



CONSULTATIVE MEETING OF MEMBERS OF THE CLIMATE EMERGENCY ADVISORY COMMITTEE

Meeting to be held remotely* on 9 March 2022
at 10.00am

MEMBERSHIP

Councillors
B Anderson
N Buckley
P Carlill
M Dobson
Finnigan
E Flint
A Forsaith
A Garthwaite
C Hart-Brooke
H Hayden
J Illingworth
M Shahzad
P Wadsworth
N Walshaw (Chair)
P Wray

Note to observers of the meeting:

To remotely observe this meeting, please click on the 'To View Meeting' link which will feature on the meeting's webpage (linked below) ahead of the meeting. The webcast will become available at the commencement of the meeting.

<https://democracy.leeds.gov.uk/ieListDocuments.aspx?CId=1210&MId=11808&Ver=4>

*This is being held as a remote 'consultative' meeting. While the meeting will be webcast live to enable public access, it is not being held as a public meeting in accordance with the Local Government Act 1972.

Harriet Speight
Policy Officer
Tel: (0113) 37 89954

A G E N D A

Item No	Ward/Equal Opportunities	Item Not Open		Page No
1			<p>APOLOGIES FOR ABSENCE</p> <p>To receive any apologies for absence.</p>	
2			<p>DECLARATIONS OF INTEREST</p> <p>To disclose or draw attention to any interests in accordance with Leeds City Council's 'Councillor Code of Conduct'.</p>	
3			<p>NOTES OF THE PREVIOUS MEETING</p> <p>To receive the notes of the consultative meeting held 17th January 2022.</p>	5 - 8
4			<p>OPEN FORUM</p> <p>At the discretion of the Chair, a period of up to 15 minutes may be allocated at each ordinary meeting for members of the public to make representations or to ask questions on matters within the terms of reference of the Committee. No member of the public shall speak for more than five minutes in the Open Forum, except by permission of the Chair.</p> <p>Please note: Members of the public are asked to submit a video of their question or statement to climate.emergency@leeds.gov.uk by 4 p.m. on Friday 4th March 2022.</p>	
5			<p>WORKING GROUPS UPDATE</p> <p>To receive a verbal update on the progress of the Committees' working groups to date.</p>	
6			<p>CLIMATE ADAPTATION UPDATE</p> <p>The purpose of this report is to introduce a presentation on the council's ongoing work to support climate adaptation. Guest speakers will also be in attendance to set the context of the key risks to the city as a result of climate change and the action required to mitigate the impact.</p>	9 - 12

**EXECUTIVE BOARD 9TH FEBRUARY 2022 -
CLIMATE EMERGENCY ANNUAL REPORT**

The purpose of this report is to introduce the Climate Emergency Annual Report considered at the Executive Board meeting on 9th February 2022. The Chief Officer (Sustainable Energy and Air Quality) will deliver a presentation to the Committee on the submission to Executive Board, including an update on comments made by Executive Members at the meeting.

DATE AND TIME OF NEXT MEETING

To be confirmed

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CONSULTATIVE MEETING OF MEMBERS OF THE CLIMATE EMERGENCY ADVISORY COMMITTEE

MONDAY, 17TH JANUARY, 2022

PRESENT: Councillor N Walshaw in the Chair

Councillors B Anderson, N Buckley,
P Carlill, M Dobson, E Flint, A Forsaith,
A Garthwaite, C Hart-Brooke, H Hayden,
J Illingworth, M Shahzad, P Wadsworth and
P Wray

1 Apologies for Absence

There were no apologies for absence.

2 Declarations of Interest

There were no declarations of interest.

3 Notes of the Previous Meeting - 13 December 2021

RECOMMENDED – That the note of the consultative meeting held 13 December 2021 be noted.

4 Open Forum

Members of the public were invited to submit a question / statement in advance of the meeting.

One written submission was received and read out to the Committee from Boston Spa and Wetherby Community Green Group, as follows:

‘Bearing in mind the level of construction that is being outlined across the region for the next few years and the level of progress that has been made in the improvements to sustainability in house building, why are building applications not being rejected if they are not towards the zero emissions end of the spectrum? And if these practices are not already being insisted upon, when do you believe that Leeds City Council will insist on these methods being compulsory?’

The Chair advised that a written response will be provided via email from the relevant council team.

5 Working Groups Update

The Chief Officer for Sustainable Energy and Air Quality, Polly Cook, provided an update to Members on the progress of the working groups to the Committee as follows:

Biodiversity and Food – At the most recent meeting, Members received an update from the University of Leeds on their carbon decision-making tool for menu planning and discussed potential uses for the tool beyond school meals and opportunities for further research funding. Members also received a presentation from Meanwood Farm and Foodwise Leeds on community supported agriculture projects and ways in which the Council can support future projects, through land mapping and land allocation. The group also received an update on the Food Action Plan, initial engagement activity to help shape the new Food Strategy to be launched in Autumn 2022, and the initial microfeasability study undertaken to link greenhouses to the District Heating Network.

Behaviour Change and Transport – At the most recent meeting, the group discussed a Defra consultation in relation to proposals to restrict the sale and use of commonly littered single-use plastics. A collective formal response, on behalf of the working group, will be submitted.

Planning, Buildings and Energy – At the next meeting, the group will consider the draft Energy Strategy ahead of Executive Board in February 2022.

6 Future Fashion Factory Update

The Head of Economic Policy submitted a report which introduced the work of the Future Fashion Factory and how its programmes support the fashion and textile industry to help address the climate.

The following were in attendance:

- Fiona Bolam, Head of Economic Policy, Leeds City Council
- Gilda Smith-Leigh, Senior Economic Development Officer, Leeds City Council
- Professor Stephen Russell, Director of Future Fashion Factory
- Suzy Shepard, Co-Director of Future Fashion Factory
- Sue Rainton, Programme Manager, Future Fashion Factory

The Director of Future Fashion Factory delivered a PowerPoint presentation that provided an overview of the programme, based in Leeds. Members were advised that the Future Fashion Factory researches and develops advanced digital and textile technologies to transform the industry's agility in the luxury fashion design process, and ability to shift to circular economies. The presentation set out several ongoing projects and areas for future development.

Members discussed a number of matters, including:

- Members recognised the strong fast-fashion appetite in the UK compared to other countries, and the Council's role in engaging with communities to influence the move towards a more circular economy of reusing, recycling, and repairing, as well as encouraging purchase of a single higher quality item as opposed to several cheaper items.
- It was noted that large retailers in the UK often use unethical forms of low-skilled labour in developing countries, including child labour, to make items very cheap to purchase for the consumer. Members recognised that the process of introducing tougher international ethical trade standards, or a move towards more localised trade, must consider the economic impact on countries and potential to exacerbate poverty by removing jobs that families rely on.
- It was suggested that community hubs and other local support centres could be utilised to offer basic sewing and repairing workshops, along with communications, to encourage communities to keep and mend items.
- Members noted that the current LCC Waste Strategy does not include reference to fashion or textiles, and this should be considered as part of the strategy refresh, which is currently underway. The Chief Officer advised that she will continue to support and advise colleagues around sustainable measures, and specifically clothing and textiles, as part of the Waste Strategy refresh.

RECOMMENDED – That the contents of the report and presentation, along with Member's comments, be noted.

7 Future Talent Plan Update

The Head of Economic Policy submitted a report that introduced a presentation that provided an introduction to work undertaken by the council to refresh the city's Employment and Skills Plan.

The following were in attendance:

- Fiona Bolam, Head of Economic Policy
- Meenakshi Parmar, Economic Policy Officer

The Head of Economic Policy introduced the report, explaining the Council's aim is to deliver a city-wide plan, now called the Future Talent Plan, that will be owned and updated by stakeholders in the city, supporting people to develop and maintain the skills that make them and our businesses resilient in the face of change – to be considered by Executive Board in Spring 2022.

The Economic Policy Officer delivered a PowerPoint presentation which provided an overview of the recent review of the Talent and Skills Plan 2017, including the outcomes of stakeholder engagement activity to date to develop an understanding of skills in demand in Leeds, including 'green skills'. The overarching challenges for the future of work in Leeds were identified as the need for employers to be more adaptable and the need to transform education to support the move towards a green economy. Members were

advised that the demand for increase in demand for green skills and the need for targeted support for transitioning high carbon sectors will inform the Future Talent Plan.

Members discussed a number of matters, including:

- Members were supportive of the focus on green skills in the updated plan, but expressed concerns around the over-professionalisation of job specifications for green jobs in the labour market, which could exclude those most vulnerable of being left behind by transitions within high carbon sectors.
- It was emphasised that council and sector led apprenticeships should focus on entry-level and out of work, with an attractive career path, as opposed to upskilling existing employees.

