

Climate Emergency Annual Report

Date: 9th February 2022

Report of: Director of Resources

Report to: Executive Board

Will the decision be open for call in? Yes No

Does the report contain confidential or exempt information? Yes No

Executive Summary

- In 2019 the council declared a climate emergency with a target of achieving net zero emissions for the city by 2030. This report provides the annual update against this target at both a council and city level as well as looking at wider changes that have happened both regionally and nationally. There is a particular focus on the council's approach to energy purchasing with some key recommendations to help the council achieve its carbon reduction targets.
- The council's climate emissions have two key sources:
 - The energy that it uses to power and heat its facilities (83%)
 - The fuel that it uses to operate its vehicles fleet
- The council had previously set itself the target to reduce its own emissions by 50% by 2025 and this report demonstrates the actions that it is taking to ensure that it will meet this first target.
- The councils' approach to energy has been set out in detail in an Energy Strategy and Action Plan that can be found as appendix 1 but the chart below provides a high level overview of the key components.

ENERGY REDUCTION	<i>Reduce the amount of energy required</i>
ENERGY EFFICIENCY	<i>Ensure that the energy needed is used as efficiently as possible</i>
RENEWABLES	<i>Generate the energy needed using renewable energy sources</i>
LOW CARBON	<i>Use low carbon technologies</i>
CONVENTIONAL	<i>Use conventional energy approaches which rely on grid decarbonisation</i>

- In summary the council will continue to reduce the energy it uses by investing in technologies such as solar, LED lighting and alternative heating sources, building on the success of 2021 when £25 million of funding was secured to retrofit 40 of our buildings with decarbonised heating and increase the solar across our estate and the LED streetlighting programme roll out was continued at pace. Measures either already implemented or fully funded and being delivered by the council since 2018/19, just ahead of the declaration of the climate emergency for Leeds, provide an estimated annual 24,117 tonnes or a 33% reduction in CO₂e emissions from the council's energy usage since this time.
- The council will complement the energy reduction work outlined above by changing how it procures its energy through the use of a power purchase agreement enabling investment in large scale renewables combined with more direct investment in localised renewables.
- As well as considering how we reach net zero within our current estate, this report also sets out the council's commitment to ensuring new build and retrofit schemes consider our net zero ambitions. Work will be undertaken to develop high-level design principles to guide a review of the council's approach to new build. Such principles will then be developed into a more detailed technical guidance note for scheme development. When considering new build or retrofit schemes, whole life costs will be considered.
- In terms of fleet the council already has what is believed to be the largest electric vehicle fleet of any local authority in the UK and will be investing in its first electric Refuse Collection Vehicles in 2022. The council is working with the Energy Savings Trust to develop a plan for how the remainder of our fleet can be transitioned to zero emissions vehicles by 2030.
- This year the annual climate emergency report has two key differences to previous reports. It includes a greater focus on both:

- scope 3 emissions (those emissions generated primarily through the goods and services bought in):

When assessing carbon emissions, the focus has been on scope 1 and 2 emissions (those generated through the direct use of gas, electricity, fuel and heating) and scope 3 emissions have not been considered. However, it is widely accepted that scope 3 emissions can represent between 80 to 97% of the emissions of a large organisation. This year the council has started to try and better understand its scope 3 emissions and to set itself some ambitious targets, especially related to food consumption. A joint collaboration is underway with the University of Leeds to develop a carbon decision making tool that will enable carbon content to be at the forefront when meals are planned across our catering establishments as well as being used as a tool to encourage education and public engagement on the carbon footprint of food.

- resilience and adaptation:

To date when we have considered the climate emergency our primary focus has always been on mitigation and the reduction of emissions but it is clear that a certain level of climate change will happen and it is important that within our plans we start to also focus on resilience and adaptation, beyond the important work that is already underway related to flooding. To support this a resilience and adaptation plan will be brought back to Executive board in the Summer.

- The City's emissions continue to show a steady decline but the pace of change will currently not be sufficient to meet net zero by 2030. Where the council has the funding and the powers to enable or deliver change it has made progress but there are key areas such as private housing retrofit for higher income homeowners or transport where the support of national government is essential to overcome some of the key barriers.
- The council has a good track record for securing funding to support cross housing tenure retrofit works. In 2021/22 the council has been working with a number of different funding streams, including Green Homes Grant, Getting Building Fund, European Funding and Social Housing Decarbonisation Fund to deliver measures such as external wall insulation, solar panels, room in roof insulation to both social and private housing. The funding comes with many stipulations that are challenging to meet such as the SAP rating of the house, the income of the house owner or the caps on the cost of measures. Despite this, measures will be delivered in circa 1,200 private homes. Investment in our own social housing continues at pace with projects such as the installation of ground source heat pumps in our multi storey flats or the work in Holbeck to make 190 council homes net zero being two very noteworthy examples.
- With regards to the wider built environment, in 2021/22 we will see many other public sector partners as well as private developers connect to our low carbon district heating network, which continues to expand rapidly. Like the council, many of the city's other large organisational emitters are also taking significant actions to reduce their own impact on the environment—supporting the city's journey to become the UK's first net zero city. For example the University of Leeds, another large emitter, - formally approved its Climate Plan in November 2021 which sets a 2030 carbon neutrality target. The £174 million plan represents the single biggest investment the university has ever made on interventions including the targeted refurbishments of buildings, the installation of low carbon technologies and solar PV across the estate, investment in off-site renewables and measures to reduce its emissions from travel.
- Planning plays a key role in supporting the standard of new build across the city and ensuring retrofit will not be required. In July 2021 the council carried out initial statutory public consultation on a Local Plan Update, which will update planning policies for carbon reduction, flood risk, green infrastructure (including biodiversity), place making and sustainable infrastructure.
- Transport contributes circa one third of the city's emissions and needs significant investment to make the changes required. The Connecting Leeds Transport Strategy has decarbonisation as one of its central pillars. The strategy outlines the key steps to deliver the changes needed in Transport to meet the city's 2030 target of making Leeds Carbon neutral.
 - Reducing the need for travel and the number of car journeys, especially at peak times
 - Encouraging people to choose active travel and public transport
 - Improving the efficiency of the transport network and making better use of our road space
 - Encouraging and leading the uptake of zero emission vehicles in freight, public and private transport.
- Here are some examples of the transport projects that were delivered in 2021:
 - Opened Stourton Park and Ride- UK's first solar powered park and ride

- Construction works completed in four key areas in the city centre, including the fully pedestrianised Cookridge Street closed off to all traffic. A segregated cycle lane also runs through it connecting the North of the city centre with the city's main rail station via The Headrow.
 - £161 million investment in Leeds Train Station was completed after 3 years' work that has increased the capacity of the station by, amongst other things, extending platforms 1 to 7 capacity (i.e. number of seats available) to work towards meeting the existing demand.
 - Completion of the Rapid Charge network in partnership with Equans and West Yorkshire Combined Authority
 - 157 organisations had completed an electric van trial alongside 21 private hire drivers, with a total of 330,000 miles completed in total
- Public/ business support and engagement is needed to deliver the changes that are required at pace and as a result the council places significant importance on how we can support wider climate communications & engagement. Alongside the targeted, project specific engagement that support the delivery of decarbonisation schemes we continue to regularly engage by:
 - the monthly Leeds Climate newsletter is sent to more than 5,500 subscribers,
 - the climate-focused @LeedsCC_CEAQ Twitter account has 3,000 followers and typically reaches at least 15,000 users per month,
 - the climate change strategy page on the council website was downloaded more than 9,500 times in 2021
 - the council's newsroom published 59 press releases related to projects and announcements that support efforts to tackle climate change.

Recommendations

The Executive Board is requested to approve the following recommendations:

- a) Adopt the energy strategy and action plan for the council (appendix 1)
- b) Approve procurement of new contracts or a single contract (including authority to spend) for the ongoing supply of gas and electricity to the council to follow on from the planned expiry of the existing contracts on 31st March 2024
- c) Approve procurement of a medium to long-term power purchase agreement (PPA) with a renewable energy generator for the purchase of up to 65% of the council's current electricity demand as part of the council's strategy to achieve net zero carbon from its activities
- d) Commit to delivering 10% of the council's electricity demand through locally based renewables generation by 2025/26
- e) Note the intention to bring an amended energy purchasing strategy to Executive Board in March 2022 for approval
- f) Note the intention to develop design guidance for the council's new build programme to support our net zero target
- g) Adopt the new electric vehicle charging infrastructure strategy and action plan (appendix 2)
- h) Note the intention to bring a net zero housing plan, a food strategy and a resilience & adaptation plan to Executive Board in 2022

Main Report

Why is the proposal being put forward?

1 This report is our annual review of the work undertaken in response to the declaration of a Climate Emergency in March 2019.

2 Introduction

3 2021 has been a landmark year for climate change with COP26 taking place in Glasgow. This was set against a backdrop of numerous extreme weather events that showed the human and economic cost of inaction.

4 Often one of the barriers to change is finance but 2021 has shown both the human and economic cost of not acting. A study completed by Christian Aid showed that in 2021 alone there were 10 extreme weather events that each caused more than \$1.5 billion of damage. Hurricane Ida was the most financially destructive event of the year, resulting in thousands of residents being evacuated from Louisiana, the first ever flash flood in New York and a loss of 95 lives and an economic impact of \$65 billion. In July we saw unprecedented flooding across Europe with over 240 lives lost and an economic impact of \$43 billion. In developing countries it is harder to estimate the financial impact as there are no insurance claims to use to establish the cost but the destruction of homes and livelihoods is felt even more severely due to the lack of insurance to help communities to re-establish. Flooding in South Sudan displaced over 800,000 people while 200,000 had to move to escape Cyclone Tauktae which hit India, Sri Lanka and the Maldives in May.¹

5 UN's Intergovernmental Panel on Climate Change (IPCC) published its sixth climate assessment since 1990 in the lead up to COP26. According to the report "modern society's continued dependence on fossil fuels is warming the world at a pace that is unprecedented in the past 2,000 years — and its effects are already apparent as record droughts, wildfires and floods devastate communities worldwide". "If global emissions hit net zero by around 2050 — a target that many countries have committed to over the past year — then the world can achieve the goal laid out in the 2015 Paris accord and limit global warming to 1.5 °C above pre-industrial levels over the course of the twenty-first century" but "***the climate we experience in the future depends on our decisions now.***"².

