

Climate Change

Annual Report 2021/22



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Foreword

To prevent damage to our ecosystems and infrastructure and to keep global warming within critical limits, we need to take urgent action to combat climate change.

Glasgow hosted COP26 in October 2021 which really helped to increase the profile of climate change on both a national and international scale.

In 2019, Staffordshire County Council declared a climate change emergency, and made a commitment to be Net Zero by 2050.

This is our second climate change annual report and I am pleased to say our carbon emissions have reduced by 43% since declaring our climate change emergency. The impacts of Covid 19 have delayed the delivery timescales for some projects. However, in spite of this we have still managed to successfully deliver projects that have encouraged active travel, improved the energy efficiency of our schools and our corporate estate as well as planting more trees to capture carbon and clean our air.

Each year, we monitor our carbon emissions, and we regularly review our plans to identify where carbon reductions can be made.

I am encouraged to see so much interest and action being taken at a local level. We've laid strong foundations in the fight against climate change, and the momentum is building. There are still many significant challenges ahead, but I'm optimistic that we are in a good position to reach our goal.

As well as looking internally, this year has seen the formation of the Staffordshire Sustainability Board. Working with our District and Borough Council partners we are looking beyond the immediate responsibilities of the councils to see how we can influence the reduction of Staffordshire's wider carbon emissions through the work of the Board.

Simon Tagg

Staffordshire County Council

*Cabinet Member for Environment,
Infrastructure and Climate Change*

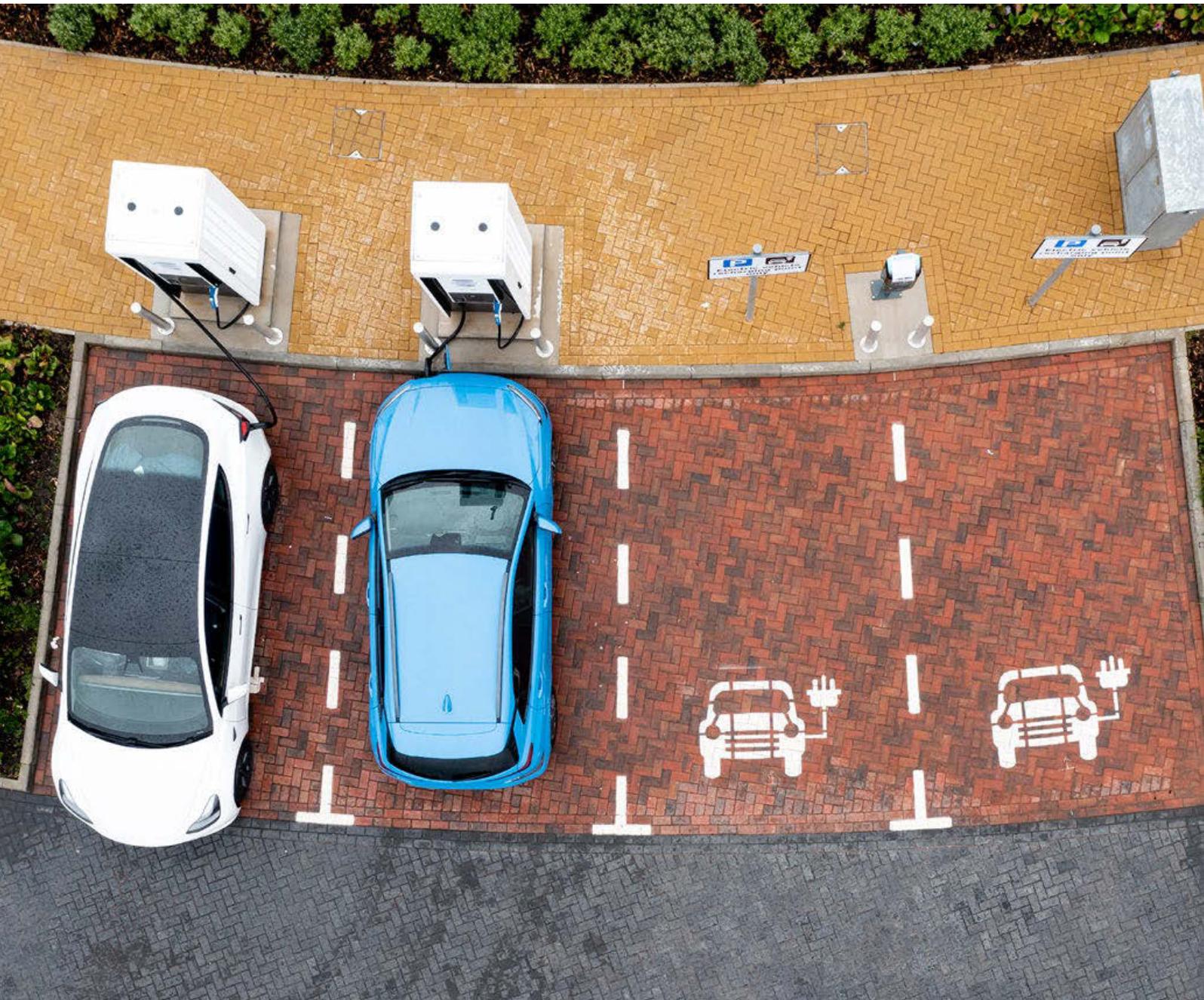


Introduction

This report provides a summary of the councils carbon emissions for 2020/21, reviews our achievements during 2021/22 and highlights some of our challenges and plans for future years.