RECOMMENDED – That the contents of the report, along with Member’s comments, be noted.

8 Any Other Business

It was highlighted that the meeting details on the democracy.leeds.gov webpage was difficult to find in the new consultative format, and that this may result in residents being unable to follow the meeting. The Chair asked the Governance Officer to resolve this issue.

A Member queried the date of the next finance working group and was advised that the details would be circulated to all members once a date had been finalised.

9 Date and Time of Next Meeting

Wednesday 9th March 2022 at 10am

Climate Adaptation Update

Date: 9 March 2022

Report of: Chief Officer (Sustainable Energy and Air Quality)

Report to: Climate Emergency Advisory Committee

Will the decision be open for call in? Yes No

Does the report contain confidential or exempt information? Yes No

What is this report about?

Including how it contributes to the city's and council's ambitions

- The purpose of this report is to introduce a presentation on the council's ongoing work to support climate adaptation.
- Guest speakers will also be in attendance to set the context of the key risks to the city as a result of climate change and the action required to mitigate the impact.

Recommendations

The Climate Emergency Advisory Committee is asked to note the contents of the report and presentations.

Why is the proposal being put forward?

- 1 Climate adaptation refers to action taken to prepare for, and adjust to, both the current effects of climate change and the predicted impacts in the future. Adaptation seeks to reduce the risks posed by climate change, and to benefit from any associated opportunities where possible.
- 2 In July 2018, the government published its second five-year [National Adaptation Programme](#), which responds to six priority risk areas identified by the second Climate Change Risk Assessment (CCRA) undertaken by the National Committee for Climate Change.
- 3 The third CCRA was published in January 2022 and set out eight priority areas for the Government to consider in the next National Adaptation Programme, due to be published in 2023. The eight areas identified for action were set out as follows:
 - 1) Risks to the viability and diversity of terrestrial and freshwater habitats and species from multiple hazards
 - 2) Risks to soil health from increased flooding and drought
 - 3) Risks to natural carbon stores and sequestration from multiple hazards
 - 4) Risks to crops, livestock and commercial trees from multiple climate hazards
 - 5) Risks to supply of food, goods and vital services due to climate-related collapse of supply chains and distribution networks
 - 6) Risks to people and the economy from climate-related failure of the power system
 - 7) Risks to human health, wellbeing and productivity from increased exposure to heat in homes and other buildings
 - 8) Multiple risks to the UK from climate change impacts overseas
- 4 At the Executive Board meeting held 9 February 2022, it was noted that an adaptation plan will be developed and brought back for approval within the year. Members will be provided with an update on the progress of developing this work at the meeting.
- 5 Representatives from the Environment Agency and Yorkshire Water will also be in attendance to provide an overview of their ongoing work in this area in Leeds and across Yorkshire and Humber.

What impact will this proposal have?

Wards Affected:

Have ward members been consulted? Yes No

- 6 There are no equality and diversity, or cohesion and integration implications as a result of this report.

What consultation and engagement has taken place?

- 7 The Committee meeting will provide an opportunity for Members to comment on the information presented.

What are the resource implications?

- 8 There are no specific implications as a result of this report.

What are the legal implications?

9 There are no specific implications as a result of this report.

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

10 There are no risk implications as a result of this report.

Does this proposal support the council's 3 Key Pillars?

Inclusive Growth Health and Wellbeing Climate Emergency

11 The projects and schemes highlighted will support the work that the council needs to undertake to meet its targets as part of the Climate Emergency declaration.

Options, timescales and measuring success

a) What other options were considered?

12 Not applicable.

b) How will success be measured?

13 Not applicable.

c) What is the timetable for implementation?

14 Not applicable.

Appendices

15 None.

Background papers

16 None.

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Executive Board 9th February 2022 - Climate Emergency Annual Report

Date: 9 March 2022

Report of: Chief Officer (Sustainable Energy and Air Quality)

Report to: Climate Emergency Advisory Committee

Will the decision be open for call in? Yes No

Does the report contain confidential or exempt information? Yes No

What is this report about?

Including how it contributes to the city's and council's ambitions

- The purpose of this report is to introduce the Climate Emergency Annual Report considered at the Executive Board meeting on 9th February 2022.
- The Chief Officer (Sustainable Energy and Air Quality) will deliver a presentation to the Committee on the submission to Executive Board, including an update on comments made by Executive Members at the meeting.

Recommendations

The Climate Emergency Advisory Committee is asked to note the report and presentation.

Why is the proposal being put forward?

- 1 The Climate Emergency Annual Report (Appendix 1) is an annual update that provides an overview of work to support the council's targets in relation to the climate emergency declared in March 2019.

What impact will this proposal have?

Wards Affected:

Have ward members been consulted? Yes No

- 2 There are no equality and diversity, or cohesion and integration implications as a result of this report.

What consultation and engagement has taken place?

- 3 The Committee meeting will provide an opportunity for Members to comment on the information presented.

What are the resource implications?

- 4 There are no specific implications as a result of this report.

What are the legal implications?

- 5 There are no specific implications as a result of this report.

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

- 6 There are no risk implications as a result of this report.

Does this proposal support the council's 3 Key Pillars?

Inclusive Growth Health and Wellbeing Climate Emergency

- 7 The projects and schemes highlighted will support the work that the council needs to undertake to meet its targets as part of the Climate Emergency declaration.

Options, timescales and measuring success

a) What other options were considered?

- 8 Not applicable.

b) How will success be measured?

- 9 Not applicable.

c) What is the timetable for implementation?

- 10 Not applicable.

Appendices

- 11 Appendix 1 - Climate Emergency Annual Report, Executive Board, 9th February 2022

- 12 Appendix 2 – Energy Strategy and Action Plan (Appendix 1 to the Executive Board report)
- 13 Appendix 3 - Leeds Electric Vehicle Charge Infrastructure Strategy and Action Plan 2022 – 2030 (Appendix 2 to the Executive Board report)

Background papers

- 14 None.

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Climate Emergency Annual Report

Date: 9th February 2022

Report of: Director of Resources

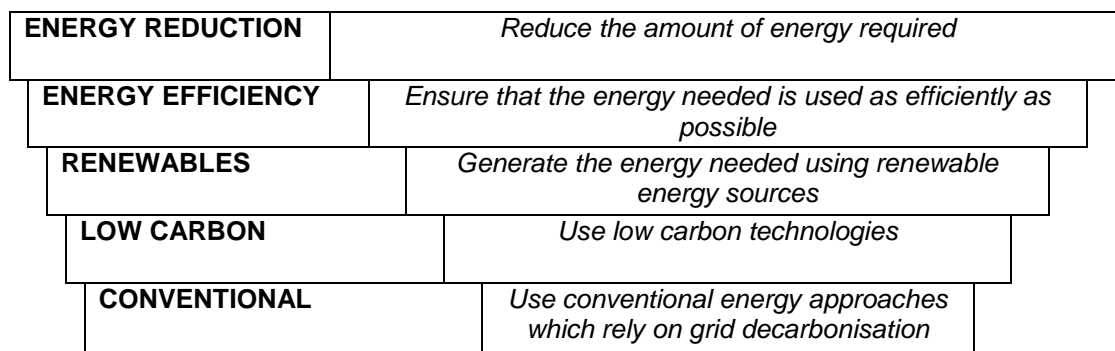
Report to: Executive Board

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.



- 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

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 CO₂e 2018/19⁵	Food weight (Tonnes)	Tonnes CO₂e 2019/20⁵	Food weight (Tonnes)	Tonnes CO₂e 2020/21⁵	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:

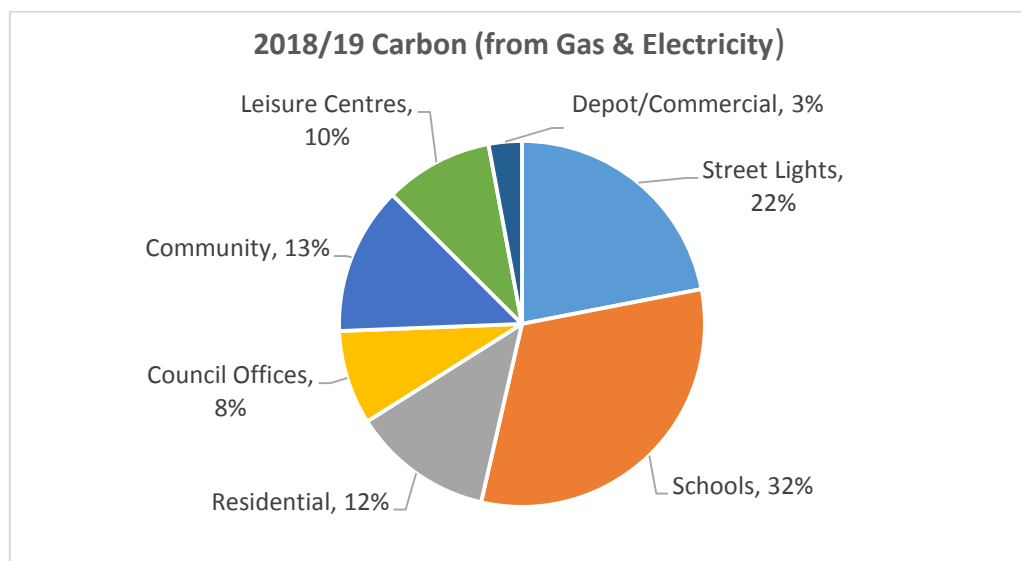
ENERGY REDUCTION	<i>Reduce the amount of energy required</i>
ENERGY EFFICIENCY	<i>Ensure that the energy needed is used as efficiently as possible</i>
RENEWABLES	<i>Generate the energy needed using renewable energy sources</i>
LOW CARBON	<i>Use low carbon technologies</i>
CONVENTIONAL	<i>Use conventional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

- 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.