6 National and Regional Context

7 The council can do much to achieve net zero as an organisation and contribute significantly to the city's progress towards that target. Nevertheless, neither the council nor the city exists independently of national policy. The removal of gas, the shift to a net zero electricity grid and the removal of fossil fuels from transport are three profound changes to which the council can contribute but where the principal levers lay at a national level. With regard to scope 3 emissions, pertaining to those associated with consumption of goods and services, again the council can make some inroads but issues which determine the degree to which the citizens of Leeds are dependent on imported goods produced and transported with carbon are bound up with national industrial strategy and trade policy.

8 The council can play two roles with regard to impacting on the national agenda. First, the council can and has been acting as a pathfinder for low carbon and zero carbon development. A constructive engagement with government is helping to develop district heating as a viable alternative and pioneering retrofit in multi storey buildings, as two examples. This engagement will help the city achieve reductions in carbon faster but also help prove the case for its implementation at a national level. Secondly, the council can lobby in its own right but also work with partners such as LGA, UK100, core cities as well as with local authorities at a regional level. The dialogue on both the practical funding of schemes and the national policy framework touches all the areas covered in this report and is dynamic.

¹ [Climate change: Huge toll of extreme weather disasters in 2021 - BBC News](#)

² [IPCC climate report: Earth is warmer than it's been in 125,000 years \(nature.com\)](#)

- 9 Foremost among the immediate financial asks is funding for the delivery of a transformative public transport system. Going beyond the specific asks, however, is a call for greater consistency both of funding and of policy. It is through a long-term commitment to funding that the council can establish comprehensive programmes of work and industry can have the confidence to invest in the long term in technology, training and jobs. The retrofitting of housing has been a particular example of stop start funding but which can turn into a huge opportunity to reduce carbon quickly, reduce bills and create meaningful well paid work. Lastly, there is a need for a comprehensive review of local government powers to ensure they are consistent with the government's own commitment to net zero, ensuring that in key areas such as planning, waste, housing and transport they are properly aligned.
- 10 Beyond funding and policy, a key issue remains of public awareness, which is both crucial to individual decision making but also to the acceptability of some of the policy changes likely to be required. Local government, central government, industry and the third sector will need to work collectively on this issue in the years to come, often promoting the associated wider benefits of carbon reduction actions to ensure public buy in. The broad political consensus in the UK regarding the reality of climate change are a crucial advantage and foundation for this.
- 11 2021 there have been some positive steps forward at a national level:
- a) UK government has set a more ambitious emissions target than the original 80% by 2050 and will now commit to cut emissions by 78% by 2035 compared to 1990 levels with net zero being achieved by 2050
 - b) for the first time, UK's sixth Carbon Budget will incorporate the UK's share of international aviation and shipping emissions
 - c) building on 2030 electric van and car policy from 2030 the government has pledged that all HGVs will be zero emission by 2040
 - d) within the new heat and buildings strategy published in October 2021 the government has set out the ambition that no new gas boilers will be installed post 2035 and that the government will work with industry to reduce the costs of heat pumps by at least 25-50% by 2025 and towards parity with boilers by 2030
- 12 The Yorkshire and Humber Climate Commission (Y&HCC) was also established in 2021 – an independent advisory body set to bring representatives from the public, private and third sector together to support and guide ambitious actions across the region with four inter-related aims:
- a) To foster climate resilience and adaptation to climate risks and impacts
 - b) To support rapid progress towards net zero carbon emissions
 - c) To encourage a just and inclusive transition and climate actions that leave no one and nowhere behind
 - d) To promote sustainability and climate actions that also protect nature and biodiversity
- 13 As part of COP26 the Y&HCC launched their climate action plan, comprising of 50 actions. In early 2022 the council will assess itself against the actions identified and use it to strengthen its own action plan.

Council Emissions - Overview

- 14 The table below illustrates the council's progress in reducing scope 1 and 2 emissions³ year-on-year to date since 2018/19, just ahead of the declaration of the climate emergency.

³ Scope 1 emissions are those that the council makes directly whilst running its boilers or vehicles. Scope 2 emissions are those that the council makes indirectly through the electricity or heat that it consumes.

	Tonnes CO ₂ e			
	2018/19	2019/20	2020/21	Tonnes of CO ₂ forecast position 2023/24*
Streetlighting	13,816	11,772	9,481	3,827
Buildings (Gas & District Heating)	29,217	27,986	26,952	21,990
Buildings (Electricity)	19,911	19,074	14,313	14,284
Fleet	10,274	10,360	9,209	9,000
Total	73,218	69,192	59,956	49,102

**includes all decarbonisation measures delivered or fully funded and currently in delivery. This position could improve as further schemes are developed over the next two years.*

15 The section below outlines several actions that the council has taken in 2021/22 that will further reduce our emissions as well as actions that we will take during 2022/23 to ensure we meet the 50% reduction target by 2025. However, we continue to look beyond 2025 to ensure that we can meet our 2030 net zero target.

16 The biggest challenges to removing the remaining emissions by 2030 for the council will be the transition of the remainder of our buildings from gas as the current cost of replacing an existing gas heating system with an air source heat pump is multiple times higher than if we were to replace with another gas boiler and will often result in higher running costs. There may also remain some technological challenges with regards to our fleet replacement, especially in connection with our more specialist fleet where the low volume requirement means that the same level of product development hasn't taken place to find a zero emissions alternative.

17 As well as looking at scope 1 and 2 emissions, the council is committed to looking at how it can reduce its scope 3 emissions⁴. With an annual external spend of almost one billion pounds, there is significant potential to use our buying power to reduce wider emissions associated with council services. Measuring scope 3 emissions accurately is very challenging and labour intensive. However, we have started to capture more accurate data for some of our spend categories as shown in the table below and this will enable us to monitor specific areas and develop action plans to reduce scope 3 emissions.

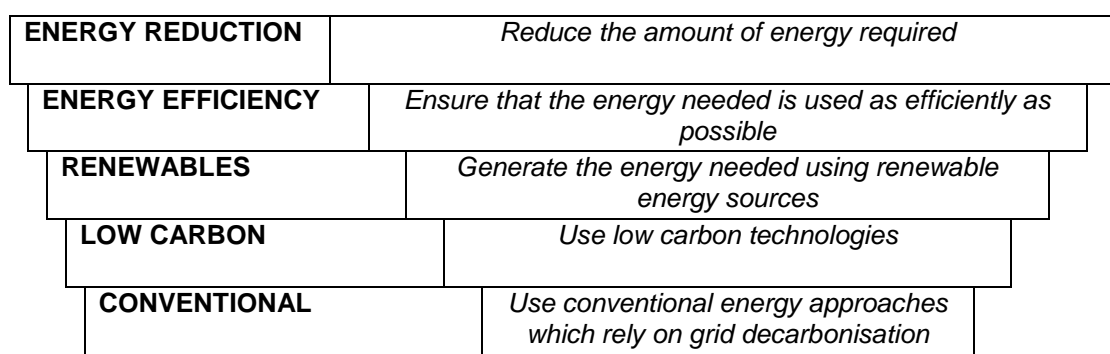
	Tonnes CO ₂ e 2018/19	Tonnes CO ₂ e 2019/20	Tonnes CO ₂ e 2020/21
Grey Fleet	1,232	1,246	587
Business Travel	173	199	24
Water	n/a	229	158

⁴ Scope 3 emissions are those emissions that the organisation is indirectly responsible for from buying products or services from its supplier or mileage completed by employees in their own vehicles.

	Tonnes CO ₂ e 2018/19 ⁵	Food weight (Tonnes)	Tonnes CO ₂ e 2019/20 ⁵	Food weight (Tonnes)	Tonnes CO ₂ e 2020/21 ⁵	Food weight (Tonnes)
Food total	8,671	2,741	7,535	2,494	4,990	2,138

Energy Strategy

- 18 Energy use accounts for around 83% of the council's carbon emissions, and it is therefore recognised that measures are needed to reduce energy usage across its services, increase the volume of energy from low carbon sources and for the council to act as an exemplar in promoting a reduction in the impacts of energy consumption across the city.
- 19 In 2018/19, just prior to the declaration of the Climate Emergency, the council consumed around 158,900 MWh of gas and 122,600 MWh of electricity across its corporate estate and the schools on whose behalf it manages the energy supply.
- 20 A separate Energy Strategy and Action Plan (ESAP) has therefore been developed and can be found at Appendix 1 to this report. The scope of this strategy is primarily focused on the council's own energy usage.
- 21 In summary the ESAP is based around the following hierarchy whereby reducing the demand for energy is the first principle, before then meeting the energy demand by the greenest method available:

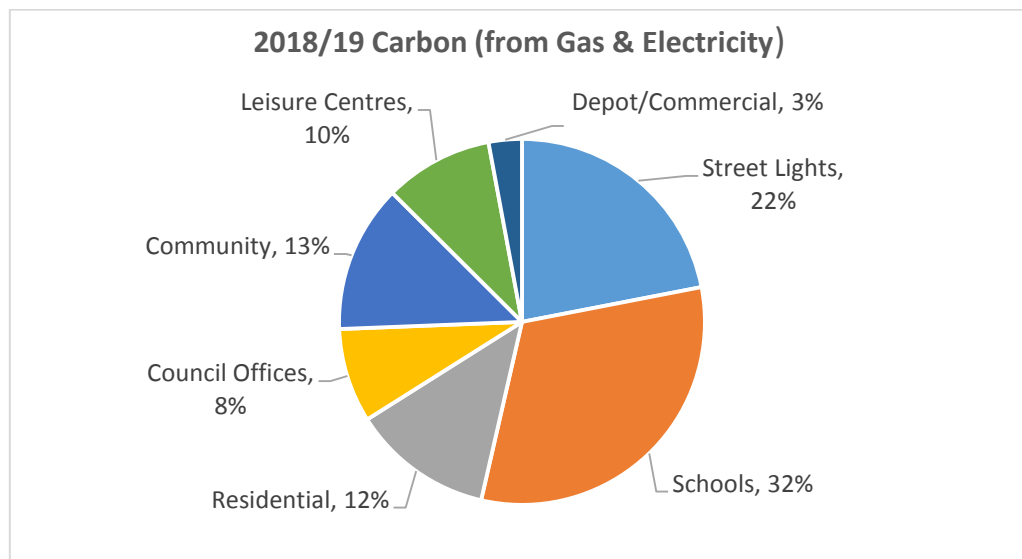


- 22 The ESAP sets out the national policy context in relation to energy, including summarising issues within the Government's Net Zero Strategy and Heat and Buildings Strategy, both published in October 2021.
- 23 The key outcomes of the ESAP will be to deliver a range of social, environmental, and economic benefits as follows:
- Reduce greenhouse gas emissions;
 - Contribute towards air quality improvements;
 - Ensure better controlled and managed buildings;
 - Achieve better energy cost certainty and stability;
 - Increase investment in local low carbon energy generation;
 - Increase local employment and skills development via the green economy.

