extra volume and weight will have to be transported (by lorries, aircraft, ships etc.). The packaging will be thrown out and will need to be collected from people's home by large waste disposal vehicles.

Re-use

Everyone should try and re-use products for as long as feasibly possible. Gifting items to charity is also an excellent form of recycling. Charities not only sell old clothes, but would also appreciate other house hold items, such as books, music CDs, videos, etc. As well as saving the planet against global warming people can also help others.

Recycle

Recycling uses less energy and produces less pollution than making things from scratch.

For example:-

making aluminium cans from old ones uses one twelfth of the energy to make them from raw materials.

For glass bottles, 315kg of CO₂ is saved per tonne of glass recycled after taking into account the transportation and processing. Making bags from recycled polythene takes one third the Sulphur Dioxide and half the Nitrous Oxide, than making them from scratch.

Composting

Another form of recycling is composting household and garden waste. A garden composter helps fertilize soil, making plants and vegetables grow better. Using home made compost will minimise depletion of peat bogs, reduces the number of refuse collections needed, and reduces the strain on waste disposal sites.



Action Plan 4

Waste and recycling

| Objective | Actions Sandwell Council can take | Timescale |
|---|---|-------------|
| 4.1 Reduce the volume of waste generated in the Borough, through the use of technological and behavioural changes | Engage the public, communities and businesses through boroughwide behavioural change initiatives to provide a greater understanding of waste issues and best practices to reduce the volume of waste they produce borough-wide. | Medium Term |
| | Promote initiatives and campaigns to reduce waste across the borough, alongside introducing water fountains across the borough to reduce single use plastic waste. | Medium Term |
| | Investigate ways to eliminate the remaining 7% of waste going to landfill and implement into council policy. | Long Term |
| | Explore developing repair and reuse facilities, workshops and skill sharing across the borough. | Medium Term |
| | Explore how the council can become single-use plastic 'free' by 2025. | 2025 |
| | Explore the opportunities of an initiative with social enterprises to tap into the funding to help change behaviours and/or delivering fuel from waste. | Medium Term |



Action Plan 4 Waste and recycling

| Objective | Actions residents can take | Timescale |
|---|--|------------------|
| 4.1 Reduce the volume of waste generated in the Borough, through the use of technological and behavioural changes | Take responsibility for the waste they create and actively try to re-use or recycle. | Short Term |
| | Actions businesses can take | |
| | Take the lead in reducing consumption and waste. | Medium Term |
| | Actions partners can take | Timescale |
| | Broader communications across the Combined Authority on the positives of reducing or re-using waste. | Short Term |



Action Plan 4

Waste and recycling

| Objective | Actions Sandwell Council can take | Timescale |
|--|--|-------------|
| 4.2 Maximise recycling and food waste collections across the Borough through the use of behavioural changes. | Engage the public, communities and businesses through borough-wide behavioural change initiatives. | Medium Term |
| | Engage the public, communities and businesses on changes to collection frequencies for refuse and recycling. | Medium Term |
| | To meet the Government's recycling target of 65% by 2035. | 2035 |
| | Promote initiatives and campaigns to maximise collection rates of recycling and food from domestic and commercial properties across the borough. | Short Term |
| | Explore the opportunities of food waste collections from commercial properties. | Medium Term |
| | Explore what partners are available in the Borough to create a Sustainable Food Network. | Medium Term |
| | Explore the impact of deposit and return schemes to recycling rates and litter across the borough. | Short Term |



Action Plan 4 Waste and recycling

| Objective | Actions residents can take | Timescale | |
|--|---|-------------|--|
| 4.2 Maximise recycling and food waste collections across the Borough through the use of behavioural changes. | Purchase only the food they need from local companies that support the Circular Economy. | Short Term | |
| | Take responsibility for the waste they create and avoid single-use containers. When that isn't possible, try to buy food packaged in paper, cardboard or glass. | Short Term | |
| | Buy lightly used products rather than new and donate anything no longer needed that is still working. | Short Term | |
| | Make, grow and compost as much food as possible at home. | Short Term | |
| | Carry reusable water bottles, takeout containers and straws. | Short Term | |
| | Actions businesses can take | | |
| | Consider the types of packaging they use and the way these can be re-used or recycled. | Medium Term | |
| | Actions partners can take | | |
| | Broader communications across the Combined Authority on the positives of re-use/recycling. | Short Term | |



Action Plan 4 Waste and recycling

| Objective | Actions Sandwell Council can take | Timescale |
|--|--|-----------|
| 4.3 Improve waste management and ownership through the implementation of effective regulations and policy. | Keep up to date with national policies on waste and seek to contribute and influence new waste regulations. | On-going |
| | Review and develop the Council's waste strategy in line with Government policy and regulations. | On-going |
| | Actions residents can take | |
| | Participate in any consultations needed to improve waste collections. | On-going |
| | Actions businesses can take | |
| | Keep up to date with national policies on waste and seek to contribute and influence new waste regulations. | On-going |
| | Actions partners can take | |
| | Government can help by providing financial support to the establishment of new waste system infrastructure and initiatives and provide clarity on future upstream and downstream waste arrangements to tackle waste issues systemically. | On-going |