In 2021, we reviewed our Climate Change Action Plan, and released an updated and ambitious five year plan. This Plan will be refreshed each year to make sure we remain on target to reach net

zero carbon emissions by 2050. The initial years of the Plan place significant focus on gathering and evaluating data to make sure we make the best use of public resources when implementing carbon reduction initiatives. It is recognised there is an urgency to take action and steps are being put in place for rolling out projects. This will not have an immediate significant impact, but lays the foundations for us to make the changes needed.



SCC Emissions

The carbon footprint contains information of our energy, fuel and transport emissions for buildings and assets within the council's reporting boundary. The methodology for calculating the Council's carbon footprint is outlined in Appendix 2. The emissions presented in this report represent the financial year 2020/21.

Total emissions for 2020/21 were 29,068 tonnes CO₂e representing a reduction of 23% from the previous year and 43% drop since declaring our net zero target, see Figure 1.

Figure 1 Staffordshire County Council Carbon emissions

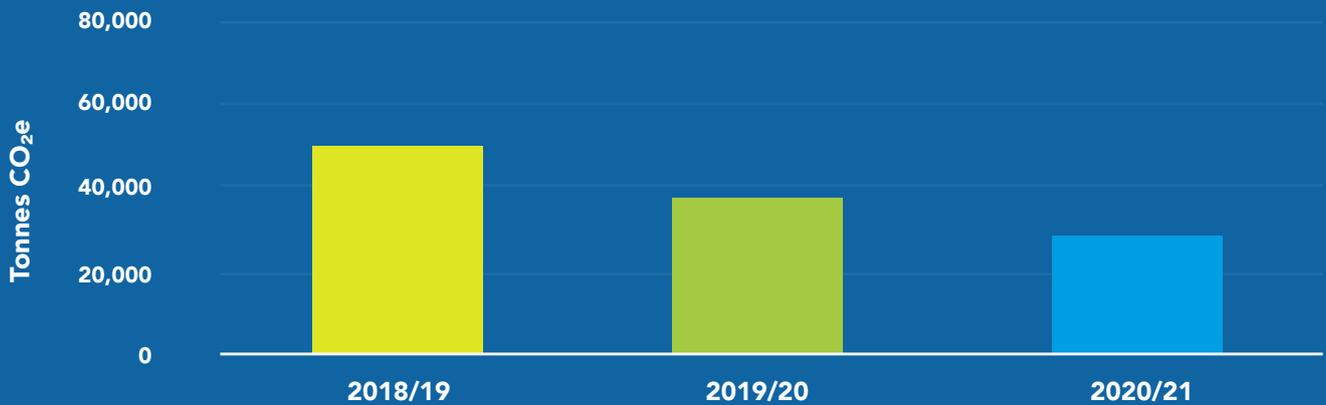
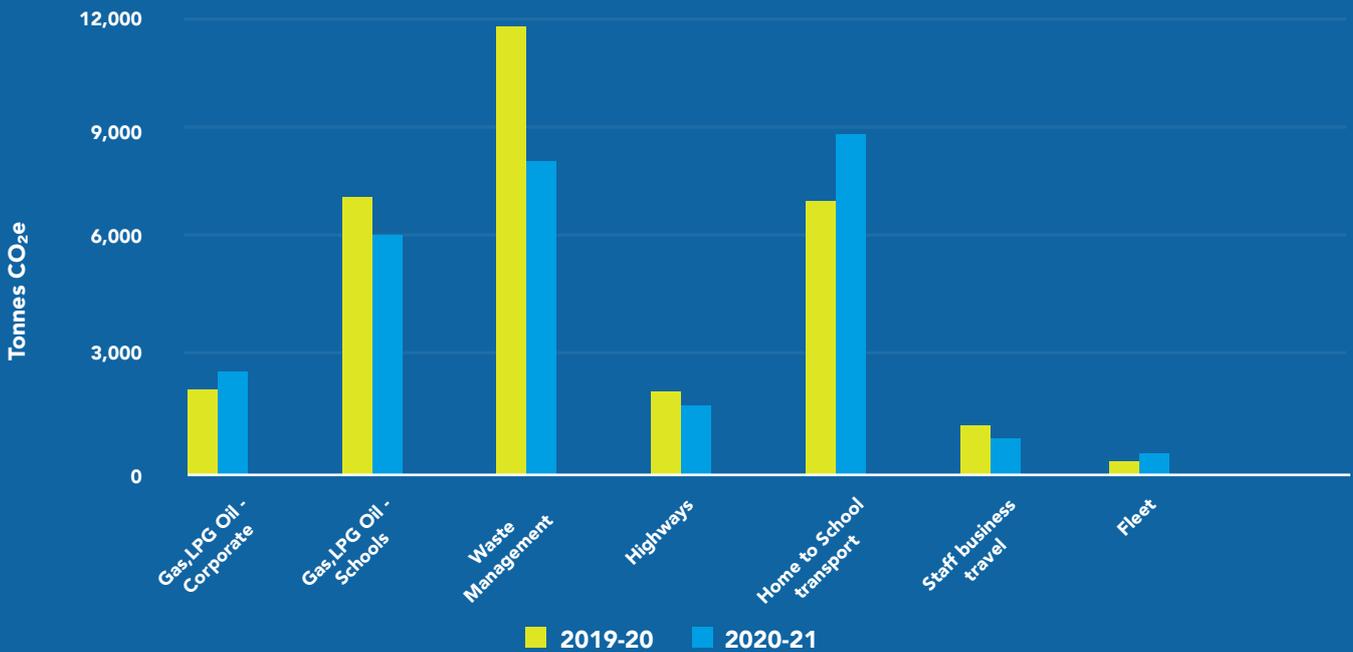
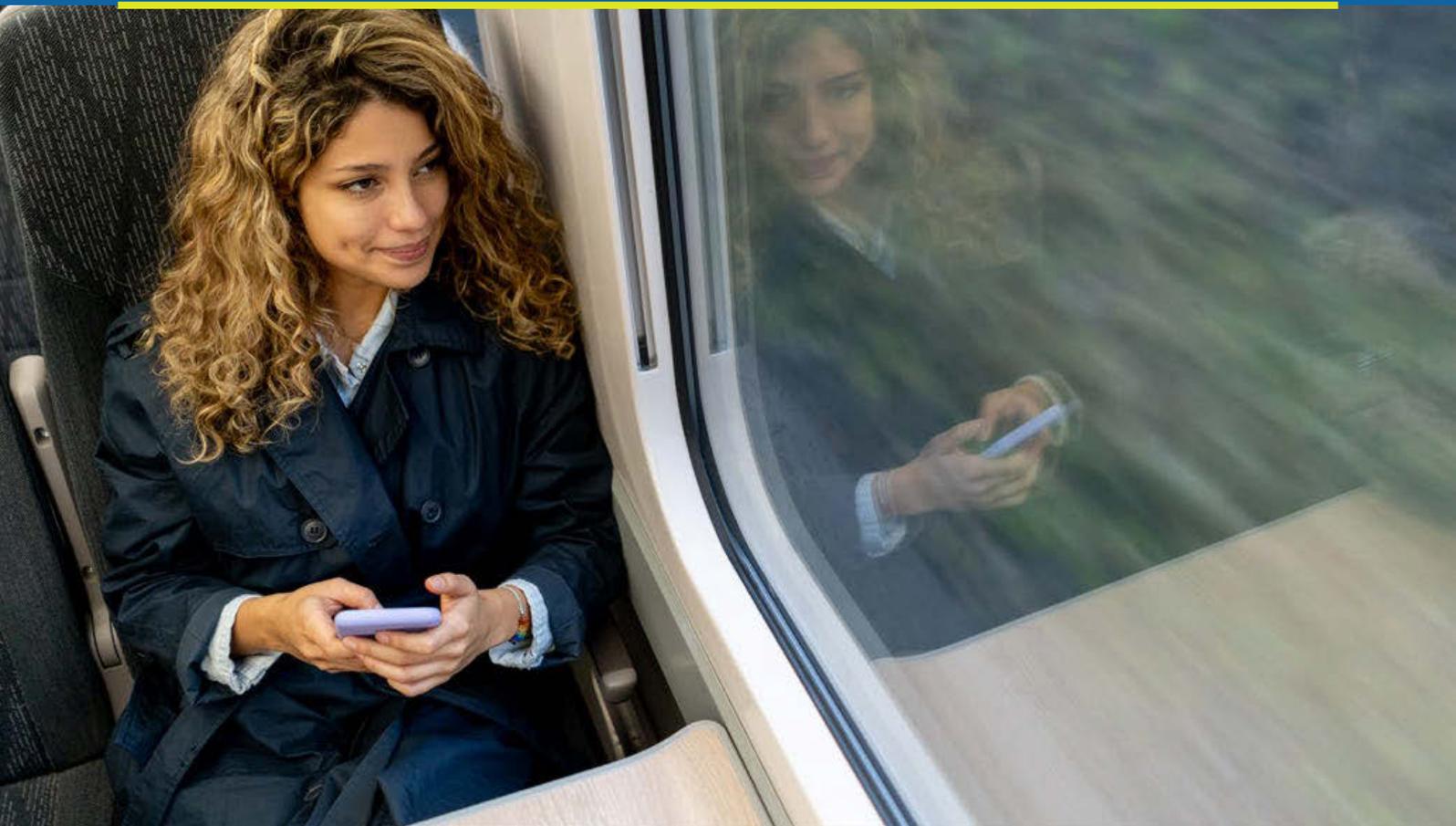


Figure two compares the emissions against 2019/20.

Figure 2 Carbon emissions comparison by area of operation





Energy efficient heating measures are being introduced across the corporate estate. Unfortunately, the work completed in 2020/21 has not been reflected in a reduction in the years annual energy consumption of the properties. This was due to Covid 19 measures, buildings had to be heated for skeleton staff with additional ventilation requiring higher energy use than under pre Covid conditions.

Similarly, this trend is also reflected in the schools energy usage. Even though pupils were not attending school for a period, the buildings were heated with extra ventilation for skeleton staff and students who needed to attend.

Although the graph shows a dip in schools CO₂e emissions in 2020/21, this can be attributed to some of our schools converting to academies and therefore are no longer included in the Council emissions. (see Appendix 2 on how we measure our carbon emissions).