⁵ The CO₂e emission factors for Food items vary between sources, so the figures presented above are best estimates using the averages of min/max values. For some products, emission factors have had to be defaulted to the BEIS generic food/drink emission factor and for other products the most likely food equivalent has been used.

24 The chart below illustrates the carbon impacts across the main site groups or service areas including the schools for which the council manages the energy supply arrangements, and which have been grouped as follows:

- Community – including community centres/hubs, libraries, one-stop centres, museums, parks, changing rooms, public conveniences, crematoria;
- council offices – also including civic buildings, data centres;
- Depot/commercial – including waste sites, markets, commercial units;
- Leisure centres;
- Residential – including landlord supply communal areas, care homes, independent living, sheltered housing, secure units, district heating, etc.;
- Schools – also including adult training, early years and specialist inclusive learning centres;
- Street lighting – also including other highways infrastructure supplies.



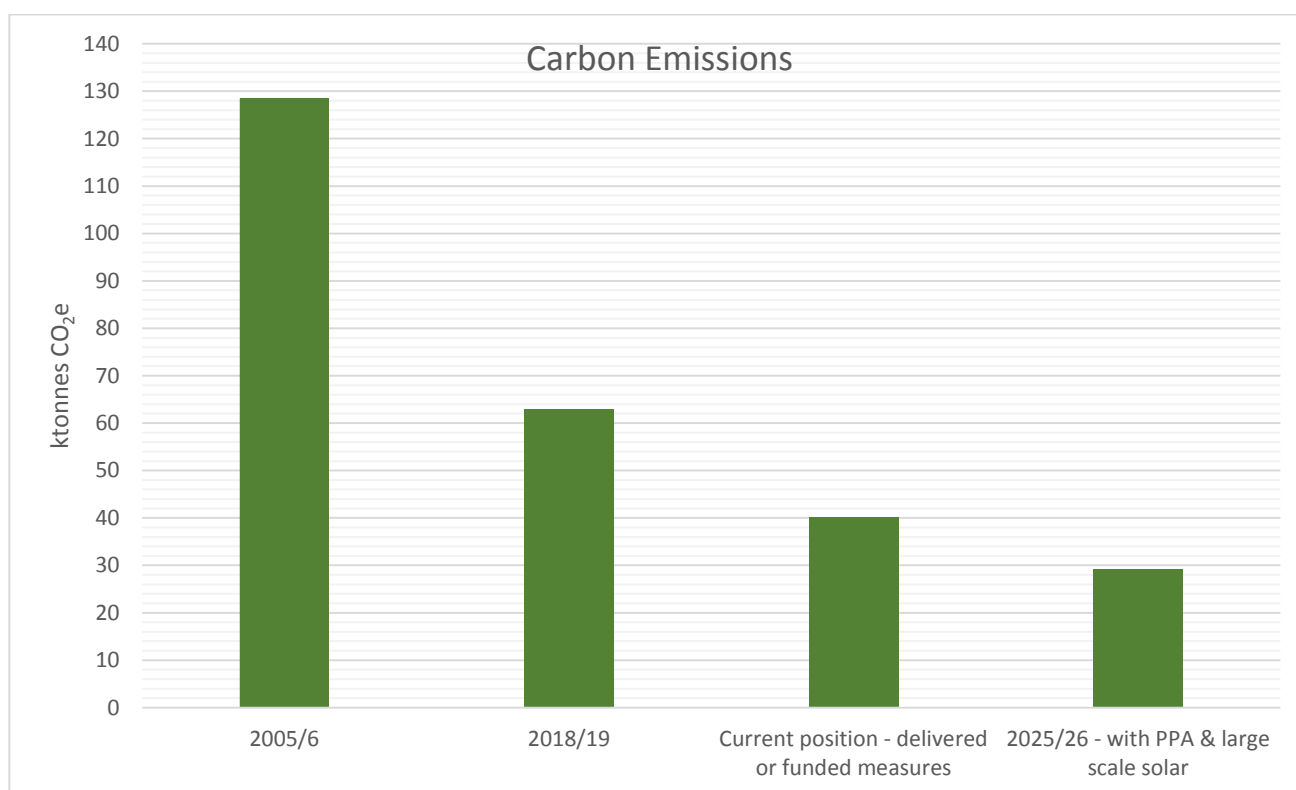
25 The progress made to date and the actions required to achieve the necessary reductions in the impacts of the council's energy usage across these service areas are structured around key themes within the ESAP which cover the following in summary:

26 **Reducing energy consumption** –the council's work to date and continuous efforts to right size the corporate estate in response to new ways of working and changes to models of service delivery, as well as ongoing work to raise awareness amongst building managers, staff and service users of the impacts of energy usage, and the improved use of data to understand where further energy savings can be achieved through better energy management;

27 **Increasing energy efficiency** – measures to improve the efficiency of street lighting and to decarbonise council buildings through a range of energy efficiency and low carbon technology measures (covered in more detail in separate sections below);

28 **Increasing local renewable energy production** – the latest position in respect of the target to move to 100% electricity provided by green sources, with the ambition to increase locally produced renewables. Approval to enter into a medium to long term power purchase agreement (PPA) with a major renewables generator is specifically sought. Alongside the continuing roll-out of solar energy across council buildings and connections to the Leeds PIPES district heating network (see separate Executive Board report), actions also include assessment of the feasibility of local large-scale renewables generation sites, including a site selection process to evaluate needs and constraints, and assessing potential brownfield prior to consideration of greenfield sites, and non-Green Belt before Green Belt.

- 29 **Converting the council’s vehicle fleet from petrol/diesel to electric** – outlining progress and planned measures to expand the electric vehicle fleet. This is also covered in more detail in the separate section below.
- 30 **Developing the approach to energy purchasing** – outlining the council’s current energy purchasing strategy and noting the intention to review this purchasing strategy in the context of the current market conditions and to present a separate report to the Executive Board in March 2022. The council is also in the process of extending its existing contracts for gas and electricity supply until March 2024, which have an estimated value of around £25m per annum combined. These extensions were provided for under the terms of the original contracts. However, the council is now preparing for the longer-term re-procurement of these supply arrangements, which will be developed in conjunction with the procurement of the renewables PPA referred to above, and is seeking authority to procure these new contracts within the recommendations in this report.
- 31 The ESAP quantifies the energy related carbon reductions achieved to date and through currently planned and funded improvements, which are illustrated in the chart below:



- 32 The strategy sets out the primary areas of action required beyond this, whilst recognising that key support in terms of policy and funding are required from Government if the net zero target is to be achieved in respect of the impacts of the council’s energy usage.

33 Streetlighting

- 34 One of the council’s main users of energy is streetlighting, accounting for around 40% of electricity consumption based on the 2018/19 figures shown above. A four year programme to transfer the city’s streetlighting to run on LEDs by October 2023 was commenced in 2019 at a rate of around 1,900 new lanterns installed per month. Once complete it is expected that this scheme will reduce CO₂ emissions from streetlighting by over 9,440 tonnes CO₂e and reduce the council’s electricity consumption by around 31,000 MWh per year.

35 Existing Buildings

36 In March 2021, the council was successful in securing over £25m grant funding to invest in decarbonising its estate. This funding has been used to install a range of low carbon technologies at a variety of different building types (such as homes for older people, leisure centres, offices, schools, heritage sites, etc):

37 Technologies include:

- District Heating connections
- Air Source Heat Pumps
- Solar Panels
- LED lighting
- Insulation / Glazing

38 All works are scheduled to complete by 31 March 2022. The total carbon saving is 3,857 tCO₂pa.

39 The council has applied for a further £4.3m funding to deliver similar works at ten additional buildings with a carbon saving of 684 tCO₂pa.

40 It is anticipated that Central Government will put out further calls for funding applications throughout the coming years. The council is undertaking assessments of buildings in partnership with its appointed contractor so we can be ready to submit further decarbonisation funding applications as and when funding is made available.

41 The use of buildings will change over time as service requirements develop and evolve. This may open up opportunities for buildings to be used for different purposes which may necessitate more comprehensive refurbishment schemes being brought forward to remodel the building and address backlog maintenance requirements. In these situations, the council will take the opportunity to explore the potential to further improve the energy efficiency and performance of the building through implementation of a range of retrofit measures.

42 **New Buildings**

43 As the council's service needs develop there may be a need for new buildings to be constructed either to replace existing buildings with fit for purpose accommodation or provide new space where this is required. In bringing schemes forward, the council will seek to maximise the energy efficiency and performance of new buildings. Noting that this may increase the initial capital build cost but is better value for money than re-visiting buildings in future years to deliver retrofit schemes and considering life cycle cost and values.

44 Work will be undertaken to develop the high-level design principles to guide a review of the council's approach to new build. Such principles will then be developed into more detailed technical guidance note for scheme development.

45 However, in the interim any new builds will be developed to be net zero ready in terms of operational carbon and where this is not feasible due to grant limitations or for technical reasons, this will be flagged alongside the additional costs for any retrofit work that will need to be taken at a later date.

46 **Fleet**

47 We believe that the council's fleet has more zero emission vehicles than any other UK local authority with work ongoing to maintain that position and continue to grow our zero-emission fleet. We currently have 335 Electric vehicles, with 120 depot charging points and 95 charge points at employee homes, with additional charging infrastructure to be added to the estate

through the new Waste Depot that will have capacity for at least 50 electric vehicles and at Seacroft Ring Road depot. The 54 vehicles that make up the EV trials fleet will also be added to the corporate fleet in April 2022, increasing the number of zero emission vehicles in council service to 389.