Action Plan 5

Adaptation and resilience



Action Plan 5 Adaptation and resilience

Introduction

This chapter details how Sandwell can become more resilient to the impacts of climate change via adaptive actions in priority areas. The UK Climate Impacts Programme predict that Sandwell will have hotter drier summers and warmer wetter winters. Therefore we need to take action such as planting more urban trees to cool the Borough during heatwaves and to help reduce flooding; ensuring adaptation is considered at all levels of decision making; embedding adaptation within planning policy; and ensuring impact assessments are undertaken to maximise any opportunities and mitigate any risks; and ensuring that service areas have plans in place to enable them to continue delivering during disruption.

Stern Review (2006)¹² made a clear case for investing in adaptation - if we invest 2% of our annual Gross Domestic Product (GDP) now, it will prevent global GDP being up to 20% lower than it otherwise might be. Therefore, investing in climate change mitigation and adaptation is a pro-growth strategy for the long-term future of Sandwell.

The UKCIP 2005 report *Measuring Progress*¹³ highlights the risks and opportunities of climate change in the West Midlands.

Key Opportunities

- Reduced problems for livestock freezing in winter
- Greater opportunities for forestry
- Wetter winters benefit biodiversity in wetland areas
- Less fuel poverty
- Reduced damage to infrastructure from freezing weather and ice
- Reduced need for railway point heaters in winter
- More walking and cycling for work and leisure

Key Challenges

- Land use limited by higher flood risk
- Urban drainage systems, may not be able to accommodate intense precipitation
- Increased flood risk on major rivers
- Power stations constrained by water availability
- Intense rainfall and storm damage to buildings
- Increased rail safety and maintenance requirements

The three main actions in this section are:

1. To enhance our green spaces, planting strategically, based on evidence around the need for cooling, exposure to flooding, and to achieve maximum carbon sequestration.
2. The people, places, infrastructure and organisations in Sandwell need to boost their resilience to 'locked in' climate breakdown. Significant changes are inevitable as they have already happened or are already guaranteed to happen. This will require investment and for SMBC to think differently about nature-based solutions to climate change, as well as how we build our communities.
3. To ensure a better-informed population that understand the impacts and implications of climate change.

There are many synergies with other chapters in this strategy as reducing demand for energy and resources will not only improve our resilience but also reduce the emissions that result in climate change.

¹³<http://www.lse.ac.uk/GranthamInstitute/publication/the-economics-of-climate-change-the-stern-review/>