Waste management is showing a considerable reduction. This represents a change in methodology for calculating the emissions to better reflect the Councils emissions from processing the waste. Total waste processed

and the methods used during this period was consistent with the previous year.

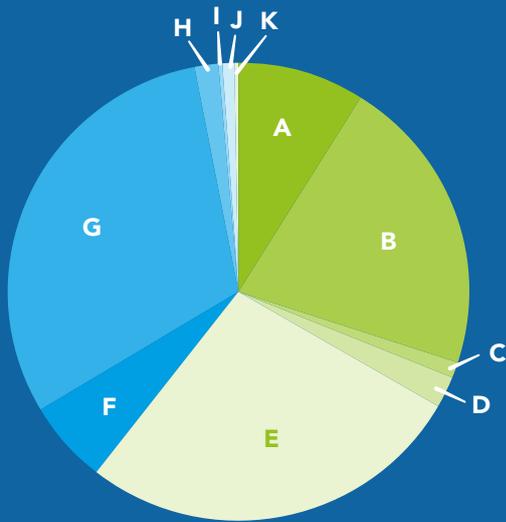
Home to school transport required an increased number of vehicles due to the Covid-19 social distancing requirements on transport. The increase in emissions reflects the increased number of vehicles required to run the service.

Staff business travel significantly reduced, largely due to the Covid 19 lockdown. However, with the easing of lockdown restrictions staff travel has continued at a lower level as online meetings have become an accepted standard practice. 2021/22 Active Travel Capability Funds have supported behaviour change activities for staff and the wider public in Stafford and Burton upon Trent. It is recognised that ongoing promotion of sustainable travel to work is essential.

Waste Management, home to school transport and heating of our corporate estate and schools continues to be the three highest areas of emissions. This collectively made up 88% of the Councils emissions for 2020/21, shown in Figure 3. These are some of the most challenging to address and our **Action Plan** identifies our approach to tackling these.



Figure 3 Carbon Emissions by area of operation for 2020/21 CO₂e



Area of Operation	tCO ₂ e
A. Gas.LPG Oil - Corporate	2,638
B. Gas.LPG Oil - Schools	6,100
C. Electricity (Corporate and Schools)	363
D. Street Lighting and ITS	603
E. Waste Management	7,909
F. Highways	1,754
G. Home to School transport	8,859
H. Staff business travel	482
I. Water	95
J. Fleet	254
K. Biomass heating	10

The CO₂e emissions associated with biomass heating has been recorded as 0 in line with the GHG Protocol Corporate Accounting and Reporting standards. This is due to the fuel source itself absorbing an equivalent amount of CO₂e during the growth phase as the amount of CO₂e released during combustion.

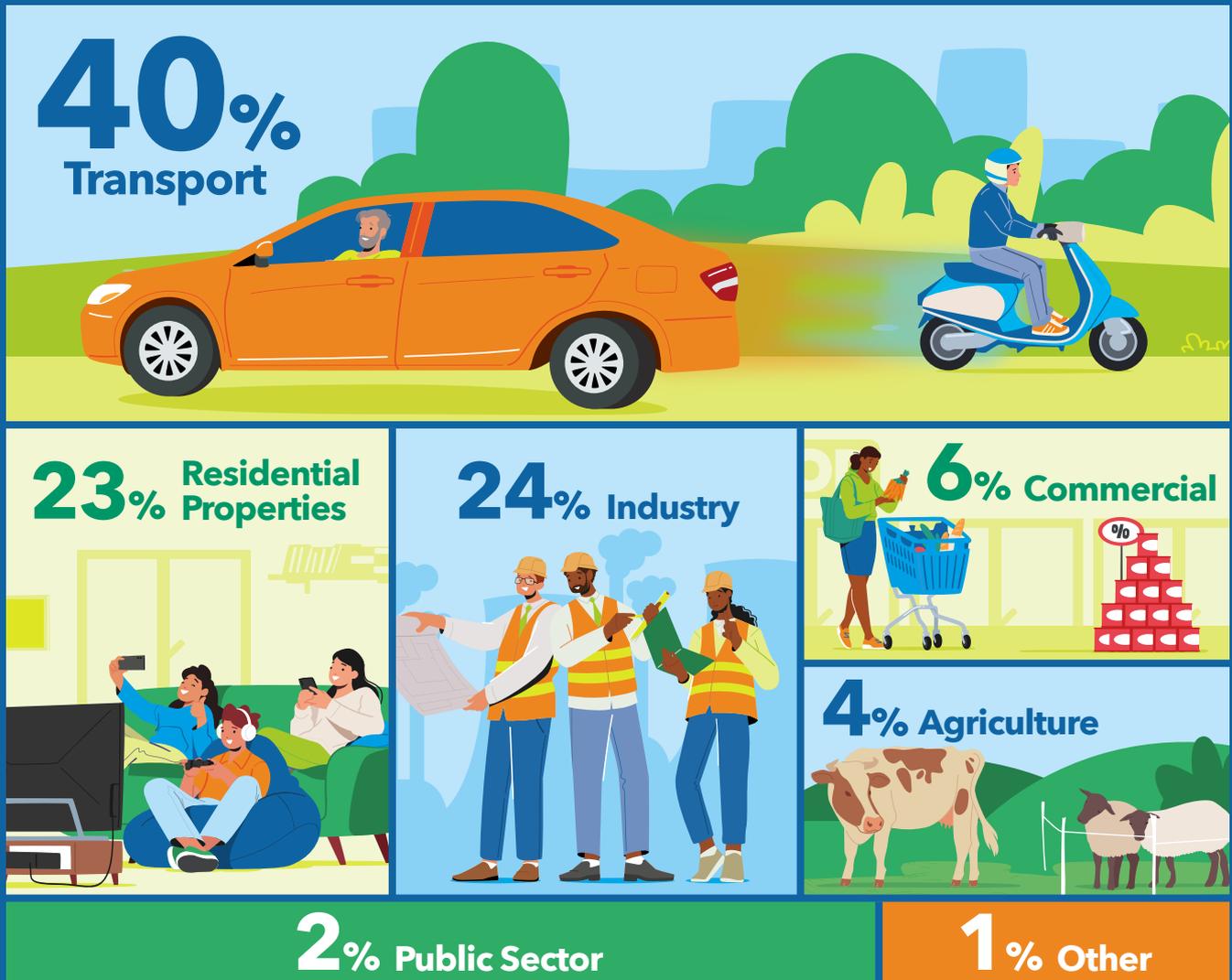
This combustion is estimated to be the equivalent of 213 tonnes of CO₂e and has been recorded as out of scope for the emissions footprint whilst acknowledging there are emissions from the combustion process. The emissions included with the Councils emissions from biomass relate to the other greenhouse gases of N₂O and CH₄ released during the combustion process.