- 48 Whilst significant progress has been made to transition the smaller vehicles within our fleet to zero emission, transitioning heavier vehicles, often those at 3.5 tonnes and above is much more challenging. The key barriers to delivery of this change are lack of availability of suitable zero emission vehicles, cost of the vehicles when they are available and development of the required fuelling infrastructure. Following an exercise to establish total cost of ownership models, the council is now undertaking a procurement exercise for 3 electric refuse collection vehicles to be completed in 2022/23 to replace diesel vehicles. These will be on fleet in time for the opening of the new waste depot that has the infrastructure installed to support electric vehicles.
- 49 To develop a clear road map for the transition of the remainder of our fleet, the Energy Savings Trust are undertaking a review of our fleet. This review focuses on the vehicles we have in the 3.5 tonne and over categories to determine what zero emission alternatives may be available, when they will come to market and how we can manage to establish reasonable business cases to make the transition economically viable. The review will also look at the impact on the council's energy and infrastructure requirements – such as the need for significant charging infrastructure and an increase in demand for electricity in replacement of existing fuelling contracts.
- 50 As an interim measure Fleet Services are trialling Hydrotreated Vegetable Oil (HVO) as a fuel to establish its operational suitability as well as measuring the emissions. Whilst the council does not consider this to be the long term solution, use of HVO has the potential to reduce net CO2 emissions in comparison to regular diesel, with no changes to the vehicles and therefore provides a way to reduce fleet emissions whilst longer term solutions are in development. The EST fleet review has also been asked to contribute to this assessment of HVO as a potential way to deliver short to medium term carbon reduction in fleet until alternative fuel vehicles come to market.

51 **Scope 3**

- 52 The council has focused on two key areas of scope 3 emissions this year – food and embedded carbon within highways schemes.
- 53 Global food systems account for 1/3 of total global greenhouse gas (GHG) emissions. Due to the huge impact that our diets have on climate change, the Climate Emergency Advisory Committee (CEAC) Biodiversity and Food Working Group have supported the development of a low-carbon food action plan and in September 2021 signed off the following commitments to reduce the impact of food procured across the council's services:
- **Buy local, serve local.** We'll increasingly source more of the food we serve from producers based in Yorkshire and surrounding counties, to support local businesses and cut food miles.
 - **Ban air-freighted imports.** Where we use ingredients that can't be produced locally, we'll reduce the impact of transporting it by using boat, road or rail.
 - **Halve the carbon footprint of meals served by 2030.** We'll review and update all of the meals we serve to cut their environmental impact, without sacrificing flavour, variety or nutrients.
- 54 These pledges build on the Glasgow Food and Climate Declaration, a commitment Leeds has signed which aims to tackle the climate emergency through integrated food policies.

55 The first step to address these commitments is by calculating a baseline for food related council emissions. This starting point will then be used to measure our improvements until 2030. Contracts and orders from the year 2018/19 are being used to create the estimate to avoid unrepresentative changes to food provision and consumption resulting from the COVID-19 response.

56 Also, as part of this baselining exercise, we will gain a more precise understanding of currently how much of our food is sourced locally, as well as how much of our imports are air freighted, through data from, our suppliers.

57 The table below shows the data that has been collated and analysed to date.

Food:	Tonnes CO ₂ e 2018/19 ⁶	Food weight (Tonnes)	Tonnes CO ₂ e 2019/20 ⁸	Food weight (Tonnes)	Tonnes CO ₂ e 2020/21 ⁸	Food weight (Tonnes)
Frozen food	1,811	543	1,645	526	908	281
Fresh Meat	2,235	170	1,726	153	519	40
Meals at home ⁷	228	62	255	69	335	91
Groceries & provisions	2,387	859	2,005	763	1,115	388
Dairy & Fresh Bread	2,010	1,107	1,904	983	1,197	582
Fruit and Veg					916 ⁸	756
Food total	8,671	2,741	7,535	2,494	4,990	2,138

58 As shown by the data in the table above, a carbon assessment of food consumed needs to be relative to the tonnes consumed as volumes can fluctuate if customers increase or reduce. If meals increase it is reasonable to assume that we would be displacing carbon previously consumed elsewhere.

59 The table below shows the average kilograms of CO₂e per kilogram of food purchased. This is based on a review of circa 90% of our spend on food to date in 2020/21. Our target is to reduce this to 2.03 kilograms of CO₂e by 2030 through better procurement practises and decision making when buying products/ designing recipes.

Year	18/19	19/20	20/21
Carbon emissions kgCO ₂ e/kg of food	3.252	3.015	2.813
Reduction against BEIS standard food emission from our baseline year 2018/19 (4.06kgCO ₂ e/kg)	20%	26%	31%

⁶ The CO₂e emission factors for Food items vary between sources, so the figures presented above are best estimates using the averages of min/max values. For some products, emission factors have had to be defaulted to the BEIS generic food/drink emission factor and for other products the most likely food equivalent has been used.

⁷ The carbon footprint of meal at home are currently calculated using BEIS generic food and drink emissions factor.

⁸ Data only currently available for 2021 Calendar year.

- 60 The data from 2020/21 should be treated with caution due to the impacts of the pandemic on both the types of meals served and the quantity.
- 61 The council are working with the University of Leeds to develop a dashboard that can be used to calculate the carbon impact of any meal served across the council. The tool will inform services and enable them to offer lower carbon meals, as well as giving consumers more information about the carbon impact of a meal which will help them make more conscious decisions.
- 62 Development of the tool began in October 2021 and the initial prototype, which will encompass school meals only, will be ready to use by the end of January 2022. Once this initial prototype is completed it will be extended so that it can be applied across other council services serving food. This development will conclude in April 2022. The future aspiration is that it will also be available for use by our supply chain partners and even businesses in Leeds.
- 63 As well as being a decision-making tool, it is hoped that with further development it can be used in educational applications and for citizen engagement.
- 64 Cross council officers have formed a working group to relook at the council's food procurement guidelines. Additions will include ensuring that the ban on air freighted food and buying locally is reflected in all new contracts, as well as placing more emphasis on contractors to provide data that allows more accurate carbon assessments to be undertaken.
- 65 Leeds currently holds the 'Sustainable Food Places' Bronze award and work is now beginning, alongside Food Wise Leeds, towards the Silver and Gold awards. A fundamental part of this will be to develop a food strategy for the city. The council hosted a successful food workshop on 21st January 2022 with a variety of food stakeholders in the city attending, launching the work towards both the Sustainable Food Places award and the development of a food strategy. A board will be set up to oversee the development of the food strategy, chaired by Cllr Marshall-Katung in her role as food lead and Gareth Batty, CEO of Fareshare Yorkshire. A draft food strategy will be brought back to Executive Board in the Autumn.
- 66 The council is also exploring the possibility of establishing a low carbon greenhouse that will produce some of the products that the council uses within its catering services. A micro-feasibility report was carried out in December 2021 for a scheme that would build a greenhouse of approximately 1 hectare on a site adjacent to the Recycling and Energy Recovery Facility (RERF). The greenhouse would be used to grow food crops that can be used internally by the council (i.e., school meals, cafes, etc.) as well as sold externally. The site is next to the district heating network therefore the network's return pipe could provide low-cost, low-carbon heat to the greenhouse (the report estimates up to 85% less CO₂ than a business-as-usual greenhouse heated using gas and grid power).
- 67 Based on the ingredients that are purchased internally, the study shows that peppers and strawberries would be the most profitable foods to grow as part of the project. However growing crops for school dinners alone would not be financially viable so the council will explore growing flowers as a cash crop to supplement the income and make the project profitable.
- 68 This project, which has the potential to provide fresh, hyper-local, low-carbon food and create jobs in Leeds, will need to next undergo a more thorough feasibility study to look in more detail at how it can be delivered.
- 69 As well as the very targeted work that is being undertaken on food, there are key steps that can be taken to consider the Climate Emergency in procurement and delivery of commissioning of works and services. The team are working across directorates to support this work, with some notable examples of key services taking a strong lead on this.
- 70 The Leeds Flood Alleviation Scheme (LFAS2) is taking a proactive approach to tackling the embedded carbon that is part of this type of project delivery. LFAS2 aims to reduce flood risk to

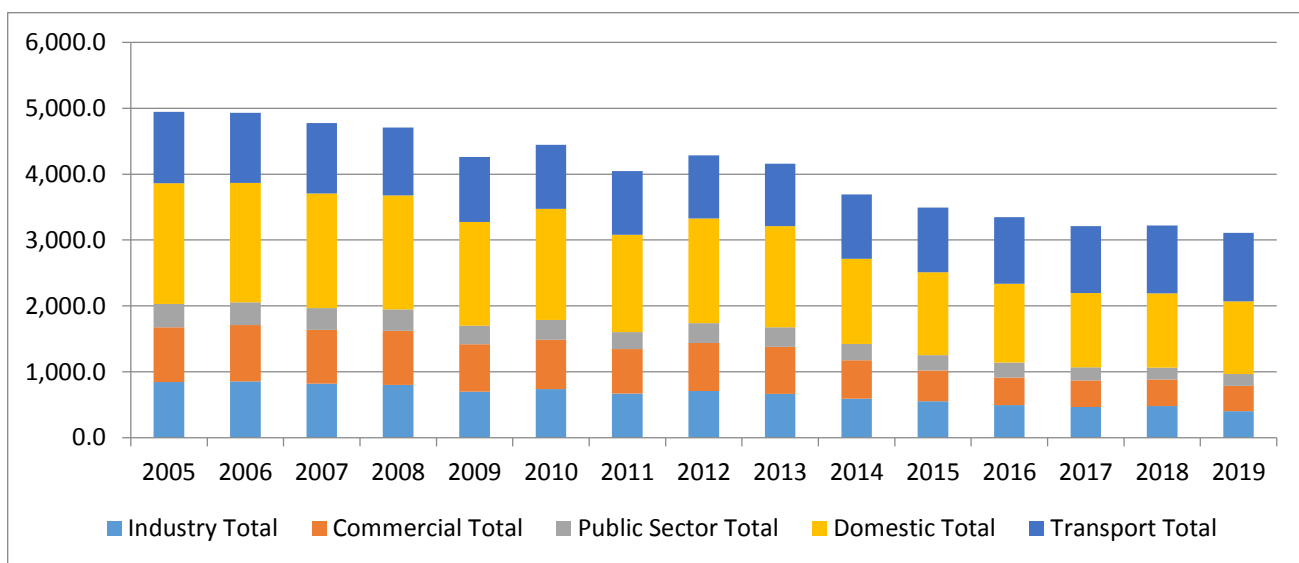
communities and businesses along the River Aire corridor between Leeds Rail Station and Apperley Bridge. The scheme will provide a one-in-200-year level of protection against flooding in the LFAS2 area. Once delivered, the scheme will reduce flood risk and provide better protection for 1,048 homes and 474 businesses. LFAS2 will also raise the level of protection across the LFAS1 area in the city centre from 100yr to 200yr which covers another 3000 homes and 500 businesses.