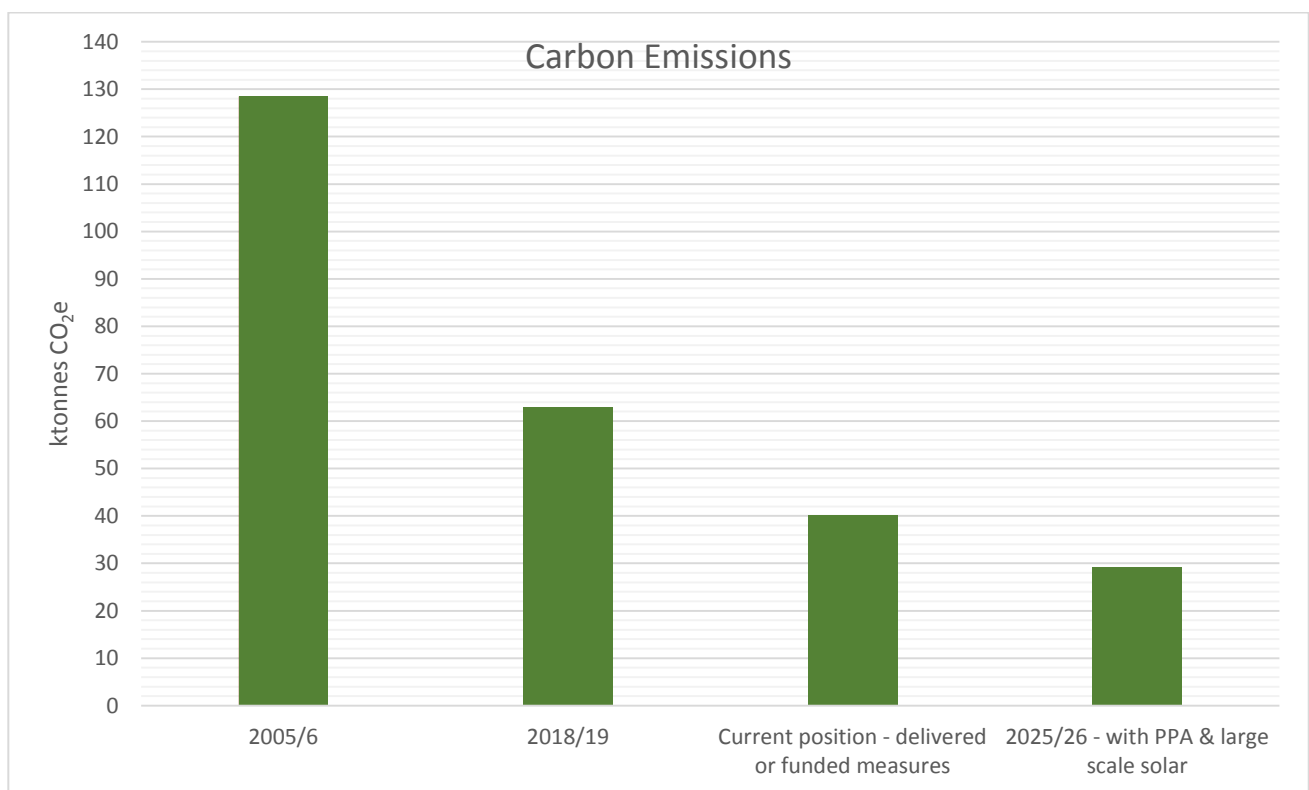
25 The progress made to date and the actions required to achieve the necessary reductions in the impacts of the council's energy usage across these service areas are structured around key themes within the ESAP which cover the following in summary:

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

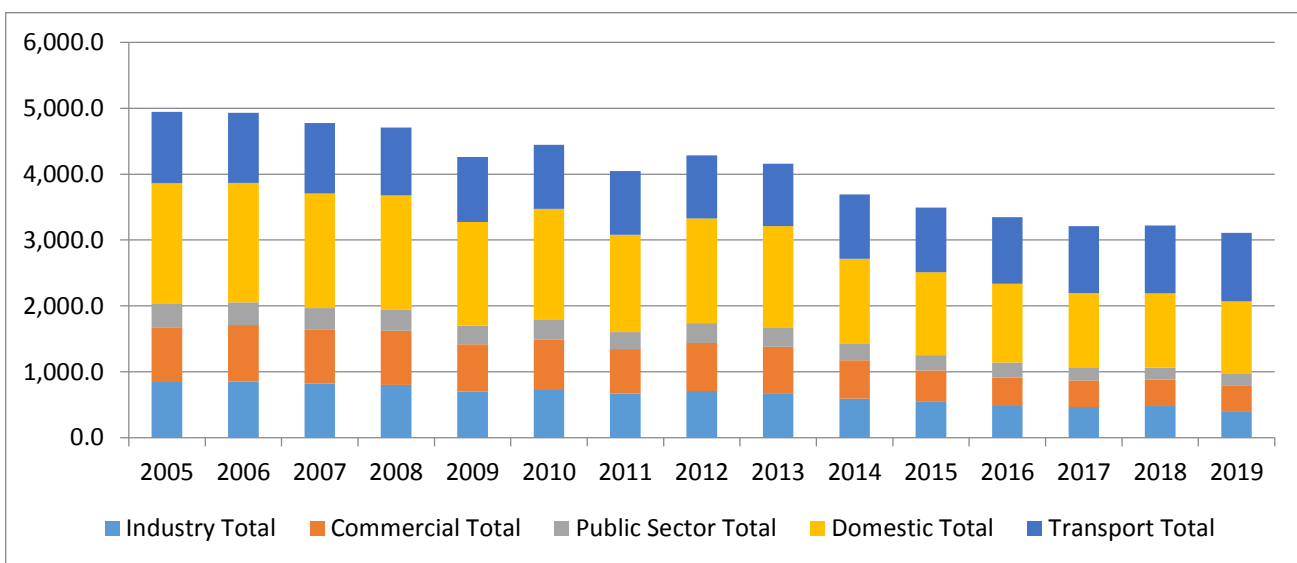
communities and businesses along the River Aire corridor between Leeds Rail Station and Apperley Bridge. The scheme will provide a one-in-200-year level of protection against flooding in the LFAS2 area. Once delivered, the scheme will reduce flood risk and provide better protection for 1,048 homes and 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.

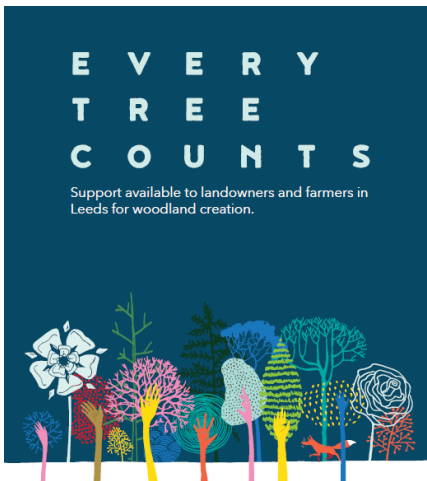
128 The strategy focuses on:

- 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

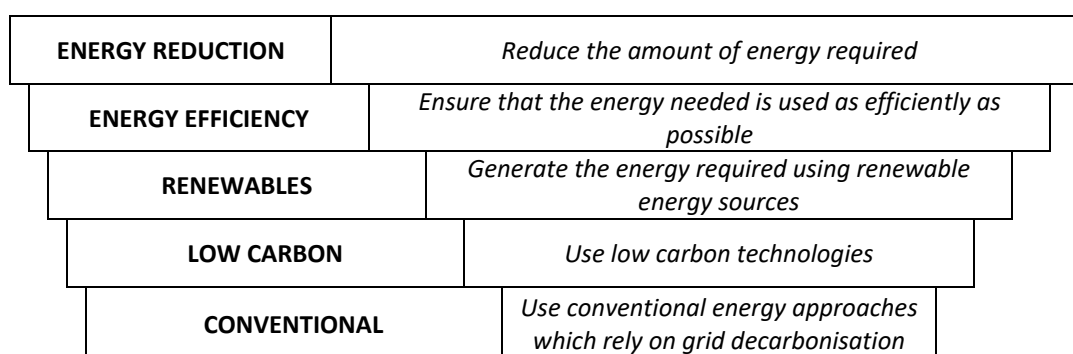
ENERGY STRATEGY AND ACTION PLAN (Appendix 1) FEBRUARY 2022

Introduction & Background

In March 2019 the council declared a climate emergency with an ambition of reaching net zero by 2030. Energy use contributes around 83% of the council's carbon emissions and it is therefore recognised that measures are needed to reduce consumption across its services, increase the volume of energy from low carbon sources and to act as an exemplar in promoting a reduction in the impacts of energy consumption across the city.