Staffordshire Sustainability Board

Staffordshire County Council has made a formal commitment to be net carbon zero by 2050. We are also committed to using our influence to reduce the wider Counties emissions of 5.8 million tonnes. The breakdown of the source of these emissions is outlined in Figure 4.

Figure 4 Staffordshire Carbon Emission breakdown



Source: UK local authority and regional carbon dioxide emissions national statistics, BEIS

Through the Staffordshire Leaders Board the Council led on establishing the Staffordshire Sustainability Board in January 2022. The aim of the Board is to encourage and support partnership working to identify climate change resilience in Staffordshire and reduce Staffordshire’s carbon emissions footprint.

The Board is made up of elected members with a sustainability/climate change portfolio from

each of the Staffordshire authorities. The Board is supported by council directors and officers and reports to the Staffordshire Leaders Board.

In March 2022 the Board committed to developing a base pledge, with 10 commitments for action for formal approval and subsequent monitoring during 2022/23.





Achievements during 2021/22

Organisational carbon reduction

Energy generation - Solar photovoltaic panels are installed on 14 of our County Farms and 12 libraries. These generated 279,000 kwh over the year which is the equivalent of saving 70 tonnes of carbon from the grid average generated electricity. Investigations are ongoing where we can increase our photovoltaic generation.

Anti-Idling campaign - Highways Amey, the principal contractor for highways introduced an anti-idling campaign for staff on the importance of minimising idling in highways vehicles. Vehicle monitoring systems have shown that idling times were reduced by more than 50% which resulted in an annual saving of over 13 tonnes CO₂e.

A reduction in other tailpipe emissions also created less pollution and therefore improved local air quality. Software was also introduced to vehicles to monitor driving behaviour such as harsh braking and acceleration.

This monitoring software can be viewed by the driver in real-time, therefore encouraging more efficient driving behaviours and reducing fuel use.

Highway and Transport Capital Programme - Delivery of the 2021/22 highway and transport capital programme included investment of over £2.2m towards the development and construction of schemes that will improve the environment for walking and cycling in Staffordshire.

In 2021/22, the Council secured £7 million through successful bids for active travel schemes and we are awaiting announcements on bids for a further £5 million for active travel schemes through the Levelling up Fund, Social Prescribing Fund and Towns Fund. The County Council is also supporting District/Borough Councils on active travel schemes being delivered through Future High Street Funds, Levelling up Fund (round 1) and UK Shared Prosperity Fund.



Organisational carbon reduction cont...

An Approved Local Cycling and Walking Infrastructure Plan (LCWIP) - On 15 April 2021, Prosperous Staffordshire Select Committee was asked to review Staffordshire's Local Cycling and Walking Infrastructure Plan (LCWIP) and offer any further feedback for consideration before the Cabinet Member for Highways and Transport approved it for publication on 14th June 2021.

The production of an LCWIP is a government requirement and future funding for walking and cycling is unlikely to be secured without one.

Going forward, every opportunity will be sought to secure additional funding for walking and cycling and the LCWIP will be the basis of future funding bids. The LCWIP can also be used to help negotiate developer contributions through the planning consent process.

Day Care refurbishment - Marsh Court Day centre provides day care for people with specialist complex needs. This 1970s brick building was identified as being a priority for energy efficiency work.

As part of a general refurbishment over £60,000 was allocated for energy efficiency work. A more efficient heating system was installed together with increased insulation in the roof and on pipework. Lighting was upgraded from very inefficient fluorescent lighting to LED. These changes not only made energy efficiencies it also provided a better environment for the users.

Energy Efficiency advice and funding for businesses - Over 100 businesses were engaged with through the Low carbon business evolution programme managed by Staffordshire business environment network (Sben). This programme offers businesses a fully funded energy review with energy efficiency recommendations.

In a year nearly 40 businesses received a full review and secured funding in excess of £145,000 to deliver energy efficiency measures recommended in the reports. This resulted in over 350 tonnes of carbon being saved through introducing the recommended funded energy efficiency measures.