- 71 However, the construction, operation and decommissioning of assets is a major source of greenhouse gases (GHGs). To address the carbon impact of the scheme, LFAS established a carbon baseline – the quantity of carbon that would be emitted because of the scheme without additional mitigation. The baseline emissions associated with the construction of LFAS2 are estimated to be approximately 23,600 tonnes of CO₂ equivalent (tCO₂e). In the commissioning of the work they are now working closely with engineers and contractors on the project to reach the targets set out below identifying alternative, lower-carbon approaches and materials.
- 72 Most of the baseline emissions are expected to arise from the use of materials. LCC has set a **20%** carbon reduction target from the use of materials. If this target is reached, this would reduce scheme emissions by approximately 3,200 tonnes. Just under 25% of the carbon baseline is associated with fuel and electricity use during construction. LCC has set a reduction target of **10%** for the carbon from construction energy use. If this target is reached, this would reduce scheme emissions by over 500 tonnes. This process of identifying the carbon baselining of such schemes therefore demonstrates the ability to target reductions through careful selection of processes and materials used in delivery of schemes, an approach that Highways are seeking to utilise across all their construction schemes. Some of those measures include use of HVO in plant machinery use, utilisation of Eco Sheet piles (a material used as part of flood defence) that are manufactured from scrap material and are re-usable and recyclable and use of electric vehicles by teams and contractors working on the project.
- 73 Across Connecting Leeds projects all future contracts and frameworks that are procured will have a requirement for Contractors and Suppliers to deliver schemes and services with reduced climatic impact, these will include:
- Carbon targets to be imposed and monitored
 - Use of local labour
 - Use of local supply chain
 - Use of local SME's
 - Use of lower carbon materials
 - Use of sustainable drainage with climate change uplifts
 - Recycling material and minimising site trips (e.g. demolition of Redhall recycled into ELOR)
- 74 The planning of schemes also recognises the value of offsetting, landscaping and planting has a clear value, for example ELOR incorporates a 5000 tree wet woodland habitat with approx. 25,000 trees planted on the main scheme with a net gain in biodiversity.
- 75 The use of Social Value will also make a significant contribution to the development of Climate Action by suppliers through the procurement processes of the council, as well as other large commissioners of goods and service. Leeds City council 2021 themes, outcomes and measures (TOMs) to be used in development of tenders and contracts include Environmental metrics that aim to deliver decarbonisation. These Social Value TOMs must be part of all procurements in excess of £100,000 and as such will be a key component of the procurement that the councils undertake each year. Key TOMs for suppliers related to carbon emission reductions through contract delivery are:
- Savings in CO₂ achieved through decarbonisation of processes or operations
 - Identification of policies or programmes to achieve net zero, with monitoring and milestones

- Miles driven in zero or ultra-low emission vehicles by staff as part of green transport programmes
- Fleet emissions monitoring
- Volunteering on initiatives related to environmental sustainability and conservation.
- Elimination of single-use plastics
- Waste management verification policies
- Diversion of waste
- Water savings

76 These metrics are assessed as part of the evaluation of tenders and delivery of these monitored through the social value portal with the onus on tenderers to ensure that they meet their commitments as part of the ongoing contract management.

77 City Emissions - Overview



78 The breakdown of this data against sub-categories is detailed below:

	Mega (i.e. million) tonnes CO2
Industry, Commercial and Public Sector	0.9695
Domestic	1.101
Transport	1.036
Total	3.106

79 Similar to the council’s own emissions, the focus to date has been on scope 1 and 2 emissions but the council committed with the Leeds Climate Commission to provide an estimate of the city’s scope 3 emissions. There is currently no single recognised methodology for calculating scope 3 emissions so the methodology will be refined as this area of climate science develops but the figure calculated by the Leeds Climate Commission at least begins to provide some order of magnitude of the potential opportunity to make an impact. The Climate Commission estimates that the city’s emissions are 8,000,000 tonnes. This is based on a bottom up approach for 150 specific measures. However, these figures currently don’t contain emissions associated with waste or aviation.

80 Housing

- 81 Once again, delivering domestic energy efficiency improvements have proven difficult, despite a supportive short-term funding position. The covid-19 pandemic has suppressed demand and slowed delivery due to new working practices and periods of self-isolation. In addition, there have been significant supply chain disruptions and soaring material and labour costs. To compound this, a new technical standard – PAS2035 – has been brought in and is mandatory for many government funded projects. PAS2035 is designed to stamp out poor workmanship which has been a problem in a minority of mainly privately delivery jobs for many years. The standard is currently very blunt and has hit both the poorly managed and well managed schemes equally. It has introduced additional roles for which there are not enough trained people and made delivery of our priority energy efficiency improvements (i.e. solid wall insulation and room in roof insulation) much more expensive and in some cases impossible to deliver without breaching other legislation (i.e. Housing Act and Disability Discrimination Act). However, despite these challenges, Leeds continues to be at the forefront of delivery. We continue to work with central government to provide policy feedback and advice to attempt to improve the situation.
- 82 The team has focussed on delivery of cross tenure projects where funding has been secured previously and on bidding for additional resources to continue the work into 2022 and beyond.
- 83 Green Homes Grant has been secured to support primarily private sector homes, with strict requirements to only support low income households that also have low energy ratings (i.e. predominantly SAP E, F and G) all within a funding cap. The project has had extremely short bidding and delivery windows which, combined with the strict requirements and impact of barriers highlighted above, has made delivery very difficult for all participants, leading to underspends and several extensions.
- Phase 1a ran from late 2020 to September 2021 and delivered measures including a large number of external wall insulations, and some air source heat pumps and solar panels in 77 properties using £765,382 of government funding.
 - Phase 1b commenced in early 2021 and has been extended to April 2022. The council also secured a further £950,822 of underspend from other authorities in October 2021. This has already installed mainly external wall insulation and solar panel installations in 194 properties and is projected to complete measures in 365 households to a total value of £3.77 million.
 - Phase 2 commenced in mid 2021 and has now been extended to June 2022. The funding is managed by the Regional Hubs and was allocated to authorities, via a business planning process. Leeds has been allocated £5.35 million and is due to spend this in full by June 2021 on a mix of measures in over 600 properties including council and private sector homes and the social rented sector including external wall insulation and solar panels.
- 84 Leeds secured £2.6m from the Ministry of Communities, Housing and Local Government's Getting Building Fund to deal with disrepair and provide external wall insulation, room in roof insulation, new windows, doors, heating systems and repair work for private homes in Holbeck. Excellent progress has been made on site with 75 completions to date, helped by the council and the contractor having worked together on phase 1 in this area and it is anticipated that this government funding will enable over 100 whole house retrofits to be delivered by March 2022. The project is also forecast to draw in approximately £1 million of match funding from landlords, homeowners, other grant schemes and the council.
- 85 Leeds secured £4.1m from the Social Housing Decarbonisation Fund (SHDF) demonstrator to fund innovative whole house improvements to make 190 council homes net zero carbon. Good progress has been made and the homes in Holt Park are now receiving super insulation to walls and roofs, high performance windows and doors and air source heat pumps and solar panels.

The contractor is focussing on high quality detailing to minimise cold bridging and heat loss and will be carefully monitored to demonstrate the savings achieved.

86 The council has been extremely successful in securing European Regional Development Fund (ERDF) funding for low carbon projects and has secured over £26 million of the £31.8 million available regionally. Notable projects that decarbonise council houses include:

- The district heating project in Lincoln Green was completed in 2021, with £7.34 million of ERDF funding received for heating improvements to almost 1,300 flats and external wall insulation on 3 blocks.
- The Transformational Insulation in Back to Backs (TIBB) project to install innovative external wall insulation on 750 council owned back to backs in priority neighbourhoods was delayed by procurement issues but is now on site and due to spend the £5.26 million grant by March 2023.
- The Fitting the Future (FtF) project has been reshaped in agreement with ERDF and now focusses on whole house insulation and solar panels for 160 homes, with an offer of electric vehicle charging points for 50 homes. A contractor is now being procured and we are on track to spend the £2.16 million grant by March 2023.
- The Clustering for Warmth (CfW) project has now been contracted with ERDF to deliver innovative low carbon heating solutions to 845 flats in 18 blocks, with a project value of £14.8m utilising £7.4 million of grant funding. This is now on site as part of the wider Ground Source Heat Pumps project that is expected to improve over 845 homes in total.

87 Additional funding

88 In addition to the funded programmes outlined above, the council has also bid for another £9.59 million of SHDF funding. If secured, this will also be used to support major energy efficiency improvements within the council's multistorey flats. We were unsuccessful with a bid to the Home Upgrade Grant this summer. We are also concerned that the funding outlook is very limited, with support focussed on social housing and off-gas grid low income private sector properties. This leaves a huge amount of unmet need in Leeds, particularly low income Victorian terraced areas and more affluent areas requiring more expensive improvements.

89 Strategic

90 We are currently developing a Net Zero Housing Plan alongside the refreshed Housing Strategy which will outline the size of the problem, the key actions that need to be taken to accelerate housing decarbonisation within the existing stock, both locally/regionally and at a national level. Decarbonisation of new housing will be tackled via updated Local Plan policies.

91 The two most important areas that we have identified to make quicker progress towards net zero are:

- Creating a retrofit hub and financial mechanism for the 'able to pay' sector (including energy efficiency, adaptations and disrepair).
- Upscaling tenure blind area renewal investment (e.g. building on the Holbeck approach outlined above).

92 We are now working closely with the region, the UK Green Building council, the Coalition for Energy Efficiency of Buildings and leading practitioners to build the case and secure seed funding for these two priorities.