The scope of this strategy is primarily focused on the council's own energy usage. A separate 'Better Homes' strategy, linked to the council's Housing Strategy, is currently being developed to address the decarbonisation of housing within Leeds.

In setting out this strategy and action plan it is important to acknowledge the hierarchy that represents a recognised approach to managing energy, whereby reducing the demand for energy is the first principle, before then meeting demand through the greenest method available. This approach has been adopted in the development of the energy strategy.



Context

National Policy

In 2019 the UK became the first major economy to introduce legislation to reduce its greenhouse gas emissions to zero by 2050. The government's *10 Point Plan for a Green Industrial Revolution* was published in November 2020 with the aim of setting foundations for enabling growth towards a greener future by laying out funding and support across 10 areas, including advancing offshore wind power generation, driving the growth of low carbon hydrogen and accelerating the shift to zero emission vehicles.

The *Heat and Buildings Strategy* published in October 2021 sets out the government's vision for a greener future through the transition to high-efficiency low carbon buildings. It acknowledges that, in order to meet net zero, all heat in buildings will need to be decarbonised, which will mean moving away from burning fossil fuels for heating. In doing so it has set the ambition of phasing out the installation of new gas boilers by 2035.

Furthermore, in the *Net Zero Strategy* (October 2021) the government builds upon the *10 Point Plan*, laying out a wide variety of key commitments across all sectors, such as taking action so that all grid electricity will be from zero carbon sources by 2035, accelerating deployment of low cost renewables, delivering 40GW of offshore wind by 2030, aiming for 5GW of UK hydrogen production by 2030, making heat pumps as cheap to buy and run as

gas boilers by 2030, and ending the sale of new petrol and diesel cars and vans from 2030, with all cars and vans from 2035 required to be zero emissions.

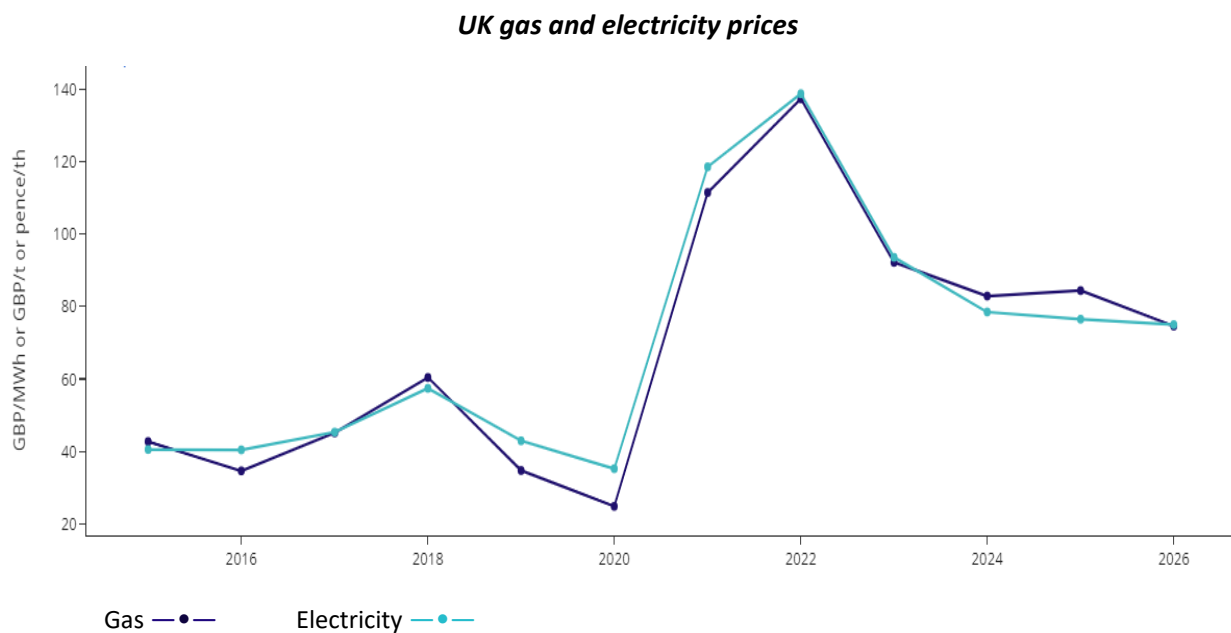
Whilst this strategy sets out the council’s main areas of action to reduce the impacts of energy use from its activities, it must be acknowledged that the strategy will only be achieved if a range of national infrastructure and policy changes, along with significant funding, are delivered by government.

National Energy Trends

In July 2021 the government set in law the sixth carbon budget following the recommendations set out by the Climate Change Committee (CCC) in December 2020, *The Sixth Carbon Budget – The UKs Path to Net Zero*. The CCC’s report recognises that emissions from electricity production have fallen 74% since 1990, with a 65% reduction over the last 10 years due to a combination of coal fired power stations closing, electricity demand falling and renewable generation capacity increasing. However, it also states that much more is needed across other sectors, since, for example, 99% of all miles driven are still in petrol or diesel vehicles, and less than 5% of the energy used for heating buildings is from low-carbon sources.

The CCC’s report sets a balanced pathway for achieving net zero by 2050. Key points within this report are decarbonising electricity generation by 2035 and predominantly decarbonising production by 2030, largely through phasing out unabated fossil fuel generation and significantly increasing wind and solar generation. The report recognises an increase in demand for electricity through the transition to a more electrified economy (e.g. electric vehicles, heat pumps, etc.), with a doubling in demand by 2050.

Over the last year energy markets in Europe have been thrown into turmoil with increases in energy demand across the globe, reductions in supply, and other political and economic factors, with the result that costs have increased to unprecedented highs. The chart below shows the evolution of gas and electricity spot market prices over recent years and indicative prices looking ahead, and this all reinforces the economic case for action.



Strategic Aims and Key Themes

The overall aim of the council's energy strategy is for its energy consumption to be 100% from zero carbon sources by 2030 in line with the climate emergency ambition of becoming net zero by this time.

Given the very significant costs of energy, especially in the context of the current position with global markets and council budget pressures, managing these cost impacts is also a key priority.

The strategy therefore sets out a proposed pathway for the council to minimise the environmental and financial costs of its energy usage, accepting that it will be necessary to review and update the strategy as national policy evolves.

The key outcomes of the energy strategy 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.

To achieve this a range of actions need to be delivered across the following key themes:

1. Reducing energy consumption;
2. Increasing energy efficiency;
3. Increasing local renewable energy production;
4. Converting the council's vehicle fleet from petrol/diesel to electric;
5. Changes to the approach to energy purchasing.