¹²<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

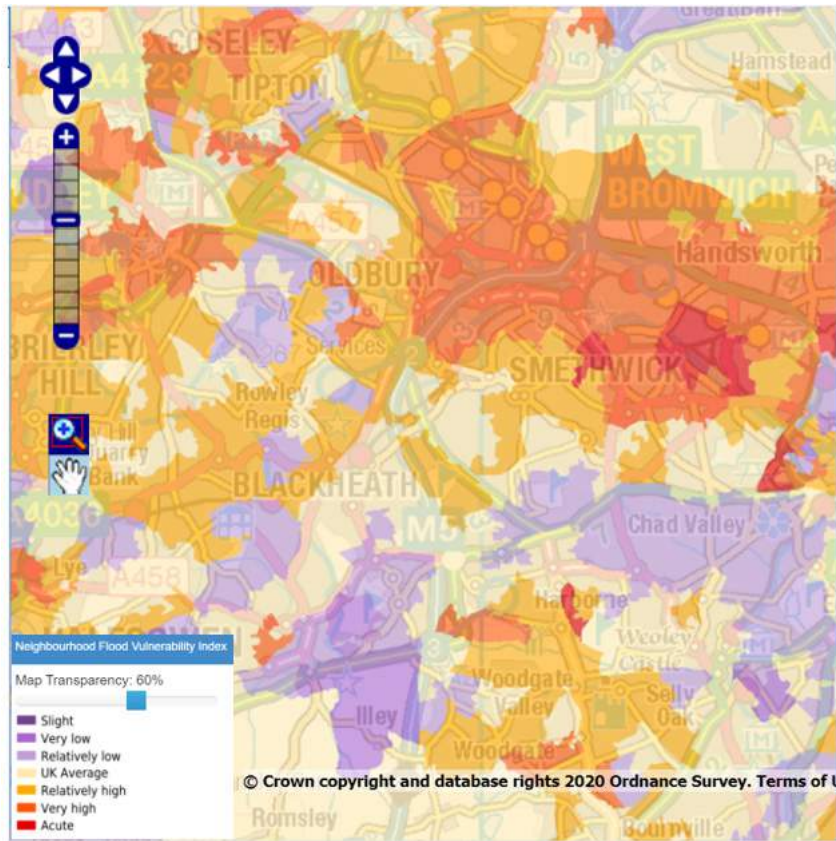




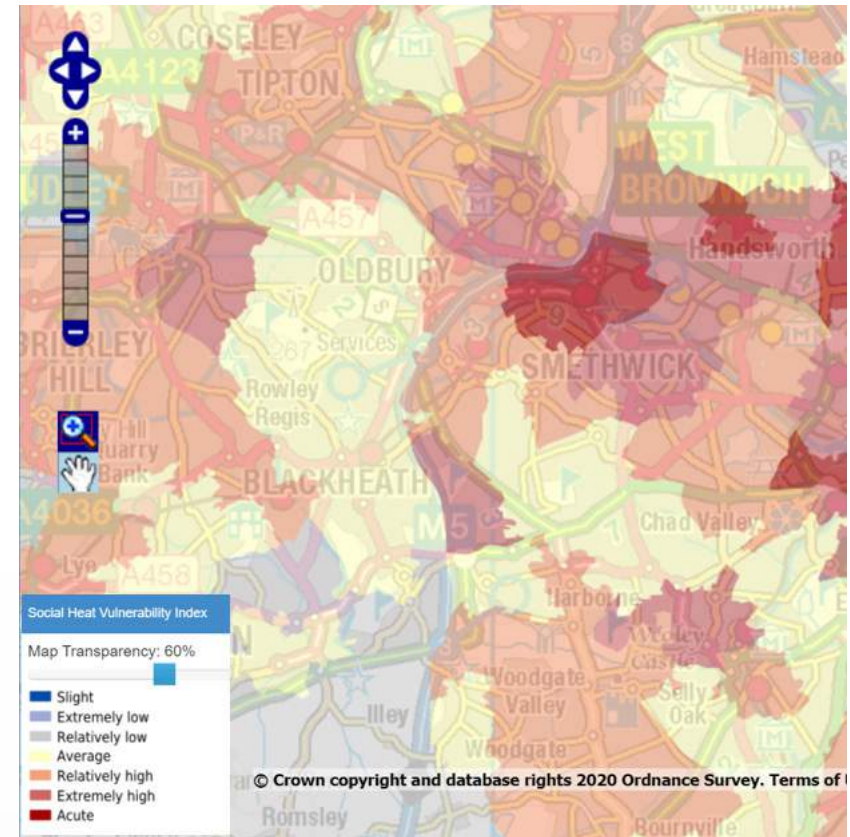
Action Plan 5 Adaptation and resilience

Mapping of Vulnerability in Sandwell using the Climate Just Mapping Tool (www.climatejust.org.uk/)

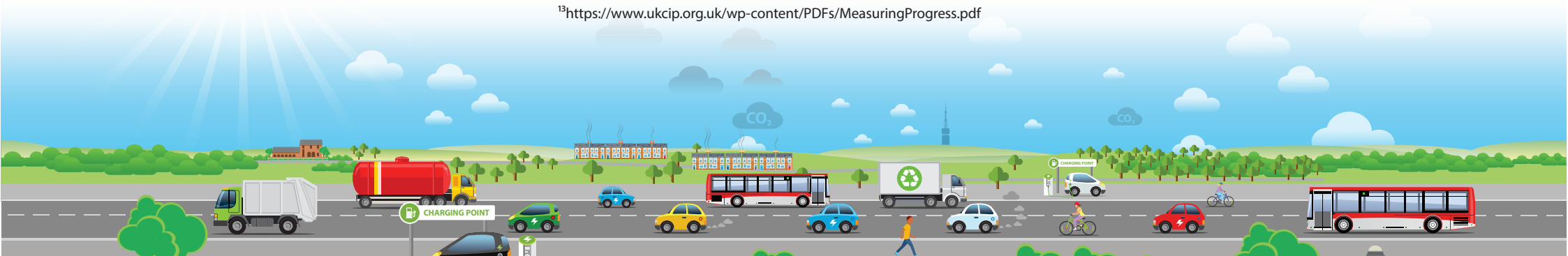
Flood Vulnerability



Heat Vulnerability



¹³<https://www.ukcip.org.uk/wp-content/PDFs/MeasuringProgress.pdf>



Action Plan 5

Adaptation and resilience

Aim: To protect and expand the Borough's trees and green and open spaces whilst maximising their flood risk, cooling, physical and mental health, biodiversity, air quality, noise and carbon sequestration benefits.

| Objective | Actions Sandwell Council can take | Timescale | |
|---|--|-------------|--|
| 5.1 Develop a better understanding of the borough's tree stock and its role in carbon sequestration | Devise a method for calculating the extent of the borough's tree stock. | Medium Term | |
| | Research methods for assessing trees in terms of their ability to sequester carbon. | Short Term | |
| | Establish potential for a pilot scheme for planting road-side trees to help inform a future programme of borough-wide tree planting. | Medium Term | |
| | Explore the potential for a tree 'planted for every resident target'. | Short Term | |
| | Plant 15,000 trees across the borough. | Short Term | |
| | Establish a replacement ratio for developers to minimise tree loss during new developments. | Medium Term | |
| | Work with partners and private landowners in Sandwell to investigate opportunities for planting new woodlands. | Short Term | |
| | Actions residents can take | | |
| | Support council initiatives for localised recording of trees. | Medium Term | |
| | Become involved in the planting of 15,000 new trees. | Short Term | |