93 Business/ Commerce

- 94 The Leeds PIPES district heating network has continued to grow at pace during 2021, with efforts this year focussing on increasing the number of buildings connected to the network. This has been assisted by government funding (PSDS) available to decarbonise public buildings which prioritises connection to heat networks as a low cost option to decarbonise heat. We have connected three more significant sites in 2021 and another seven sites are all under construction, with completion due prior to the end of March 2022:
- 95 District heating is likely to continue to grow rapidly, with government announcing their intention to bring in a district heating zoning policy by 2025, which will make it mandatory for certain buildings to connect to district heating. The council is one of a handful of authorities participating in a pilot of the methodology that will be used to identify the zones. The spikes in wholesale gas prices have also made district heating more commercially competitive which is driving interest and many organisations are also attracted by the very low carbon content of the heat that we provide. These factors, should help secure additional customers and growth over the coming decade. A separate report is also being presented to Executive Board that is focused on the growth of the district heating network.
- 96 Like the council, many of the city's other large organisational emitters are also taking significant actions to reduce their own impact on the environment—supporting the city's journey to become the UK's first net zero city. Leeds Teaching Hospital Trust has committed to becoming carbon neutral by 2040. The trust has so far invested more than £13.7 million on projects related to energy efficiency, low carbon heating, low energy lighting or renewable energy and has become the first 'Carbon Literacy' accredited NHS trust in the UK. Arla, one of the world's largest dairy producers, is also one of the largest emitters in Leeds. It aims to have reduced its carbon footprint from production, logistics and energy usage by 63% before the end of 2030. To achieve this, the company has pledged to convert to 100% green electricity across all its production sites and is transitioning its fleet of vehicles to use greener fuels such as biodiesel, biogas and electricity. The University of Leeds—another large emitter—formally approved its Climate Plan in November 2021 which sets a 2030 carbon neutrality target. The £174 million plan represents the single biggest investment the university has ever made on interventions including the targeted refurbishments of buildings, the installation of low carbon technologies and solar PV across the estate, investment in off-site renewables and measures to reduce its emissions from travel. As well as committing to reduce its own emissions, the University has also committed to invest responsibly and has already disinvested from fossil fuel companies. These are just three examples.

97 Transport

- 98 The Connecting Leeds Transport Strategy has decarbonisation as one of its central pillars, in line with the council's own priorities. The Strategy states: Our vision for Leeds is to be a city where you don't need a car. Where everyone has an affordable and accessible zero carbon choice in how they travel. We want to Connect Leeds, Connect Communities, and Connect Businesses together in the most sustainable ways.
- 99 The strategy outlines the key steps to deliver the changes needed in Transport to meet the city's 2030 target of making Leeds Carbon neutral.
- Reducing the need for travel and the number of car journeys, especially at peak times
 - Encouraging people to choose active travel and public transport
 - Improving the efficiency of the transport network and making better use of our road space
 - Encouraging and leading the uptake of zero emission vehicles in freight, public and private transport.

100 These changes are matched with targets for modal shift;

- Increase rail travel by 100%
- Increase cycling by 400%
- Increase bus use by 130%
- Increase walking by 33%
- Decrease car travel by 30%

101 The council is now calculating CO₂ emissions when planning and implementing transport schemes. Calculations are based on key factors, such as the predicted reduction in vehicle kms travelled because of modal-shift to bus, cycling and walking in comparison to car use. These metrics are converted to tCO₂e using a Carbon Zero Appraisal Framework. When calculating the benefit of avoided vehicle kms travelled as a result of modal-shift, the predicted future fleet composition (i.e. percentage electric, petrol, diesel) and fuel efficiency is also taken into account. The benefit of reduced vehicle kms travelled on green house gases therefore reduces over time as future trips will be lower emission on average.

102 This high-level assessment considers the predicted modal shift as derived from approved appraisal methods. These consider the shift from private vehicle to bus, cycling and walking facilitated by new public transport and active mode infrastructure, including associated benefits such as journey times and safety. The method used to produce this data has been approved by the West Yorkshire Combined Authority as part of the assurance process.

103 There is an Action Plan up to 2024 of the Connecting Leeds Transport Strategy, setting out specific schemes and policies to be developed and implemented between 2021 and 2024. We are continuing to deliver the Leeds Public Transport Investment Programme with several bus priority and active travel schemes currently onsite including the A647 and A61 south corridors as well as the Corn Exchange gateway in the city centre. With the announcement of the City Regional Sustainable Transport Settlement, further bus priority schemes are planned to be brought forward across the district such as the A58 and A653 corridors. Completion of the East Leeds Orbital Route will see the creation of over 7.5km of new walking and cycling routes and will allow for the downgrade of the existing ring road reducing the severance of existing communities and permit new active travel routes to be established.

104 A key pillar of the transport strategy is creating healthier streets, spaces and communities and investment within these areas aims to tackle last mile trips and reduce carbon emissions from the start of every trip. Within the next year we will continue to monitor our existing Active Travel Neighbourhood trials and seek to bring forward further trials across the district following engagement with local stakeholders. Further investment within the cycling network is planned including interventions within the city centre integrating into existing infrastructure creating an attractive network for users.

105 The Action Plan also sets out a range of policy measures to be developed to support the transition to net zero. In the short-term Streetscape guidance prioritising low carbon active travel and public transport has been developed. Further policy work is ongoing into rural transport, where it has been identified that a different approach to decarbonising transport is required.

106 Recent works at Leeds Station completed over Christmas 2021 have extended platforms 1 to 7 to enable longer trains to run and therefore increase the capacity (i.e. number of seats available) - this is the end of a £161m investment at Leeds Station over the last 3 years to work towards meeting the existing demand.

- 107 In November 2021 the Integrated Rail Plan for the North and Midlands (IRP) was published and commits to deliver the electrification originally proposed under the Trans Pennine Upgrade Programme (TRU) and now referred to as Northern Powerhouse Rail (NPR) Phase 1. This will contribute to decarbonisation. In addition, the IRP committed £100m for a feasibility study into how to bring HS2 trains from the East Midlands to Leeds and Leeds Station Capacity. Timescales and scope for the study are not yet known. The IRP also committed to further upgrades and digital signalling on the East Coast Mainline to improve journey times between Leeds and London from 133 to 105 minutes. The original HS2 proposal reduced the journey time to 81 minutes. The IRP also sets out the reduction in seats per hour as a result of these alternative interventions from 4,500 to 2,500.
- 108 Our current and future transport funding position remains uncertain with a high reliance on variable government grants and competitive bidding processes. The cost of delivering our long-term ambition in the Connecting Leeds Transport Strategy and action plan is far beyond the level of funding currently available. As we turn our attention to tackling the transport challenges in the city and responding to the economic impacts of covid 19, it is more important than ever that the Government reconsiders the funding landscape for transport to ensure it is fit for purpose and is able to drive green and inclusive growth that achieves the both the Government's levelling up ambitions, Net zero carbon strategy and meets local needs.
- 109 **Development of public electrical vehicle charge infrastructure.**
- 110 We have worked with the West Yorkshire Combined Authority and Engie to deliver a rapid charge network across the city that now provides 30 dual 50kW rapid charging stations across 28 locations that are spatially spread across the city. The dual nature of the units means that this provides 60 EV bays with a further 5 sites due to be completed in early 2022, increasing the network to 70 rapid charging bays. To date this network has over 12,000 registered users regionally and has delivered over 90,000 charge events dispensing over 1.3million kWh of energy at its Leeds sites alone – equating to approximately 4.5million miles of zero emission travel or circa 1000 tonnes of CO2.
- 111 Utilising the Residential Charge Grant Scheme fast charge points are also being installed across 6 locations in Leeds, providing 15 dual charging points that support 30 bays. These installations are designed to support residential areas where housing typically lacks off street parking and therefore households have been unable to utilise the home charge grant. These units are installed and have been live with effect from January 2022. A second phase of grant funding to support installations across 10 sites with 30 dual units has been submitted for installation in 2022.
- 112 We have also worked on the development of charge point provision at the UK's first solar powered park and ride at Stourton that now has 14 dual 7kW charge point units supporting 28 bays as well as four 50kW Rapid charge points, with the site future-proofed for significant expansion of infrastructure as demand requires. Further work to develop the infrastructure offer across the Leeds estate, such as enhancing charging provision at Woodhouse Lane and the Temple Green and Elland Road Park and Ride sites is also underway.
- 113 In addition to schemes directly delivered by the council, Leeds adopted planning conditions that require all new developments to include electric vehicle charge infrastructure, a measure that the UK government is expected to follow nationally in 2022. We have also worked to promote existing national grant schemes that have been available to homeowners and business and will continue to promote new schemes as they are announced to promote the benefits of EV uptake city wide.

114 Despite the numerous schemes underway to deliver electric charging infrastructure, further development of charging infrastructure to support city scale transition to zero emission travel will still be required. To support this the council has developed a new electric vehicle infrastructure strategy and action plan (this can be found at appendix 2). The strategy outlines the council's role as a facilitator and key stakeholder in working to support citywide electric vehicle uptake but is not expected to be solely responsible for the planning, delivery and operation of all vehicle charging in the city.

115 City scale infrastructure will need to be delivered collaboratively and utilising the various levers the council, and central government has, recognising that commercially viable and sustainable, well maintained and reliable networks are likely to be best managed by the private sector who operate at regional, national and international levels with the back office, maintenance, customer service operations and purchasing power to be able to deliver best value to customers in a competitive charge point environment.

116 We are working on development of this strategy and subsequently a framework through which external investment can be utilised to deliver infrastructure, whilst providing best value to the council and those who live, work, and visit the city.

117 This work includes the need to review our policy regarding on-street charging whilst also considering the needs of pedestrians, cyclists, and other highways users. All recommendations regarding alternative fuel infrastructure will need to be in line with the Transport Strategy and overarching aims to deliver modal shift, rather than embed existing travel behaviours.

118 The key considerations when developing the strategy for electric vehicle charging were:

- Meeting the need for city scale charging to align with growing demand for EV's as per above projections – with estimates for between 500,000 and almost 1 million plug-in vehicles in West Yorkshire by 2030.
- Home and workplace charging will meet the bulk of charge requirements – especially with planning conditions being applied. However, the 30% of Leeds households that lack off-street parking will need support with public charging alternatives, though new grants targeting these households will mitigate that demand.
- The Transport Strategy promotes modal shift away from car use, encouraging uptake of active travel, shared and flexible mobility as well as public transport; however, car ownership will remain, and the business sector will also require charging facilities outside of depots and offices.
- Whilst there are some grant opportunities from central government for Electrical Vehicle Charge Points, this is not sufficient to support city scale charging requirements for a growing plug in fleet.
- A strategy should therefore focus on delivering a charge infrastructure that does not duplicate what will be delivered by external parties, where charging will be managed by households or business themselves and should focus on ensuring that there is equity in accessibility of zero emission travel choices.