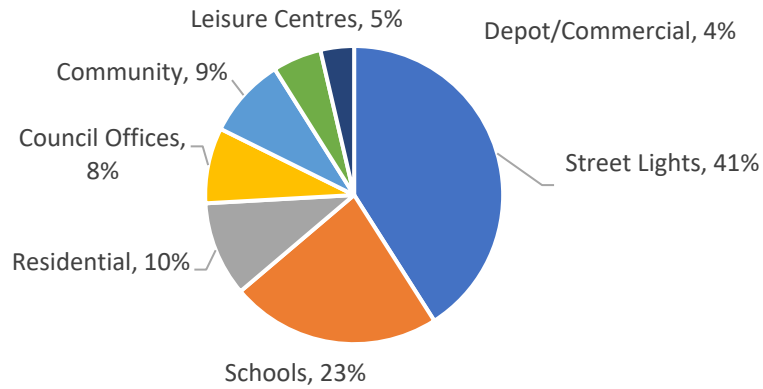
Current Position

In 2018/19, just ahead of the declaration of the Climate Emergency for Leeds, the council consumed around 159,000 MWh of gas and 123,000 MWh of electricity across our corporate estate and the schools whose energy supply we manage on their behalf. This can be broadly broken down into the following energy supply or building types:

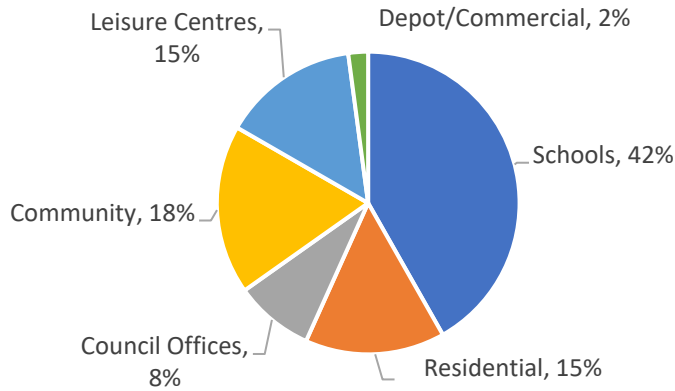
- Community – including community centres/hubs, libraries, one-stop centres, museums, parks, changing rooms, public conveniences, crematoria;
- Council offices – also including civic buildings, data centres;
- Depot/commercial – including waste sites, markets, commercial units;
- Leisure centres;
- Residential – 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.

Electricity and gas consumption for 2018/19 across these groups, and the combined carbon emissions, are shown in the charts below:

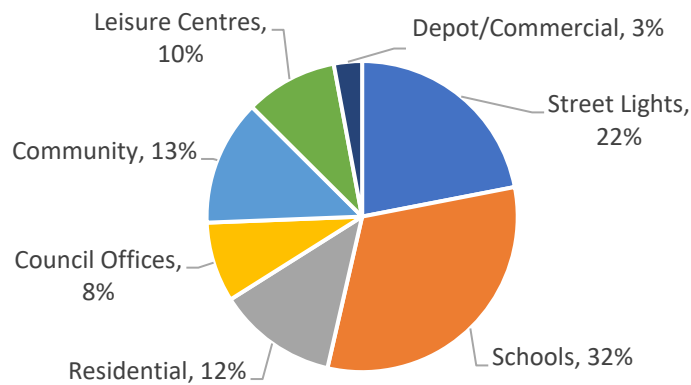
2018/19 Electricity Consumption



2018/19 Gas Consumption



2018/19 Carbon (Gas & Electricity)



Since this time the council has been working across all areas to reduce this consumption and its impacts, and to determine the council's strategy as outlined in the Key Themes section below.

Key Themes

1 – REDUCE DEMAND FOR ENERGY

The council has a substantial portfolio of around 700 operational buildings and seeks to use these as efficiently as possible, guided by the Estate Management Strategy which was approved in November 2021. This may involve further rationalisation of the estate where this can be achieved without detriment to service levels and quality. Notable recent examples in the city centre include the disposal of the Leonardo, Thoresby and 2 Great George Street buildings and the leasing out of St George House, but this is a city-wide programme with other buildings vacated in the last eighteen months including Hough Top at Pudsey and Shire View at Headingley.

The council has moved to a more agile way of working which balances both home working and working from the council's buildings, and this has changed the requirements for our estate. In addition, the ongoing transformation in ways of working and providing our services will continue to inform changes to estate provision and the potential to deliver further building releases.

It also remains important to improve how we monitor energy usage to understand where further energy savings can be achieved through better energy management. Improving our reporting of this data to service managers and our facilities management teams will help to drive energy reduction measures. A detailed audit of the highest consuming sites will be completed to identify potential measures that will reduce consumption levels.

In addition to this, further council-wide communications campaigns need to be delivered to raise awareness and influence behaviours across building users and managers.

2 – INCREASE ENERGY EFFICIENCY

In order to reduce its emissions, the council also needs to maximise the efficiency of its building stock. Introducing energy efficiency measures, such as installing LED lighting, can be relatively easy to implement and deliver significant reductions in energy consumption.

Streetlighting

One of the council's main users of energy is street lighting, 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 the council's electricity consumption by almost 31 million kWh per year, equating to over 40,000 tonnes CO₂e saved cumulatively by the end of 2030.

Council Buildings

The council has been working to deliver energy efficiency improvements across its corporate estate. Through the government's Public Sector Decarbonisation Scheme (PSDS) the council has secured around £25m of grant funding from BEIS that has allowed 42 council buildings across its estate to have decarbonisation and energy efficiency measures installed. The buildings include leisure centres, offices, depots, heritage assets (i.e. Civic Hall, Town Hall, Central Library and Art Gallery, City Museum) homes for older people and a number of schools.

The majority of this £25m is being used to deliver schemes that decarbonise heat via air source heat pumps (ASHPs) and district heating network connections (see section below on decentralised heating). However, it also covers additional measures such as the installation of solar PV, LED lighting, double glazing and building energy management systems. All of the installation works across the 42 buildings will be completed by the end of March 2022, and once complete it is estimated that an annual carbon saving of 3,800 tonnes will be achieved. The council has now also received approval of funding bids to government for decarbonisation measures on a further 10 sites to a value of £4.3m.

The table below shows examples of the decarbonisation measures that are being installed on a leisure centre and a home for older people, along with the associated costs and benefits. Despite the CO₂ benefit, the installation of the ASHP alone on each example is shown to increase energy bills due to the increased cost of electricity required to power the ASHP being greater than the historical cost of gas. However, the introduction of the additional measure of solar PV to power the heat pump provides a net saving on the leisure centre, although this is not the case for the home for older people, where there is an overall adverse impact on the annual energy bill due to the 24/7 consumption profile of these sites and the limitations on the size of solar array that can be installed.

	Air Source Heat Pumps			Solar PV		
	Capital cost	Impact on energy bill (annual)	CO ₂ impact (annual)	Capital cost	Impact on energy bills (annual)	CO ₂ impact (annual)
Leisure Centre	£724,000	Increase £16,600 (21%)	Save 148.51 t/CO ₂ e	£147,000	Save £24,600 (31%)	Save 10.75t/CO ₂ e
Home for older people	£281,000	Increase £4,400 (20%)	Save 56.78t/CO ₂ e	£65,000	Save £2,900 (13%)	Save 2.99t/CO ₂ e

The high capital cost associated with ASHPs means that they are currently only affordable using grant support. Delivering solar PV alongside ASHPs is an effective means of decarbonising the additional electricity required by the heat pumps. However, whilst there is a business case for investing in solar PV as a stand-alone measure, the case cannot be readily made when this is being used to offset the higher electricity demand of the ASHPs, with the solar PV element then also requiring financial support to enable delivery.

In light of this, ASHPs currently represent a means of delivering high levels of CO₂ savings, but not a means of reducing energy bills. Achieving a viable business case in bidding for future funding for these schemes may therefore only be possible currently based on the ability to put forward groups of sites which can be assessed overall in terms of their performance and net cost rather than individually. However, within the *Heat and Buildings Strategy* the government has set the ambition of working with industry to reduce the costs of heat pumps by at least 25-50% by 2025 and towards parity with gas boilers by 2030, and achieving this aim would clearly improve the economics for this technology and these schemes.

Subject to further government funding becoming available and the cost of low carbon technologies reducing, the council will continue to deliver a programme of energy efficiency and decarbonisation measures year-on-year so as to ultimately cover all buildings where this is demonstrated to be feasible.

New Build

As the council's service requirements evolve there will inevitably be a need for new buildings to be constructed to replace or add to existing assets, with these ranging from care homes and schools to service depots. The council intends to act as an exemplar in terms of the energy efficiency of these new buildings alongside its ongoing work to strengthen climate related local planning policies through the Local Plan Update.

The energy strategy for these buildings will be based on a 'fabric first' approach to ensure that materials and measures are installed to ensure high levels of energy efficiency. This will involve additional up-front capital costs. However, this has to be considered against future energy costs and the higher cost of retrofitting energy efficiency measures at a later stage. In addition, the heating systems in new buildings will not involve the installation of gas boilers.

3 – RENEWABLE ENERGY

As well as the obvious carbon reductions, renewable energy delivers a range of other benefits. Renewables generation helps to hedge the council from the volatile market price changes associated with fossil fuel based generation. More local generation can also potentially avoid the inefficiencies through losses of energy during transmission. Furthermore, it can result in local job creation and can provide opportunities for community benefit.

In January 2020 the council's executive board approved the objective to move to 100% of its electricity usage to be provided from green sources through entering into a new power purchase agreement (PPA) with a renewables generator, with an ambition to move increasingly towards more locally produced renewables between now and 2030.

The last two years have seen major change in the energy sector due to COVID lockdowns, resulting new ways of working, estate rationalisation, the accelerated installation of energy efficiency measures across our buildings and schools, changes in government policy and the unprecedented level of energy price increases seen over the last year. This has created significant uncertainty in terms of being able to predict our future energy requirements.