Carbon tools for business - In April 21 the Environmental Sustainability GROWTHmapper was launched to help businesses identify the strengths and weaknesses and where changes could be made to be more sustainable. For example one company on completing the tool set a target to have all staff arriving by sustainable transport (electric car, bicycle, car share) by 2024 which would result in saving 55 tonnes of carbon.

The Council launched a carbon tracker for businesses in October 2021 to help identify and measure their carbon emissions and assist in achieving carbon reduction targets. Up to March 2022 60 businesses had completed the tool and commented the tool had helped to achieve funding support to implement energy saving measures and identify simple ways to reduce the footprint at little or no cost.



Organisational carbon reduction cont...

Electric vehicle trial - Under the Air Aware funded campaign in partnership with Amey, a trial of a leased Vauxhall Vivaro E fully electric van was completed. The trial and use of this vehicle will inform business areas across the authority of the benefits of switching to a fully electric vehicle and overcome common myths in real world use.

Under the trial we looked to address concerns raised around the performance range of a fully laden electric vehicle and how vehicle mileage could be impacted.

The trial covered 280 miles with 800kg being carried in the vehicle – it demonstrated that a fully electric van was better for the environment; if this vehicle were a diesel equivalent, it would have emitted 72.9kg of carbon*. An additional economic benefit to the trial was that even with premium rate charging, the electric van would still have been at a lower cost than the diesel equivalent.

The use of this of this vehicle has helped SCC to inform parts of the forthcoming Electric Vehicle Strategy. *Calculated using Vauxhall data

Climate change Action fund - Round two of the Climate change action fund ran from November 2021 to February 2022 with each Councillor having a £1,500 budget allocation to award in their area. Grants of £250-£500 per County Councillor were invited from schools, voluntary and community groups, societies, charities and parish councils. A maximum of £2,500 could be applied for if the project could demonstrate the project benefits could be realised across divisional areas.

117 funding requests were received, with £52,930 being awarded across 100 applicants.

Projects which were considered high priority to receive full funding included:

- **energy efficiency measures including LED lighting upgrades, improved insulation and improvements to glazing either to reduce excessive solar gain or improve thermal efficiency**
- **bike racks and scooter pods to encourage more active travel and reduced car use**
- **tree and shrub planting**



Natural Environment

Tree Planting - Cannock The Council worked in partnership with the Forest of Mercia to develop tree planting projects. £91,000 of funding was received for tree planting on two sites in the Cannock District. Over 17,500 native trees were planted on Kingswood Lakeside Employment Park and Pye Green Valley to create high density mini forests. This method of planting results in high levels of biomass within a small area and captures high levels of carbon.

Tree giveaway - An initiative which gave away 1000 trees to residents to plant at home was delivered in March. Residents could collect the trees from Cannock Chase country park during a one day event. With every tree collected, people got a leaflet about other ways to make their gardens at home more sustainable, tips to tackle climate change and help wildlife.

Flood risk management - The Flood Risk Management Team received £70,000 of funding from a grant to install new oversized drainage assets to better protect 18 residential properties in Hamstall Ridware. This Surface Flood

Mitigation project combined with Natural Flood Management by South Staffs water to install leaky dams. Modelling showed that in a 100 year flood event (defined as a 1 in 100 chance of being equalled or exceeded in any given year), the project would prevent 9,000m³ of surface water entering the village and reduce this water volume to just 33m³.

Collaborative working with landowners in Barton Under Needwood improved the regular maintenance regime of a watercourse running through private land. This reduced the impact of local flooding.



Waste

Christmas tree recycling - Over Christmas 2021 residents were encouraged to recycle their real Christmas trees at the Household Waste Recycling Centres. This resulted in an increase of over 100 tonnes of green waste recycling compared to the year before, which was the equivalent of capturing 4,400 trees. These trees were then recycled and turned into wood chips and compost.

Waste ambassadors - The council continues to support the 'waste savvy' volunteer programme and have 39 passionate volunteers who provide advice to the community on reducing household waste and recycling. Covid 19 restrictions in the first half of 2021 limited the number of face to face events the volunteers participated in, although still achieved attendance at 45

public events and delivered 49 presentations to voluntary groups and schools. If you might be interested in being one of our amazing Waste Savvy volunteers please contact the volunteer co-ordinator:

rwhitehouse@gardenorganic.org.uk



Air Quality



DEFRA funding enabled a targeted school and business engagement project focussed in Cannock, Leek and Burton. This engagement led to Heath Hayes Primary School winning the School of the Region for their active travel initiatives in Modeshift STARS Travel Planning for the third year. They have increased active travel from 27% to 50% reducing congestion on the local network and improving air quality around their school.

Through the Air Aware business travel network 3 bike surplus storage pods from Queens hospital Burton have been donated to another Air Aware engaged company in Cannock saving on waste and providing a safe cycle storage area for others.

Anti-Idling campaign - The air aware anti-idling campaign raised awareness countywide of the impacts of leaving an engine idling both in terms of air pollution and the costs of fuel wasted.

100 business sites received an anti-idling pack containing railing banners, staff and visitor information and signage. Digital information

shared with many more sites provided a wide-reaching campaign. Through public engagement and asking people to stop idling at Queens Hospital Burton on Clear Air Day 1kg of carbon was saved in just one day. One business which participated in the scheme provided feedback to say that suppliers and delivery drivers had commented that the signs had raised awareness and encouraged them to stop idling.