119 **EV Trials**

120 Leeds launched the first local authority electric vehicle trial scheme in 2020, providing vans to businesses, public sector and third sector organisations for 2 months, or cars licensed for private hire use for up to one month. The scheme allows participants to gain valuable experience of driving electric vehicles as well as getting insight into their economic benefits.

121 By December 2021, the number of organisations that have completed EV Trials had reached 157 businesses/organisations that had trialled a van and 21 private hire drivers who had utilised

the licensed cars with a total of 330,000 miles completed in total, equating to an estimated carbon dioxide saving of over 70 tonnes.

122 The feedback on the scheme has been overwhelmingly positive with the majority of all participants (97%) stating that they both found the scheme beneficial and would recommend it to others and that (75%) have said it has changed their opinion of electric vehicles for the better and would encourage them to make plans to transition to electric vehicles when they come to replace their fleet. Currently 20 electric vehicles have been purchased by organisations or businesses who have completed trials, with many more expected to follow.

123 The vehicles used for the EV Trials scheme will be absorbed into the council's corporate fleet once the scheme has ended.

124 The E-Bike Trial scheme has delivered 136 trials to date, with further trials scheduled up to the end of March 2022. Over 13,000 miles have been cycled using these E-Bikes with the scheme demonstrating a clear appetite for transition to this type of active travel. Feedback from those taking part in the trial has seen over 90% stating that their opinion of E-Bikes is better having used one and that over 70% have stated it is either very likely, or quite likely that they will purchase an E-Bike.

125 A separate report will also be presented to Executive Board that will outline a funding application for £2.4 million to support a public electric bike hire scheme in Leeds.

126 **White Rose Forest**

127 The White Rose Strategy for Leeds was approved by Executive Board in December 2020 and contributes to the ambitions of the wider White Rose Forest Plan covering West and North Yorkshire.

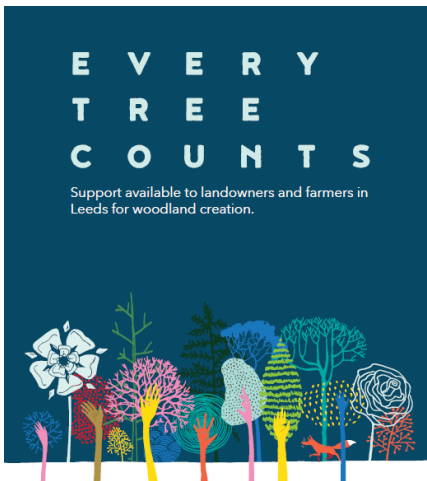
128 The strategy focuses on:

- Promoting and planting trees – on private, public, institutional, and residential land
- Protecting trees – continue to protect trees through legislation and policy
- Planning for trees – setting the framework for tree planting

129 The council is working closely with the White Rose Forest Joint Venture team based in Kirklees who coordinate and support tree planting across the region. They have helped the council secure £300,000 for 50 hectares of planting for 2020/21 as part of the Woodland Creation Scheme run by Parks and Countryside. Next year the council's ambitious tree planting will continue on 50 hectares of land including large schemes including a consumption memorial woodland at the former South Leeds Golf Club, planting in and around Middleton and Temple Newsam.

130 As well as planting, the scheme includes a successful tree seed collection campaign run in schools and other council facilities and an educational pack for schools.

131 The Joint Venture team have also worked with the council to develop processes and communication materials for landowner/farmer and business engagement. This will be launched next year. If farmers and landowners are interested, the council's partners such as Groundwork and the Woodland Trust will then engage and work with them to plan, plant and maintain new woodland.



132 The council's role will be to promote planting in rural areas and engaging with businesses to plant on their own land and donate land or time.

133 At the time of writing the council is strengthening its policies in relation to planning policy through the Local Plan Update in terms of planting more trees in association with new development. Planners continue to advocate for trees as part of the planning process but legislation does not currently allow for protection of trees on basis of carbon capture (only on basis of amenity).

134 The council will also be launching the partnership with Trees for Streets on a web-based tree sponsorship scheme for

streets and parks where residents and business can contribute to planting specific trees in their neighbourhood or beyond.

135 Climate Resilience and Adaptation

136 The Climate Emergency is not just a call to arms for us to hit our target of being Net Zero by 2030, it also means that we must adapt and become more resilient now to the impacts that we are already facing due to an already changing climate.

137 240 people died in recent floods in Europe, with current projections that we could face up to 4 degrees of rise in global temperatures by the end of the century we are already confident we have seen a 1 degree rise and even with optimistic forecasts we could likely face a 2 degree rise. This could mean 6% increases in winter rainfall by 2050, up to 8% by 2080, whilst summer rainfall could fall by 15% by 2050. By the 2050s river flows could be up by 27% in the winter but down by 82% in the summer.

138 Leading scientists and governments across the world recognise that even with the degree of warming and climatic change we are already experiencing this is bringing about challenges that require action now to promote adaptation and improve resilience. Improving the resilience of the city's infrastructure and the natural environment as well as reducing the impacts of flood (Leeds most significant climate risk) and other climate risks from current and future climate change is a Best City priority.

139 The council's role as a Lead Local Flood Authority under the Flood and Water Management Act (2010) puts a statutory duty on the council to plan strategically to manage flood risk, to ensure development is done in accordance with planning and flood risk legislation and to ensure assets are recorded and registered effectively. The council also holds duties under the Civil Contingencies Act (2004) as a category 1 responder, highlighting the importance of preparing for and effectively managing incidents across a range of themes, many of which relate to the general resilience of the city. The government's 25-year Environment Plan also emphasises the need to develop resilience, to work collaboratively at a catchment scale and to drive innovation.

140 The role of teams like Resilience & Emergencies, Sustainable Energy & Air Quality, Public Health, Highway Maintenance and Flood Risk Management is central to how risks and incidents are managed, to do this effectively they must work together with a wide range of services across the council and among partner organisations in the city. Our ability to respond effectively as climate related risks become more frequent and severe in Leeds needs to develop and now needs to facilitate the work of others across the council and many people and organisations that live and work in Leeds to become more climate and flood resilient. The council also needs to take a leading role in driving innovation across the region to promote catchment scale work that not only protects the natural environment but works with it to make the region more climate resilient and ecologically and economically robust.

- 141 It's also important that the services, infrastructure and whole systems that residents and businesses rely on are robust and resilient so they can continue to operate and provide effective outputs long into the future in spite of the challenges climate will present.
- 142 Investment in infrastructure specifically designed to help us adapt to climate change and reduce its impacts is ongoing in the city, most notably through flood alleviation schemes (FAS). Leeds FAS phase 1 was completed in 2017, Otley FAS completed in December 2021 and Leeds FAS phase 2 one of the largest flood schemes in the UK is under construction with an expected completion in 2024. These schemes and others like them are designed to provide protection now and into the future taking into account the predicted impacts of climate change.
- 143 New developments across the city go through a rigorous appraisal process as part of the planning system and in some areas such as flood risk there are existing pieces of legislation that drive the requirement to design for the future with respect to climate risks. Some areas will need more local action alongside national changes to strengthen legislation. Areas like water consumption and energy efficiency have seen improvements at a local level but developing this further for other areas and looking at this across existing housing and broader infrastructure stock will need a concerted effort.
- 144 The resilience and adaptability of the infrastructure in the city can have huge impacts on how a future Leeds will function. Should behaviours and systems not adapt to become more robust and efficient then when extremes of heat, cold and weather impact the city their effects will be felt hardest in areas where adaptation hasn't taken place.
- 145 Climate mitigation measures and improvements to resilience can go hand in hand, for example where local and sustainable food supply chains are developed to support carbon reduction, they could also be made more resilient to the local impacts of climate change and by default less susceptible to global climate impacts.
- 146 The Yorkshire & Humber Climate Commission launched its Climate Action Plan in December 2021 with a number of specific actions related to climate resilience and adaptation. Leeds has committed to review these specific actions and to translate them into recommendations and targets for the city as part of our first resilience and adaptation plan by Autumn 2022.

147 Local Plan Update

- 148 Executive Board approved consultation on the first stage of Local Plan Update in June 2021 and 8 weeks of public consultation was held between July and September with 14,000 web views, a range of consultation activities and over 750 detailed responses.
- 149 The priority for the Local Plan Update is to update and improve existing policies and make new ones to address climate change, and the climate emergency declaration to help achieve net zero emissions by 2030. In so doing the update covers the following topics: carbon reduction (including low and zero carbon homes, whole life cycle carbon assessments, heat and energy, planning for renewable and low carbon energy generation locally, energy storage); flood risk (including climate change scenarios and the role of the flood plain and natural measures to store water); green infrastructure (including blue infrastructure, greenspaces, tree-planting, biodiversity and soils); place making (including design of places for health and well-being and accessibility for all, as well as low carbon, 20 minute neighbourhoods) and sustainable infrastructure (including planning for mass transit, linking with the city's Connecting Leeds Strategy and considering local policies for new rail infrastructure and the airport).

150 The Local Plan Update is being steered by Development Plan Panel who have been updated on the consultation. Detailed policies will now be drafted in line with planning guidance which require evidence, reasonable alternatives and sustainability appraisal prior to further consultation on draft policies due early Summer 2022. It is hoped that, subject to the comments received and resources available that the Plan will be submitted to the Secretary of State this year for formal examination in 2023.

151 In the meantime officer guidance and Member training will continue to highlight ways we can use current Development Plan and national policy in the determination of planning applications; whilst encouraging developers to prepare for policy change, and positively welcome those who go further, in light of the trajectory of the LPU. At draft policy stage it may be possible to use our new policies as a material consideration, in advance of their adoption, depending on the level and extent of objection that we receive on them.

What impact will this proposal have?

Wards affected: All

Have ward members been consulted?

Yes

No

152 This plan covers a wide range of both policy and projects, all of which are designed to reduce the carbon emissions of the city and work towards our net zero by 2030 target.

What consultation and engagement has taken place?

153 The council has a number of 'owned' channels used to provide updates and announcements regarding projects that support the climate change strategic aim. For example, the monthly Leeds Climate newsletter is sent to more than 5,500 subscribers every month, the climate-focused @LeedsCC_CEAQ Twitter account has 3,000 followers and typically reaches at least 15,000 users per month, the climate change strategy page on the council website was downloaded more than 9,500 times in 2021 and across the year the council's newsroom published 59 press releases related to projects and announcements that support efforts to tackle climate change.