However, with the new landscape emerging, the council is now looking to enter into a medium-term PPA with a renewable energy generator alongside the re-procurement of its electricity supply contract. It is envisaged that this agreement would support the development of a new renewable asset, with the generated energy attributed to the council's consumption, and approval is being sought to secure an agreement for up to 65% of the council's current electricity demand.

Alongside this the council will continue to explore the potential for large-scale renewables generation within Leeds. The council, in partnership with the West Yorkshire Combined Authority and First West Yorkshire, has already delivered a substantial solar scheme at the Stourton Park and Ride site. This includes battery storage, with the majority of the electricity generated being used to meet the site's requirements, including vehicle charging. However, the feasibility of a large-scale installation will be assessed, 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.

The council's energy supply contracts will remain flexible so as to be able to accommodate and adapt to the changing landscape and our changing energy requirements. It is anticipated that the proposed PPA will be integrated into the electricity supply contract,

effectively as an additional forward purchase amongst the others that are currently routinely made. The council will also explore a transition to a 'green tariff' for the remainder of its electricity requirement.

Alongside the ongoing decarbonisation of the national electricity grid and the reduction in our demand through rationalisation and energy efficiency measures, the proposals above will support the progressive wholesale move over to the council's electricity demand being met wholly from renewables.

Although the wholesale transition from gas is more challenging due to the national strategic infrastructure changes required to decarbonise the existing gas grid, the council has been expanding its portfolio of low carbon heating assets across its estate through the ongoing programme of decarbonisation measures (see section 2 above), including installation of heat pumps and solar PV, and also through the expansion of decentralised heating systems as outlined below.

The government's *Hydrogen Strategy* sets out how it plans to scale up hydrogen production capacity, although a national strategic decision for the role of hydrogen in heating buildings is yet to be taken. Decisions at a national level on production, storage and supply are required to understand the viability of hydrogen in heating buildings. However, the government's *Heat and Buildings Strategy* sets out that hydrogen will play a key role in delivering their Net Zero Target as it provides a versatile option for replacing high-carbon fuels, and commits to developing the evidence base necessary to take strategic decisions by 2026.

In light of these national strategic aims and uncertainties in relation to natural gas, a prudent and balanced strategy for the council is to retain some level of mixed economy of its energy from both electricity and gas grids, as the future energy mix comprises a range of low-carbon technologies all working together to achieve net zero.

Decentralised Heating

The council promotes the use of decentralised energy systems where there is opportunity to do so as a viable means of taking control of energy provision and moving away from traditional energy generation sources such as gas boilers.

The council has led the way in the city through the development of the district heating network (DHN) known as 'Leeds PIPES'. The council has significantly invested in Leeds PIPES to develop a city-wide network of the type that has become prevalent in countries such as Denmark.

Heat for the network is produced at the Recycling and Energy Recovery Facility (RERF) where the household black bin waste produced in Leeds is processed. Heat from the RERF is transported in the form of hot water through a 10km network of super-insulated underground pipework directly into the city centre. It is estimated that the network can provide up to around 100 GWh of heat per year and is currently anticipated to provide approximately 26 GWh in 2022/23 to a range of customers, with further expansion planned. The council's own major civic buildings in the city centre are connected, with these being the Town Hall, Civic Hall, Library and Art Gallery and City Museum, with the heat supply from the network replacing the need for traditional gas boilers in these buildings. This alone will save 1,413 tonnes of CO₂ per year.

Within their 6th Carbon Budget, the CCC set a scenario where existing energy from waste plants such as the RERF are retrofitted with carbon capture and storage systems from the

late 2020s, with their balanced pathway scenario setting out that retrofitting should start from 2040. Although still in development at this stage, CCS provides a potential means of decarbonising emissions at energy from waste plants, which in the case of the RERF would fully decarbonise the heat supplied through the Leeds PIPES network, as well as the electricity exported by the RERF.

4 – TRANSPORT

The council has a vehicle fleet of 1,325 vehicles across its service areas with over 30 different vehicle types. These can be broadly categorised as follows:

- **Vans** (including box vans, EV vans - small/medium/large) – **60%**
- **Passenger vehicles** (welfare uses, minibuses, MPV's) – **15%**
- **Tippers & flatback** (from 3.5t up to 18t) – **13%**
- **Refuse collection vehicles** (over 7.5t) – **6%**
- **'Cars'** (including car derived vans, EV cars, 4x4's) – **2%**
- **Trailers** (up to 3.5t) – **2%**
- **Miscellaneous/specialist vehicles** (including mobile libraries, hydraulic platform, pick-up, rolloff) – **2%**

The council has made significant progress in moving its fleet away from diesel and petrol by progressively introducing electric vehicles, with 355 electric vehicles currently in use and a further 5 on order. The council also has one of the first UK fleets to make use of home charging, with 95 chargers now installed at the homes of council officers. This reduces the energy demand at fleet sites and also mitigates the need for expensive upgrades to power supplies. This measure has been introduced using the OZEV Home Charge Grant, which has offered a contribution towards the charging infrastructure that would not have been available for installation at council depots. The council are also trialling 'vehicle to grid' and wireless charging at fleet sites as part of the Innovate UK funded projects to trial new technology.

The council will continue to increase the number of EVs routinely within its fleet based on replacement lifecycle.

5 – ENERGY PURCHASING

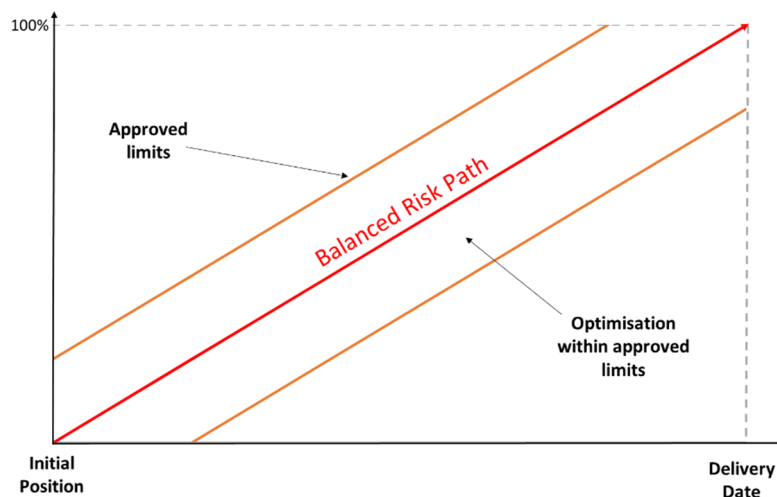
The global energy price market can always be volatile, but the last year has seen unprecedented levels of price increases as illustrated above. This is due to the convergence of a range of global factors, including geo-political issues affecting gas supplies to Europe, major infrastructure maintenance outages, low UK gas storage levels and increasing costs associated with fossil-fuel based energy generation and its carbon impacts.

The council currently purchases its energy via a supplier through its gas and electricity supply contracts, which are due to expire at the end of March 2024. Alongside preparations to re-procure these energy supply contracts, including the separate renewables power purchase agreement referred to above, the council is also reviewing its strategy for hedging against the volatility of energy market prices.

The council's energy purchasing strategy enables purchases of gas and electricity to be made for future periods, following a trajectory with a target for 80% to be secured in advance of the delivery period, and starting to purchase 30 months in advance. Any unsecured volume is then purchased at the 'day ahead' (or spot) price.

This approach enables the council to have budget certainty for an increasing proportion of its energy for future budget years rather than being exposed to the volatility of shorter term market prices, also allowing purchases to be made gradually over a longer period and at more favourable points in time in respect of market conditions rather than, for example, at a single, arbitrary point in time each year.

This 'balanced risk path' (illustrated in the diagram below) includes upper and lower tolerances either side of the pathway to allow a degree of flexibility, but has been established to ensure that neither an insufficient nor excessive proportion is purchased.