Traffic Management to improve air quality - The Council won funding in early 2020 to take part in the Live Labs project, funded by the Department for Transport (DFT) working alongside Amey, Keele University and the Connected Places Catapult. Over 130 SME's submitted applications to address mobility and air quality challenges. Colleagues from across the organisations worked together to select 10 projects during 2020/21 and 2021/22.

Now Wireless were a successful SME to aid the reduction in air quality, outside a care home on the inner ring road of Newcastle-Under-Lyme. Now wireless and the Council worked together during 2021/22 to implement the use of artificial intelligence to predict pollution an hour ahead of time. The results implemented special plans into SCC's Urban Traffic Control (UTC) system.

The plans enabled traffic to be held for a few seconds longer outside the town centre, to reduce pollution in the town centre. The project was successful with a reduction in air pollution whilst keeping journey times through the town centre similar to before the change.



Behavioural Change

Considering climate change in Cabinet reports - In 2021 a new requirement for Council cabinet reports to include an assessment on climate change was introduced to ensure climate change implications are integrated and fully considered in all decision making. During the assessment of a financial report the important consideration of where funds were invested was considered. This resulted in a positive outcome confirming investments are made only with companies with an environmental, social and governance (ESG) policy.

The assessment process also resulted in a new process being implemented requiring all subsequent SCC investments to be discussed and minuted at the Council's Treasury Management Panel. All existing investment counterparties

are being contacted to establish if they have any specific climate specific policies to underpin their ESG policy.

Pre-Loved Uniform Market – Staffordshire Libraries Approximately 350,000 tonnes of clothing are thrown away each year in the UK. Staffordshire Libraries; in partnership with The Salvation Army, launched a project to provide support for communities by helping families in the Cannock area to access good, quality pre-loved school uniform free of charge.

Since the inception of the pre-Loved market, 932 children have been gifted free school uniforms, saving families £46,150 during 2021/22. The Pre-Loved uniform market is supported by community donations of recycled clothing.





Cannock Chase Cultural Education Partnership – Global Change Makers - Cannock Chase Cultural Education Partnership (CCCEP) led by Staffordshire Libraries and Inspiring Healthy Lifestyles have received funding for a collaborate arts project, around the central themes of environment and place. Engaging with an active group of young people from schools across Cannock Chase, the project will explore the concept of “leaving no trace” on Cannock Chase. Working with partners across the district, the focus will be on increasing awareness and encouraging visitors to play a positive role in conserving the AONB, and to be good environmental ambassadors, in the Special Area of Conservation.

During 2022, young people will work with artists to create a body of cultural work which will be exhibited at an eco-arts festival in spring 2023.

Community climate change workshop -

The Community Learning service provided a free online workshop for families to learn more about

climate change. More than 60 families signed up to the course and were guided through fun activities on how to connect with nature and live a more sustainable lifestyle. This course provided a great platform for people to think about what changes they could make to help reduce the impacts of climate change. Following the course two families came together to open and run a ‘pre-loved’ pop up shop in Tamworth.

Keeping Staffordshire residents and staff informed - Education is key to making greener changes. Each week, sustainability tips are sent to over 1,500 subscribers. This weekly email on average has an 80% engagement rate.

Training our staff - We are encouraging our staff to learn more about climate change and how they can do their bit to help the council achieve the net zero target. An online staff training module has been launched in 2021/22 and made available on the council's training hub for all staff and members to complete.



Next steps

The Climate Change Action Plan has set a solid foundation for the Council to deliver carbon reduction projects. These actions will continue to be reviewed and adapted as new technologies and information is released.

Adaptation - Our climate is changing, even if steps to substantially reduce global emissions occur, further warming of our climate is inevitable over the coming decades. It is essential that Staffordshire County Council put measures in place to build resilience into our properties and services. Over the next year we will develop a Countywide Adaptation Strategy in partnership with the District and Borough Councils and a County Council Adaptation Action Plan to identify how to respond to the risks and opportunities of climate change.

Flood risk management - Staffordshire County Council working jointly with Stoke, Walsall, Wolverhampton, Sandwell and Dudley have

been awarded £6.6 million from the Flood and coastal resilience innovation fund. The FAIR (Flood: Aware, Informed, Resilient) project aims to empower communities with the skills, knowledge and resources to actively participate in risk management and resilience activities alongside other partner agencies. You can read more about the FAIR project at A FAIR approach to community flood risk [Engage Environment Agency](#).

Over the course of the next 5 years the Flood Risk Management team also have an ambitious programme to deliver projects in Norton Canes, Great Wyrley, Bishops Wood, Endon Natural Flood Risk Management works, Cranberry, Cannock Pye Green. This project aims to better protect over 250 properties. If you want to know more about these projects please email: flood.team@staffordshire.gov.uk.



Electric Vehicle (EV) Strategy - The authority is committed to increasing the uptake of electric vehicles. We are currently developing an EV strategy covering authority and county electric vehicle uptake.

The EV strategy is being developed in partnership with the Staffordshire District and Borough Councils and will include feasibility studies and recommendations covering the current and future needs of the county.