154 Given the breadth of actions required by the climate action plan, a wide range of proactive communications and engagement work has been undertaken to explain council policy, engage with residents on how they can make a difference, and enable the successful delivery of decarbonisation schemes. A summary of some of some key activities follows below.

155 Communications has been vital to ensure the successful delivery of funded schemes to improve the energy costs of private homes by installing funded solar panels and/or insulation. A mix of targeted social media activities, online and offline stakeholder engagement activities, significant press coverage, and targeted mail drops has resulted in more than 600 residents that meet income criteria signing up for the scheme. Work continues to secure more applications from the least efficient homes.

156 To highlight the local opportunities of the net-zero transition being discussed at the UN Climate Conference in Glasgow, the council partnered with Ahead Partnership and more than a dozen businesses to deliver an 'Exploring Green Careers' school event recognised as an official COP26 Regional Green Zone event. 82% of young people from three different schools said that they would consider a green career and cited a more diverse understanding of what green

careers are. Follow-up work to share resources from the day with all schools is currently being planned.

- 157 There was considerable work across the council aimed at raising awareness of actions that can be taken to reduce emissions from transport. Council officers from numerous departments and a range of partners held 'marketplace' events in the city centre to mark both Clean Air Day and Car Free Day, a new toolkit for make it easier for residents to host community street events was launched, and throughout the year a behaviour change campaign was led by the Connecting Leeds team.
- 158 Members were regularly engaged throughout the year whether as part of project-specific engagement, the Climate Emergency Advisory Committee and its 4 working groups, or through presentations to each of the Community Committees. For the decarbonisation work across the council estate the ward members have been consulted as have the building managers.
- 159 With regards the Electric Vehicle Charging Infrastructure Strategy and Action Plan, significant engagement with industry, charge point operators, central government (including Department For Transport, OZEV), independent sector experts such as Cenex, Energy Savings Trust and the combined authority, internal services and members has been undertaken to date.
- 160 Engagement with business, third sector groups, other public sector organisations, private hire and taxi licensees and the public has demonstrated that there is an appetite for electric vehicle charging and that the council is seen as a key facilitator for delivery of that. As such it is clear that this Action Plan is required and is a critical part of delivery of the broader aims of the Transport Strategy, that was in itself consulted on widely.

What are the resource implications?

- 161 In terms of energy strategy, particularly in light of current energy prices and the expected increasing costs of fossil-fuel based energy generation, the proposed measures to reduce energy consumption, improve energy efficiency and increase the level of energy consumed from renewables or low-carbon sources will all serve to minimise the cost impacts to the council. Grant funding will continue to be sought from government in support of the ongoing expansion of decarbonisation measures across the council's buildings.
- 162 The Energy Savings Trust fleet review will provide a road map that will support decarbonisation of the council's vehicles up to 2030. It will identify the timescales for low carbon vehicles types that will be available and will therefore inform the fleet replacement budget and the resources needed to fund that. Grant funding where applicable and available will be sought from central government for both fleet and electric vehicle charging, as well as seeking commercial investment in city scale charging, however funding in these areas is typically capital only, so resourcing to deliver the required projects will need to be identified. However, as Transport is such a significant contributor to the city's carbon footprint, this staff resource is essential to support the meeting of decarbonisation targets by 2030.

What are the legal implications?

- 163 There are currently no legal requirements that mandate the local authority to deliver charge infrastructure, however the government have undertaken a consultation on whether planning and delivery of such infrastructure should become a statutory duty of local authorities. As such it is important that as a council we are able to demonstrate effective planning for and delivery of charge infrastructure in Leeds in a way that is appropriate for the city and its citizens to mitigate against the potential for planning to be imposed upon us should central government feel that such mandates would be necessary for areas who lack plans or delivery projects.

164 Leeds has already included planning conditions that require new developments to include charge infrastructure, this is expected to be made mandatory nationally, so we would likely already be compliant with any such change to national planning policy.

165 Progressing the energy strategy will involve major high-value procurements of a corporate power purchase agreement and gas and electricity supply contract(s) which will be carried out in accordance with Public Contracts Regulations and contract procedure rules (CPRs).

What are the key risks and how are they being managed?

166 One of the key risk to reaching net zero are access to finance as many of the measures that have a short payback such as LED lighting or solar panels have already been implemented and the measures that are left such as the transition from gas heating are significantly more costly to install than an equivalent gas boiler and can also be more costly to run. The PSDS was heavily oversubscribed in phase 1 and only £1.425bn out of the total £3.9bn has been committed in the budget for the next 3 years, ending in 2025. In the heat and building strategy the government has signalled that its intention is to make heat pumps as cheap to run and buy by 2030 – however this will make a net zero by 2030 target challenging to achieve.

167 Many of the actions that need to be taken to meet net zero are not within the direct control of the council. Using the example of owner occupied housing, the council can support home owners to make the right decisions and work is on-going to try and establish a housing retrofit hub (see paragraph 91) but ultimately the council has no powers to force home owners to take the required action. This means that national policy has a key role to play in using levers available to encourage swifter action by homeowners.

168 Many of the barriers to change sit outside of the direct control of the council and therefore one of the key ways to manage the risks is to work with national government and to highlight the challenges that will prevent the city reaching net zero. The council will continue to highlight the key barriers to progress, working with partners such as LGA, UK100, core cities as well as with local authorities at a regional level.

169 Should the council be seen to be falling behind in planning and delivery of charge infrastructure the recent government consultation suggests there could be a risk of government mandating plans or applying a statutory obligation onto councils to plan and delivery charging. This may not be as flexible or appropriate as our own planning and delivery would be, so it is important to mitigate against such an imposition of this duty by being pro-active.

170 Specifically related to the housing schemes the biggest risks to delivery are the restriction on low SAP rating properties combined with PAS2035: measures required in the lowest SAP properties are now too expensive to install within the funding cap.

Does this proposal support the council's three Key Pillars?

Inclusive Growth

Health and Wellbeing

Climate Emergency

171 Although this report primarily focuses on the council's approach to the climate emergency, much of the work undertaken provides multiple co-benefits. The investment in building retrofit supports the local economy, helping to create new jobs. Between the PSDS, district heating and housing retrofit schemes an estimated 456 jobs have been created in Leeds.

172 During COP26 a green jobs and skills event was run for three local schools, involving a wide variety of sectors. The materials produced during the event will also be made available to all schools to create a legacy impact from the event.

173 The council has also worked with Generation UK to support them to host in Leeds the second ever Retrofit Advisor bootcamp in March. They will train a cohort of 25 people and can

offer support to hundreds more applicants. Many of our supply chain partners have agreed to support the scheme, interviewing participants at the end for a permanent job.

174 Our climate ambitions are also key to delivering the city’s health and wellbeing priority. We will reduce fuel poverty and cold-related illness by making our buildings more energy efficient; enable physical activity and public safety by improving our transport infrastructure; promote healthier and lower carbon diets; increase life expectancy by transitioning to cleaner energy, heating and transport; and improve access to green spaces which are proven to have clear benefits to both mental and physical wellbeing.

Options, timescales and measuring success

What other options were considered?

175 The option to rely on natural fleet change and commercial development of charge infrastructure to deliver the switch to low carbon transport was discounted as the pace of change that it would deliver is not likely to support our own 2030 targets. For the city to decarbonise the way we travel there is a need to pro-actively seek to support and facilitate the uptake of low carbon travel at a pace quicker than current national plans would deliver. Therefore, working with key stakeholders to deliver a comprehensive Electric Vehicle Charge Infrastructure supported by a strategy and action plan is vital to ensure that low carbon travel options are available to all at an accelerated pace. The plans outlined above and in the Electric Vehicle Charger Infrastructure Strategy offer a sustainable approach to meeting the city-scale requirement for charge point infrastructure, maximising potential commercial investment in the city and supporting the widest possible uptake of electric vehicles utilisation in support of the Transport Strategy and the carbon reduction from transport that is required.

176 In terms of energy strategy options, the council could have adopted a strategy of relying more exclusively on the decarbonisation of the national gas and electricity grids rather than pursuing its own measures for increasing renewables and low-carbon technologies over and above national changes. However, the pace of grid decarbonisation is unlikely to be sufficient to enable the council to meet its net zero target, and the council is therefore proposing its own significant steps, as set out above, to reduce the carbon impact of its energy usage and to move increasingly towards local low carbon energy generation given its various benefits.

How will success be measured?

177 Success will be measured by the reduction in carbon emissions at both a council level but also at a city level.

What is the timetable for implementation?

178 The table below sets out indicative implementation timescales for key actions across the main areas covered within this report:

Date	Key Actions
Housing	
Jun 2022	Complete delivery to cross sector homes
Summer 2022	Anticipated date for applications for Wave 2 of the SHDF funding
Mar 2023	Complete delivery of external wall insulation to council back-to-back homes through TIBB project
May 2023	Complete delivery of innovative low carbon heating to flats CfW funding
Energy strategy	
Dec 2022	Award of renewables power purchase agreement

Mar 2023	Award of new gas and electricity supply contracts
Oct 2023	Complete Street Lighting LED roll-out
Building decarbonisation measures (PSDS)	
April 2022	Commence delivery of PSDS phase 3 schemes
June 2022	Works completion for PSDS phase 1 schemes
Mar 2023	Works completion for PSDS phase 3 schemes (<i>no LCC bids in phase 2</i>)
District heating network – phase 3 (see separate Executive Board report)	
Feb 2022	Executive Board approval
Mar 2022	Contract award
May 2022	Construction start
Dec 2022	Construction end
Electric vehicle charging	
Feb 2022	Energy Savings Trust Fleet Review recommendations
July 2022	Design principles for On-Street Charging document
September 2022	Pilot Schemes for charging schemes with commercial charge point operators
Food Strategy	
Autumn	Draft Food Strategy presented to Executive Board
November to January 2023	Consultation
February 2023	Adoption of Food Strategy
Adaptation & resilience	
Summer 2022	Climate Adaptation and Resilience Report presented to Executive Board

Appendices

179 Appendix 1 – Energy Strategy and Action Plan

180 Appendix 2 – Electric Vehicle Charging Infrastructure Strategy and Action Plan

Background papers

181 None