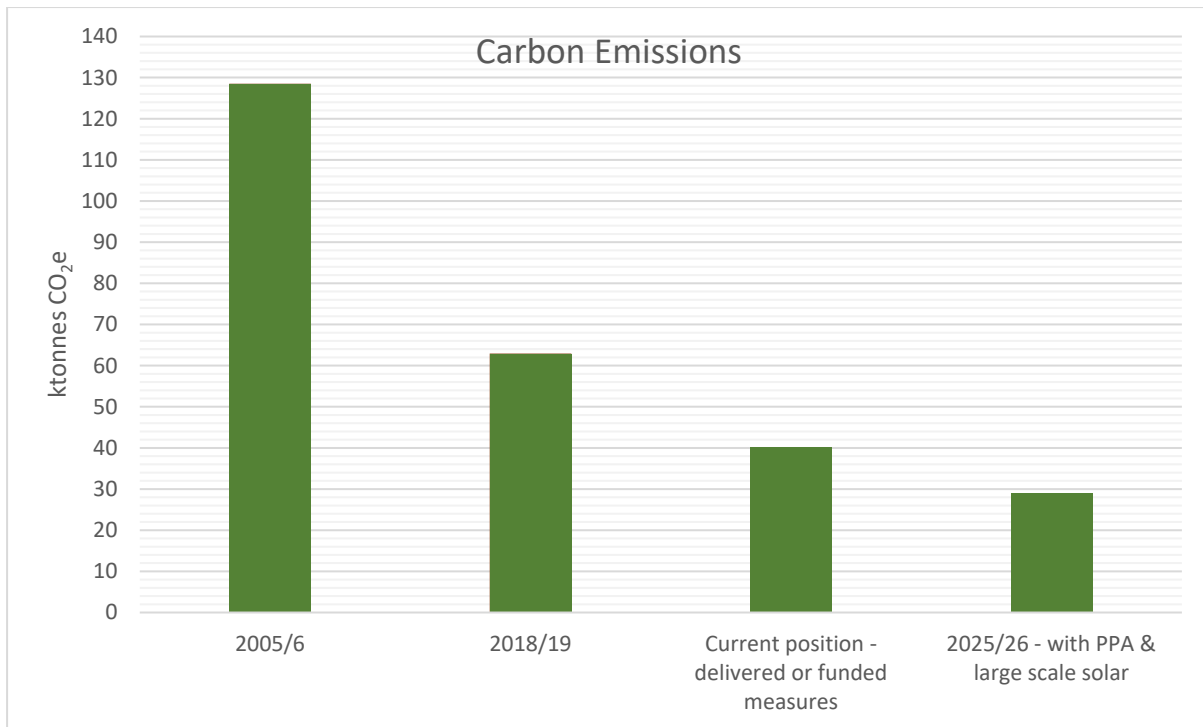


The value of this approach has been borne out particularly over the last year with the extraordinary level of price increases observed, since the council had already hedged the majority of energy for this last year and into next year. Nevertheless, the market increases have still produced substantial budget pressures, and beyond this time our level of forward purchases becomes progressively less, and the council's exposure to high energy prices increases.

Energy prices currently available for the short to medium term are hugely higher than they have been historically for the same periods. However, although longer-term prices remain substantially higher than historically, they are still significantly lower than the short to medium term prices available. The council is reviewing the current purchasing strategy in light of the current market position to determine whether it requires amendment to provide greater flexibility to fix longer-term prices where this is considered beneficial in terms of the balance of risk and the need for budget certainty. This is expected to be presented to the council's executive board in March 2022.

Measurement and improvement

Huge reductions in carbon emissions from the council's activities have been made over recent years when comparing against 2005/6 emissions, the year for which the first overall carbon calculations have been made. Very substantial reductions have also been secured since the council declared the Climate Emergency in 2019, which can be seen in the chart below by comparing 2018/19 emissions with the latest position based on the measures outlined in the sections above which have either already been implemented or are fully funded and being delivered. The future impacts of further measures such as securing a renewable power purchase agreement for electricity and delivering a large-scale solar facility are also illustrated below.



Conclusion and recommendations

In spite of the huge reductions in carbon emissions achieved, significant further action and change is required if the net zero target in respect of energy impacts from the council's activities is to be met. As well as the supporting action and change required from government to enable targets to be met, this challenge will be met by the council through a programme of ongoing action and improvement across the whole scope of areas covered above, including:

- Reductions in energy through more efficient use of council buildings;
- Ongoing programme of works to install renewables, reduce reliance on gas and implement energy efficiency measures across the corporate estate;
- A renewables power purchase agreement to support bringing forward a new renewable asset for the supply of a substantial proportion of the council's electricity;
- Increases in local renewable energy generation, including exploring the feasibility of local large-scale renewables schemes;
- Continued transition of the council's fleet to electric.

Delivery of this strategy will be supported through the following recommendations to Executive Board:

- 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;
- Approve procurement of a medium to long-term power purchase agreement (PPA) with a renewable energy generator for the purchase of electricity as part of the council's strategy to achieve net zero carbon from its activities;
- Commit to delivering 10% of the council's electricity demand through locally based renewables generation by 2025/26;

- Note the intention to bring an amended energy purchasing strategy to Executive Board in March 2022 for approval;
- Note the intention to develop design guidance for the council's new build programme to support our net zero target;
- Adopt a new electric vehicle charging infrastructure strategy and action plan.

Appendix 2 - Leeds Electric Vehicle Charge Infrastructure Strategy and Action Plan 2022 – 2030

Context

Leeds City Council has an ambition to become the first net zero city and is committed to working towards becoming carbon neutral by as early as 2030. To achieve this there will need to be significant change to the city's carbon footprint. One of the main contributions to the city's carbon output is transport. Leeds Climate Commission estimate that in 2020 38% of the city's carbon emissions were transport based. Alongside modal shift, delivery of zero emission transport options will be critical to the decarbonisation of this sector.

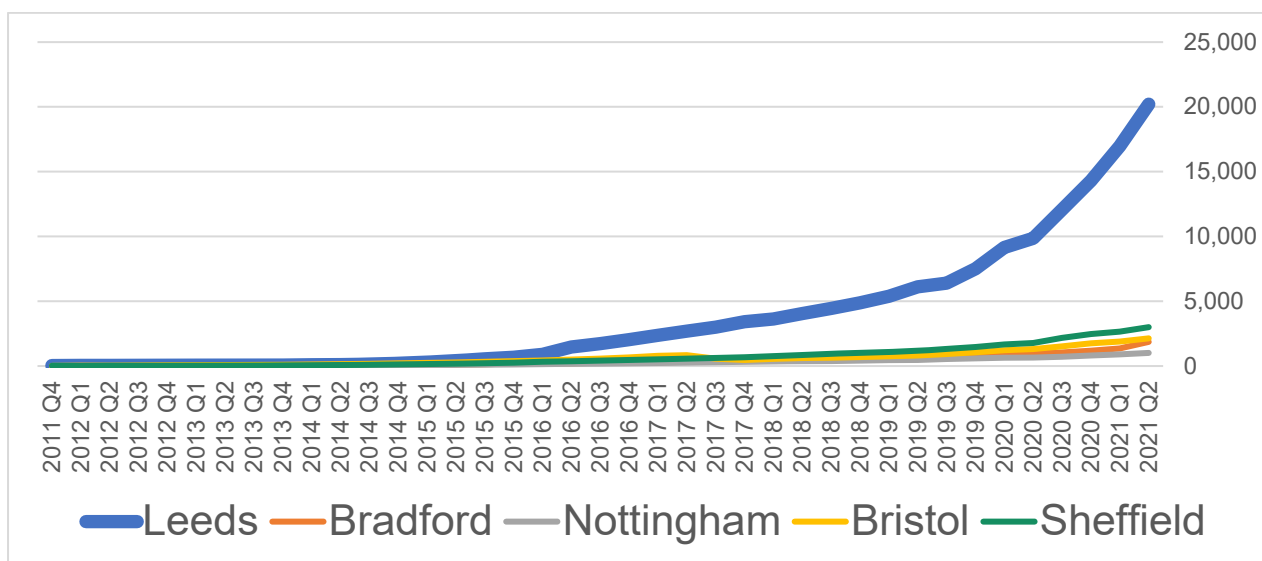
The Connecting Leeds Transport Strategy has decarbonisation as one of its central pillars, in line with the council's Climate Emergency priorities. Within the Transport Strategy there are key steps identified to deliver the changes needed in transport to meet the 2030 target, one of these is the need to encourage and lead in the uptake of zero emission vehicles in freight, public and private transport. A key facilitator of this uptake will be to ensure that there is sufficient vehicle charging infrastructure in place.

UK average data shows that burning a litre of diesel produces around 2.62kgs of carbon dioxide and a litre of petrol about 2.39kgs. Using UK average new car fuel consumption data for 2019 (according to the RAC Foundation this is 49.2mpg for petrol or 55.4mpg for diesel) offsetting 4.5million miles would save almost 1,000,000 kg of tailpipe carbon emissions regardless of whether the journeys were replacing diesel or petrol use. In addition to the carbon reduction benefits, shifting to zero emission vehicles would also result in considerable health benefits because of improved air quality.

To ensure a smooth and effective transition there is a need for infrastructure to be in place in line with the projected increase in demand for plug-in vehicles. This report provides a summary of the Action Plan designed to support delivery of the necessary city-scale charging infrastructure required.