Action Plan 5

Adaptation and resilience

| Objective | Actions businesses can take | Timescale | |
|---|--|-------------|--|
| 5.1 Develop a better understanding of the borough's tree stock and its role in carbon sequestration | Support council initiatives for localised recording of trees. | Medium Term | |
| | Become involved in the planting of 15,000 new trees. | Short Term | |
| | Support initiatives for tree planting and establishing new woodlands. | Medium Term | |
| | Actions partners can take | | |
| | Offer advice and guidance on how to record and assess tree stock. | Medium Term | |
| | Work with the Forestry Commission to ensure a more viable tree stock within the city, implementing a tree valuation procedure to ensure the most important trees are sufficiently regarded and protected, and by planting larger new trees with longer life spans. | Long Term | |
| | Support initiatives for tree planting and establishing new woodlands. | Medium Term | |
| | Work with Sandwell MBC and WMCA to identify land in the West Midlands to establish new woodlands. | Medium Term | |



Action Plan 5

Adaptation and resilience

| Objective | Actions Sandwell Council can take | Timescale | |
|--|---|------------|--|
| 5.2 To ensure risk contingency procedures are in place | Incorporate emergency measures into contingency plans to enable services to cope in the event of a water shortage, flood or drought. | On-going | |
| | Ensure an effective heatwave response and recovery health plan is in working order. | On-going | |
| | To develop a layered GIS mapping system to aid the identification of the Borough's most vulnerable people in relation to the effects of climate change. | On-going | |
| | To evaluate whether current planning policy is aligned with adaptation objectives e.g. by restricting building projects in areas at risk of flooding. | On-going | |
| | Actions residents can take | | |
| | Identify local resources e.g. community halls, 4X4 vehicles that might be of use in an emergency. | Short term | |
| | Participate in emergency exercises to test current plans and arrangements. | Short term | |
| | Consider taking actions which can mitigate surface water flooding, including minimising use of water. | On-going | |
| | Actions businesses can take | | |
| | Update business continuity plans to ensure water (both excess and shortage) and heat (both cold snaps and overheating) are covered. | Short term | |
| | Ensure measures are in place to prepare your workforce to climate impacts, people who work outside will be especially prone to temperature impact. | Short term | |
| | Actions partners can take | | |
| | Environment Agency and Forestry Commission to look into 'shade trees' to provide shelter and screening from sun. | Short term | |
| Local Resilience Forum to feed into organisations heatwave plans and the Department of Health and Social Care to send out heatwave warnings. | On-going | | |



Action Plan 5

Adaptation and resilience

| Objective | Actions Sandwell Council can take | Timescale | |
|--|---|------------|--|
| 5.3 To ensure the Borough is well informed about climate change issues and options | Engage with schools and communities about the impacts of climate change. | Short term | |
| | Ensure an effective heatwave response and recovery health plan is in working order. | Short term | |
| | Actions residents can take | | |
| | Work with the Council to ensure your communities are engaged and empowered with the knowledge of climate change impacts and adaptation through appropriate forums and other communications materials. | Short term | |
| | Actions businesses can take | | |
| | Work with the Council through a partnership and other communications materials to ensure your business is engaged and empowered with knowledge of climate change impacts and adaptation. | Short term | |
| | Ensure your workforce is well-informed of climate change issues. | Short term | |
| | Actions partners can take | | |
| | Work with Sandwell College to ensure all students receive a course in climate change. | Short term | |
| | Work with primary and secondary schools in Sandwell to embed climate change into their curriculum. | Short term | |



Action Plan 6

Natural Capital



Action Plan 6 Natural Capital

Natural Capital refers to any part of the natural world which benefits people. It can provide and underpin a range of services (often referred to as ecosystem services) to people including economic, social, environmental, cultural and spiritual¹⁵.

Through taking a Natural Capital approach, it is possible to highlight the various ways that nature provides a foundation for human health, wealth, identity and happiness. Sandwell's Natural Capital includes its nature reserves, parks, trees, streams, rivers, ponds, lakes, meadows, woodlands, allotments, playing fields.

Sandwell contains significant amounts of natural and semi-natural space with almost a quarter of all land (23.7%) being some form of green space. There are 1200 hectares of accessible green space spread across 323 sites.

The largest area of natural green space is Sandwell Valley Country Park, which contains several designated wildlife sites, including three Local Nature Reserves. A further six Local Nature Reserves, and multiple other wildlife sites are spread across the borough.

Currently Sandwell has 3.63 hectares of green space per 1000 population which has fallen from 4.24 in 2006. This fall is largely due to population increase and by 2030 the ratio of green space is predicted to fall further to 3.3 hectares per 1000 population. Sandwell's Green Space Strategy 2020 – 2030 provides further analysis of the uneven distribution of green space across the borough and recommends that measures are taken to address this in geographical areas which are particularly poorly served with green space.