Staffordshire County Council has produced a public electric vehicle toolkit to assist the public with general guidance, FAQs and will soon be available on our website.

Staffordshire County Council has an on-going study taking place to understand the current environmental impacts of the authority fleet vehicles including cars, pick-ups and minibuses. The study will provide insights into total cost of ownership, emissions and charging requirements of switching to fully electric vehicles. The findings from the study will help the authority make informed business cases for electric vehicles and the supporting infrastructure across all service areas.

Transitional Low Carbon Fuel – Hydrotreated Vegetable Oil (HVO) - Staffordshire County Council are trialling HVO diesel in active service areas. The fuel is classified as a sustainable and renewable fuel alternative for conventional diesel. HVO can run in many modern vans, HGVs and plant equipment types without modification. The use of HVO diesel can deliver several benefits over conventional diesel, including emission savings of up to 90% Carbon Dioxide, 27% Nitrogen Dioxide and 84% in Particulate Matter.

HVO along with other emerging technologies is considered a viable transitional fuel on route to SCC's 2050 Net Zero target.

Amey are the principal contractor for Staffordshire Highways. A trial is underway to understand HVO compatibility amongst fleet, plant and machinery to facilitate the move to the low carbon fuel in the SCC Highways AMEY fleet. SCC are also exploring further businesses cases across the authority to increase the use of HVO diesel across the authority.



Appendix 1

Staffordshire County Council approach to Climate change

The County Council has championed the climate change agenda for many years and our carbon reduction strategy, Green Shoots, published in 2011 built on previous commitments to this agenda. Staffordshire County Council recognises that climate change is the biggest environmental challenge facing the world today and has reflected this by identifying climate change as one of the four key principles in the Councils Strategic Plan.

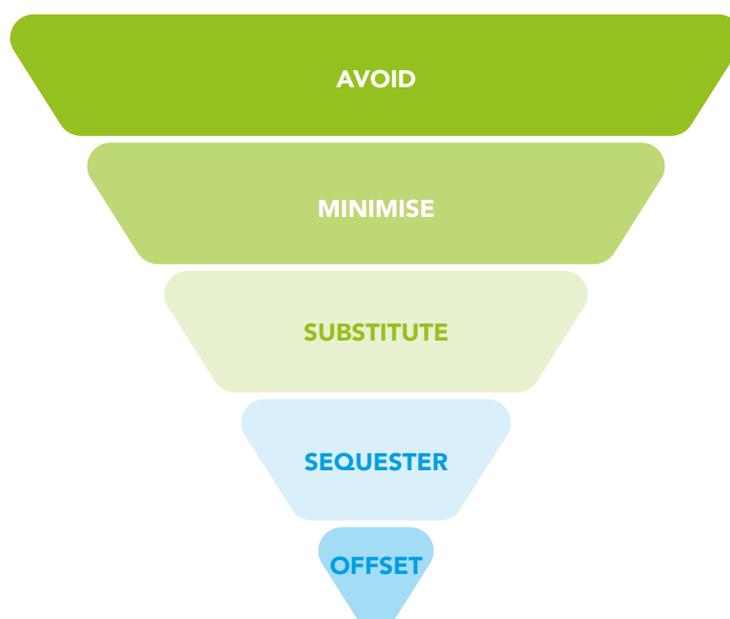
With the setting of new legislation in May 2019, through an amendment to the Climate Change Act 2008, the UK became the first major economy to pass a law requiring the country to bring all greenhouse gas emissions to net-zero by 2050. This means that the country needs to remove as much carbon from the atmosphere as it emits.

Following the publication of this new legislation, the County Council committed itself to this agenda by declaring a climate change

emergency in July 2019 to also achieve net zero emissions by 2050. This replaced the previous commitment to reduce carbon emissions to 80% of the 1990 baseline.

We have seen a considerable reduction in our carbon emissions from the initial 1990 baseline of 200,000 tonnes. This is partially attributed to many of our schools converting to academies which, once converted are not included as Council emissions. A number of carbon reduction measures have been implemented since this time which has reduced the carbon impact of our services.

The County Council recognises that a range of actions are needed to reduce the Council carbon emissions. We adhere to the carbon hierarchy principles of avoiding and reducing emissions as a priority, where emissions cannot be reasonably reduced any further we consider sequestering.



We also recognise that we need to put in measures so we can adapt to our changing climate.



Scope 1 – All direct emissions – these emissions arise as a direct result of our activities under our control. For Staffordshire County Council this includes

- **gas consumption from all maintained schools and corporate buildings**
- **liquified petroleum gas (LPG) usage from corporate buildings**
- **heating oil consumption from maintained schools**
- **fuel used for fleet vehicles**

Scope 2 – Indirect emissions – these emissions are our emissions associated with the consumption of electricity purchased for maintained schools and corporate buildings. Where the electricity is 100% sourced from a registered renewable supplier, only transmission and distribution emissions are included.

Scope 3 – All other indirect emissions – this includes a much wider remit and includes the activities which we do not own or directly control, for example services under contract. This includes:

- **business miles associated with staff travel**
- **passenger kilometres associated with staff travel via train**
- **water consumption (supply and treatment) from all maintained schools and corporate buildings**
- **contracted waste operations and processes**
- **electricity consumption associated with street lighting and ITS equipment**
- **fuel consumption associates with Amey (Highways) operation**
- **home to school transport.**