¹⁵ <https://naturalcapitalcoalition.org/natural-capital-2/>

As an urban and densely populated borough with almost no access to surrounding countryside, Sandwell is impacted by the 'urban heat island effect', which is when average temperatures are higher than nearby rural or suburban areas, due to the amount of the sun's heat which is absorbed by man-made materials, such as tarmac and concrete.



**Forge Mill Lake,
Sandwell Valley Country Park**





Action Plan 6 Natural Capital

Since the mid-1940s and following the intensification of farming, wildlife in Britain's countryside has suffered from a loss of habitats and has seen significant declines in many species of both plants and animals. We depend upon the countryside for much of our food, most of which would not grow without being pollinated by insects.

Although Sandwell is an urban borough, it still has an important role to play in providing habitats for wildlife and in particular insects, which in turn pollinate the food grown within and outside of Sandwell. This document includes measures which could result in more food being grown in Sandwell, something that will largely only be possible if suitable habitats are provided for pollinators such as solitary bees.

Increasingly the natural world is being understood as an essential ingredient in ensuring our well-being and continued survival on earth. Natural Capital plays a vital role in reducing the impacts of climate change, e.g. surface water flooding and extreme heat, but it also absorbs carbon.

In this sense, Sandwell's Natural Capital is a key component in the plan to reduce the borough's emissions.

The range of benefits to Sandwell from green spaces also include: the positive impact upon property prices; an improved image as a place to invest; cleaner air; improved mental and physical well-being and a home for wildlife.

For a long time, economic models have paid little attention to Natural Capital, despite being entirely dependent upon it, e.g. in the provision of raw materials upon which so much production is dependent. The journey to becoming carbon neutral by 2041 must have natural capital at its core and recognise its role in our lives, as well as providing many of the solutions posed by climate change.



Roadside Verge A41 West Bromwich



Action Plan 6 Natural Capital

| Objective | Actions Sandwell Council can take | Timescale |
|---|--|-------------|
| 6.1 Create an integrated approach to the management of green spaces to allow the mitigation and adaptation benefits to be realised. | Support the Greenspace Strategy Delivery Board. | Short Term |
| | Support the development of an investment strategy for green spaces. | Short Term |
| | Create a Natural Capital Working Group. | Short Term |
| | Identify opportunities for creating wildlife-friendly corridors. | Short Term |
| | Undertake a pilot study to consider the practicality of removing areas of 'hard landscaping' and replacing them with vegetation. | Medium Term |
| | Investigate and cost opportunities to increase the amount of strategically placed green spaces, trees and water bodies within the city to reduce the risk of pluvial/ fluvial flash flooding from intense/ prolonged periods of precipitation. | Medium Term |
| | Work with residents to use offsetting practices (e.g. tree planting) as an educational opportunity about the issues we face and the available solutions. | Medium Term |
| | Ensure all departments involved in land management are represented on the Natural Capital Working Group. | Short Term |



Action Plan 6 Natural Capital

| Objective | Actions residents can take | Timescale |
|---|---|-------------|
| 6.1 Create an integrated approach to the management of green spaces to allow the mitigation and adaptation benefits to be realised. | Join existing or create new volunteer groups to support work on local green spaces. | Short Term |
| | Leave part of your garden wild, make habitats for wildlife and plant trees to absorb carbon dioxide. | Short Term |
| | Actions businesses can take | |
| | Investigate options for local businesses to off-set their emissions by investing in natural capital. | Long Term |
| | Actions partners can take | |
| | Offer advice and guidance on achieving mitigation and adaptation benefits. | Short Term |
| | Work with the Environment Agency to conduct green infrastructure surveys of the Borough to gain better baseline data. When mapped, this data could identify losses of connectivity and areas for priority action. | Medium Term |



Action Plan 6 Natural Capital

| Objective | Actions Sandwell Council can take | Timescale |
|---|---|-------------|
| 6.2 Understand the potential measures (and their costs) which would increase the biodiversity and climate change value of green spaces and roadside verges. | Identify and categorise green spaces, e.g. type of habitat. | Short term |
| | Produce outline plan for site improvements. | Medium term |
| | Produce indicative costs for above improvements. | Medium term |
| | Actions residents can take | |
| | Join existing or create new volunteer groups to support work on local green spaces. | Short term |
| | Actions businesses can take | |
| | Offer resources or in-kind support for enhancing local green spaces. | Long term |
| | Actions partners can take | |
| | Offer advice and guidance on enhancement measures for green spaces. | Short term |



Action Plan 6 Natural Capital

| Objective | Actions Sandwell Council can take | Timescale |
|--|--|------------|
| 6.3 Enhance the role of Planning in embedding a requirement for Natural Capital in future development. | Establish existing 'workable' regulations used by other councils regarding the role of natural capital in new developments. | Long Term |
| | Ensure new regulations account for any tree loss by including a replacement ratio or a requirement for equivalent local investment in natural capital. | Long Term |
| | Investigate and cost opportunities to use increased amounts of green infrastructure, such as rainwater harvesting, as part of council building projects. | |
| | Actions businesses can take | |
| | Comply fully with any new regulations relating to Natural Capital. | Long Term |
| | Aim to enhance existing premises with elements of Natural Capital. | Long Term |
| | Actions partners can take | |
| | Offer advice and guidance on adopting and implementing new policies around natural capital. | Short Term |



Glossary

CO2

Carbon dioxide

GHG

Greenhouse Gas

SCATTER

Setting City Area Targets and Trajectories for Emissions Reduction

SMBC

Sandwell Metropolitan Borough Council

UKCCC

UK Committee on Climate Change

VCSE

Voluntary, Community and Social Enterprise

WMCA

West Midlands Combined Authority



Appendix 1: High Ambition pathway actions recommended by SCATTER for Sandwell

| | | |
|---------------------------------|---|--|
| Agriculture and land use | Forestry | 24% increase in forest cover by 2030. |
| | Land Management | 7% decrease in grassland. Cropland decreases 1%; increase in the coverage of settled land. |
| | Livestock Management | 0.5% annual reduction in livestock numbers. |
| | Tree planting | Tree-planting to increase current coverage by 30% by 2030; from 2030-2050 further increase of 20%. |
| Domestic energy | Lighting, appliances, and cooking - Demand | By 2050, domestic lighting and appliance total energy demand has dropped to 27% of current levels. |
| | Lighting, appliances, and cooking - Electrification | Small reductions in efficiency of domestic cooking. Proportion of cooking which is electric increases to 100% in 2050. |
| | Space heating and hot water - Demand | Hot water demand per household reduces by 8% every 5 years. |
| | Space heating and hot water - New build | From 2021, 100% new-build properties are built to passivhaus standard. |
| | Space heating and hot water - Retrofit | By 2050, 10% of current stock is retrofitted to a medium level; 80% deep retrofit. |
| | Space heating and hot water - Technology | By 2050, 7% resistive heating; 60% air-source heat pumps and 30% ground-source heat pumps; 3% district heating. |



Appendix 1: High Ambition pathway actions recommended by SCATTER for Sandwell *(continued)*

| | | |
|-------------------|------------------------------|--|
| Energy generation | Biomass/Coal power stations | Solid biomass generation quadruples in 2025, dropping off after that. ; Coal phase-out follows trajectories from the National Grid's Two Degrees scenario. |
| | Hydroelectric power stations | Hydroelectric power generation grows to 34 MWh per hectare inland water in 2030; 41 in 2050. |
| | Offshore wind | Large-scale onshore wind generation grows to 4.8 MWh per hectare in 2030; 6.9 MWh in 2050. |
| | Onshore wind | Large-scale onshore wind generation grows to 1.9 MWh per hectare in 2030; 2.2 MWh in 2050. |
| | Small-scale wind | Small-scale wind grows to 2.8 MWh per hectare in 2030; 3.3 in 2050 (from a baseline of 1.2 MWh per hectare.). |
| | Solar PV - Large | Large-scale solar generation grows to 200 kWh per hectare in 2030; 400 in 2050 (from a baseline of 50 kWh per hectare.). |
| | Solar PV - Small | Local solar capacity grows, generating equivalent to 2500 kWh per household in 2030; 5200 in 2050 (from a baseline of 400 kWh per household.). |
| | Tidal and Wave | For areas with wave / tidal power, 320-fold increase by 2030, 1300-fold increase by 2050. |



Appendix 1: High Ambition pathway actions recommended by SCATTER for Sandwell *(continued)*

| | | |
|----------------------|--|---|
| Commercial processes | Heating and cooling - Demand | In 2050, commercial heating, cooling and hot water demand is 60% of today's levels. |
| | Heating and cooling - Technology | By 2050, 7% resistive heating; 60% air-source heat pumps and 30% ground-source heat pumps; 3% district heating. |
| | Lighting, appliances, and catering - Demand | Commercial lighting & appliance energy demand decreases 25% by 2050. |
| | Lighting, appliances, and catering - Electrification | By 2050, 100% of commercial cooking is electrified. |
| Industrial processes | Efficiency | Industrial electricity consumption is 50% of total energy consumption by 2035; 65% by 2050. Output falls by 2% every year for non-heavy industry. |
| | Output | Reductions in process emissions from all industry: general industry reduces process emissions at a rate of 4.5% per year. Chemicals emissions reduce 1% per year; metals 0.7% per year, and minerals 0.8% per year. |



Appendix 1: High Ambition pathway actions recommended by SCATTER for Sandwell *(continued)*

| | | |
|--|--|---|
| Domestic transport | Domestic freight | By 2050, 22% decrease in distance travelled by road freight; 75% increase in efficiency. In waterborne transportation, 28% increase in use of waterborne transport. |
| | Domestic passenger transport - Demand | 25% reduction in total distance travelled per individual per year by 2030. |
| | Domestic passenger transport - Modal shift | Average modal share of cars, vans and motorbikes decreases from current national average 74% total miles to 38% in 2050. |
| | Domestic passenger transport - Technology | Cars and buses are 100% electric by 2035, rail is 100% electric by 2030. Average occupancies increase to 18 people per bus km (from 12), 1.65 people per car-km (up from 1.56), and 0.42 people per rail-km (from 0.32). |
| International transport | International aviation | Department for Transport "Low" forecast for aviation. The "Low" forecast encapsulates 'lower economic growth worldwide with restricted trade, coupled with higher oil prices and failure to agree a global carbon emissions trading scheme. For reference see Pathways Methodology. |
| | International shipping | By 2050, 28% decrease in fuel use at UK ports. |
| Volume of Waste & Recycling | Recycling | 65% recycling, 10% landfill, 25% incineration achieved by 2035, recycling rates increasing to 85% by 2050. |
| | Waste Reduction | Total volume of waste is 61% of 2017 levels by 2040. |



Appendix 2:

The table below presents the ambitions of Sandwell Vision 2030 and how this strategy can be aligned with them.



| | | |
|-------------------|--|----------|
| Ambition 1 | Sandwell is a community where our families have high aspirations and where we pride ourselves on equality of opportunity and on our adaptability and resilience. | 1 |
| Ambition 2 | Sandwell is a place where we live healthy lives and live them for longer, and where those of us who are vulnerable feel respected and cared for. | 2 |
| Ambition 3 | Our workforce and young people are skilled and talented, geared up to respond to changing business needs and to win rewarding jobs in a growing economy | 3 |
| Ambition 4 | Our children benefit from the best start in life and a high quality education throughout their school careers with outstanding support from their teachers and families. | 4 |

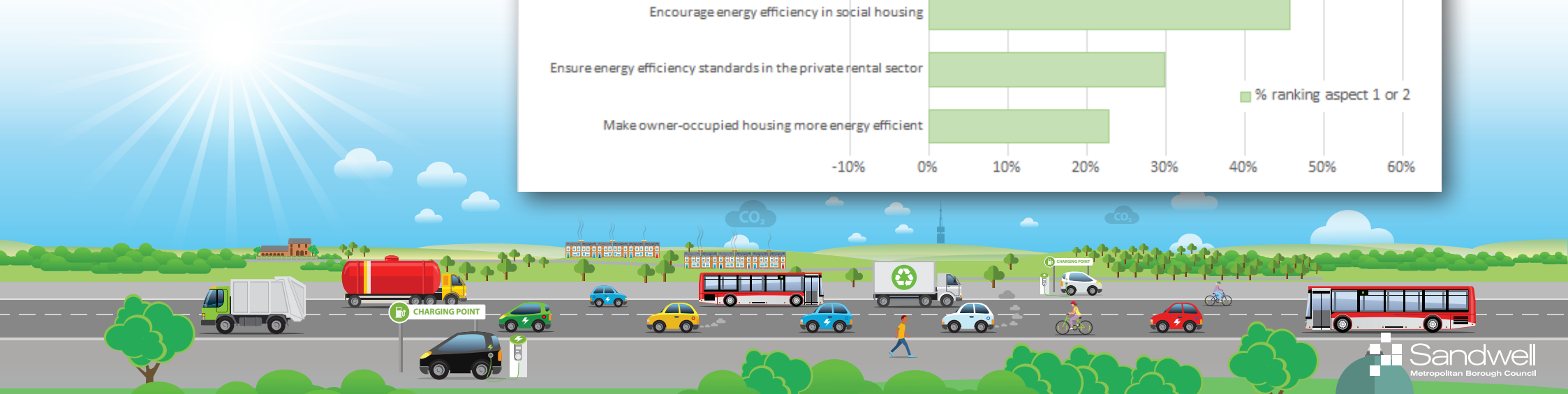
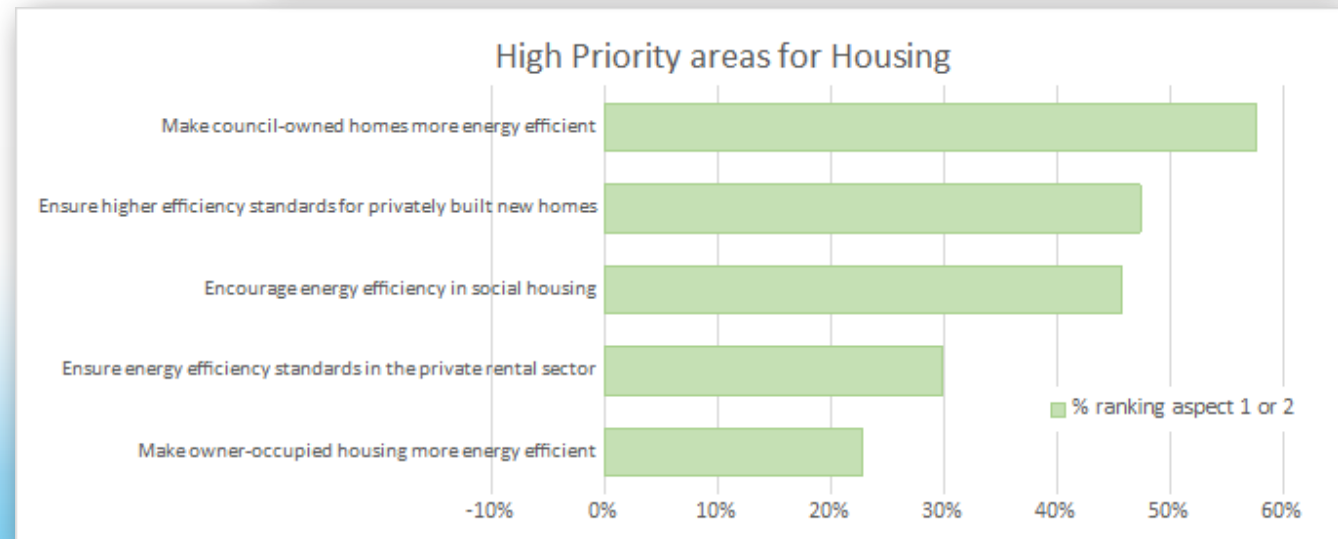
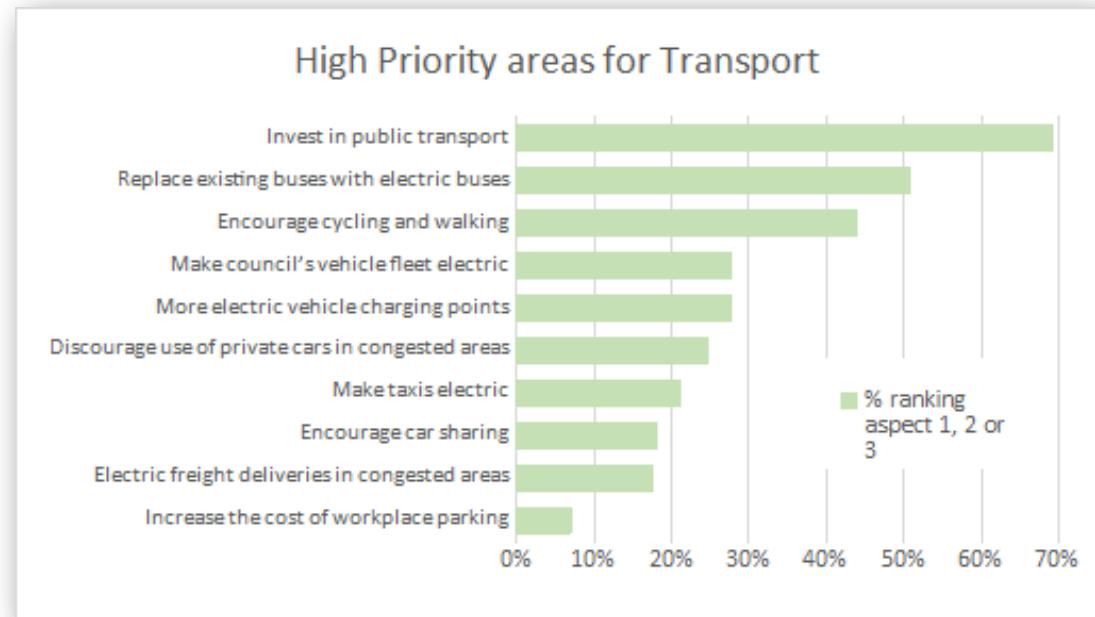
| | | |
|--------------------|--|-----------|
| Ambition 5 | Our communities are built on mutual respect and taking care of each other, supported by all the agencies that ensure we feel safe and protected in our homes and local neighbourhoods. | 5 |
| Ambition 6 | We have excellent and affordable public transport that connects us to all local centres and to jobs in Birmingham, Wolverhampton, the airport and the wider West Midlands. | 6 |
| Ambition 7 | We now have many new homes to meet a full range of housing needs in attractive neighbourhoods and close to key transport routes. | 7 |
| Ambition 8 | Our distinctive towns and neighbourhoods are successful centres of community life, leisure and entertainment where people increasingly choose to bring up their families. | 8 |
| Ambition 9 | Sandwell has become a location of choice for industries of the future where the local economy and high performing companies continue to grow. | 9 |
| Ambition 10 | Sandwell now has a national reputation for getting things done, where all local partners are focused on what really matters in people's lives and communities. | 10 |



Appendix 3: Results of the Sandwell Climate Change Consultation

Of the respondents to the survey, 57.9% were female, and 85.7% (541 people) were working aged adults aged 18-64. Only 23 responses were received from under 18s. The ethnic diversity of the respondents was not fully representative of the population, 80.3% were white compared with 69.9% of the general population.

The full list of options and percentage ranking each option highly are presented below, by sector.



Appendix 3: Results of the Sandwell Climate Change Consultation (continued)