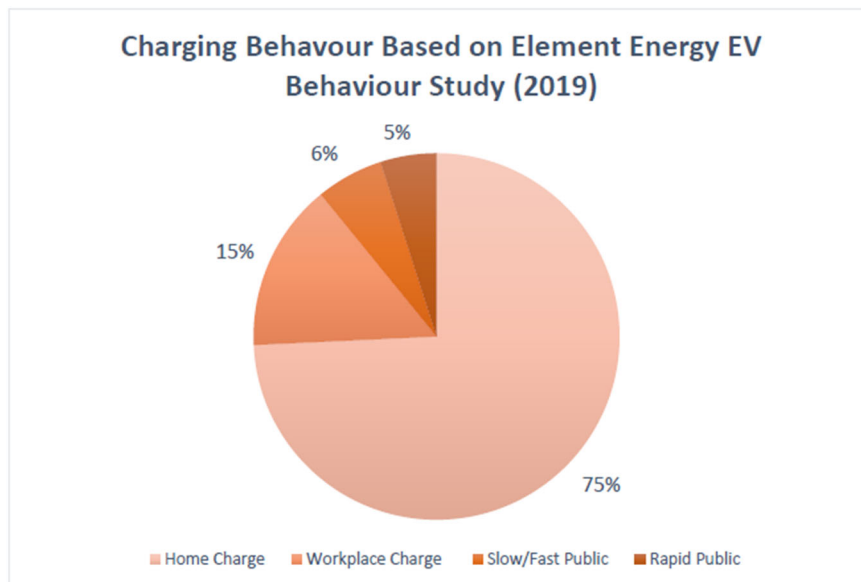
Background

The below graph shows the rapid growth of licensed plug-in cars and Light Goods Vehicles (LGVs) in different council areas according to the DVLA/Department for Transport.



It is important to note that electric charging infrastructure will be delivered largely by the owners of the vehicles themselves. Most households will be able to install their own charge point, with c.70% of Leeds households having off street parking and therefore able to charge at home. Alternatively, many will be able to charge at their place or work, with grants available from government to support the cost of such charging having been available for some time. Studies by independent analysts and the government's own Office for Zero Emission vehicles (OZEV) show that most charging needs will be met outside of public charge infrastructure, as pictured in the chart below.

It is also important to note that the frequency of charging may be lower than widely assumed. A mid-market EV commonly provides a range in excess of 200miles. The typical household vehicle mileage (less than 7000 miles annually) could be provided by charging just once a week or even slightly less. Therefore it is critical that the scale of public charging infrastructure needed is not overstated, that resource is carefully targeted to meet the needs of those who may not be able to utilise home or workplace charging, and that any infrastructure is designed to be utilised by multiple users.



Further growth of electric vehicles across the city and wider region is projected, demonstrating the need to ensure that sufficient infrastructure is in place to both meet the needs of electric vehicle (EV) drivers but also to ensure that lack of charging facility is not a barrier to this transition. 'Range/Charge anxiety' that may act as a barrier to potential EV drivers transitioning to plug-in vehicles may also be alleviated with greater visibility of public charging infrastructure.

Below are regional projections for West Yorkshire by National Highways (formerly Highways England) for the number of plug-in vehicles projected by 2025 and 2030 based on low, medium or high uptake trends.

Forecast Year	Highways England 2% Steady Growth Projection			Linear Extrapolation Projection		
	Low (BAU)	Medium (Good Practice)	High (Exemplar)	Low (BAU)	Medium (Good Practice)	High (Exemplar)
2025	180,837	241,116	361,674	184,340	245,787	368,680
2030	532,423	665,529	931,741	544,377	680,472	952,660

Development of the infrastructure to support city scale transition to zero emission travel will be required, however this will not fall to the council alone to deliver. Our position is that the local authority role is as facilitator and key stakeholder in working to support citywide EV uptake but that local authorities should not be expected to be solely responsible for the planning, delivery and operation of all vehicle charging in the city.

City scale infrastructure will need to be delivered collaboratively, utilising the various policy 'levers' available to council and central government, whilst 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 and experience to customers in a competitive charge point environment.

The city scale networks required will need to be delivered in partnership with key stakeholders—including charge point operators, central government, the district network operator and investors in

public charge infrastructure such as energy providers and investment houses. We are working on development of this approach and we will develop 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.

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 aligned to the council's Transport Strategy and its overarching aims to deliver modal shift, rather than embed existing travel behaviours.

Progress to Date (public electrical vehicle charge infrastructure)

We have worked with the West Yorkshire Combined Authority and Equans to deliver a rapid charge network across the city. This network 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 this network alone to 70 rapid charging bays. There is a total of 91 sites delivered across West Yorkshire on this network to date and when this project is completed it will have 102 Rapid chargers. This network already has over 12,000 registered users regionally and has delivered more than 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.

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 February 2022. A second phase of grant funding to support installations across 10 sites with 30 dual units has been submitted for installation in 2022.

The council has also worked on the development of charge point provision at the UK's first solar powered park and ride at Stourton. The site has 14 dual 7kW charge point units supporting 28 bays in addition to four 50kW Rapid charge points. The site has also been 'future-proofed' to facilitate 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.

In addition to charge points directly delivered by the council, Leeds' adopted planning conditions have required all new developments to include electric vehicle charge infrastructure since 2019—a measure that the UK government is expected to follow nationally later 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.

Development of future charging infrastructure

The high-level principles for developing electric vehicle charging infrastructure for Leeds are.

- 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.
- Recognising that home and workplace charging will meet the bulk of charge requirements – especially with planning conditions being applied. However, Leeds households that lack off-street parking and cannot charge at work will need public charging alternatives.
- The Transport Strategy promotes modal shift away from car use, encouraging uptake of active travel. Design principles for on street charging must therefore be developed to ensure that all road and pavement users are considered when charging infrastructure is being planned. Charge infrastructure must not become a barrier to active travel modes.
- Charge infrastructure must consider shared and flexible mobility modes (such as car clubs) to ensure those without cars can access zero-emission driving options
- Whilst there are some grant opportunities from central government for EVCP, they are not currently sufficient to support city scale charging requirements for a growing plug-in fleet. As such Leeds must act flexibly to explore how working with the commercial charging sector will realise capital to deliver the charging infrastructure required. As such, we will pilot projects to establish trials of on-street charging hubs and better understand how innovative partnership working can help deliver charging through external investment.
- The council's plan should focus on delivering or facilitating charge infrastructure that does not replicate what will be delivered by external parties, (such as through meeting planning conditions or through commercial investment on third party land), or where charging needs will be met by households or businesses themselves.
- Actions should ensure that there is equity in accessibility of zero emission travel choices, whether through ensuring that charging is available in all localities, or through supporting the accessibility of zero emission vehicles through charging for car clubs or similar shared mobility schemes.

The level of public charge infrastructure that is projected to be required to meet the unmet demand from those unable to use home or workplace charging, or who need in-journey charging, is outlined below. This is based on National Highways' EV growth projections data and suggests between 230-450 public chargers may be needed by 2025 and 677-1085 public chargers may be needed by 2030. Whilst these figures may sound high, delivery of purpose-built multi-unit charge hubs and commercial delivery of charging at third party sites such as retail, leisure or sporting developments, for example, would take us somewhat to these targets.

Journey Purpose/User Need		Highways England 2% Steady Growth																	
		Bradford			Calderdale			Kirklees			Leeds			Wakefield			WYCA		
		L	M	H	L	M	H	L	M	H	L	M	H	L	M	H	L	M	H
Commuter Trips – Residential Slow/ Fast Chargepoint	2025	104	138	208	47	62	93	97	129	194	205	274	411	83	110	165	535	714	1070
	2030	305	382	535	137	171	240	285	356	499	605	756	1058	243	304	426	1576	1970	2757
General Domestic Trips – Town Centre Fast Chargepoint	2025	12	17	25	6	7	11	12	15	23	25	33	49	10	13	20	64	85	128
	2030	37	46	64	16	20	29	34	43	60	72	90	127	29	36	51	188	235	330

The role of the council will be to ensure that commercial investment is realised, that key demographics or areas are not excluded and that levers, such as planning conditions and assets under our control are utilised to ensure equitable, accessible and sufficient delivery of charging in line with these targets.

To meet the challenge of decarbonisation of transport through city scale adoption of EV, there is a need for the council to:

- 1 Work with Charge Point Operator's (CPO's) to identify opportunities to facilitate commercial investment in infrastructure on both LCC estate and private land.
- 2 Facilitate the development of on-street charging hub facilities to widen access to EV charging. This would be in appropriate locations that facilitate and support high utilisation, shared use of charging facilities in public bays, rather than directly located outside domestic properties.
- 3 Develop the technical design principles for where on-street charging can be delivered and the designs, specification and impacts of such schemes.
- 4 Recognise the council as a facilitator, for example supporting the development of commercial charge provision and Electric Vehicle based car park developments. Ensuring that key council services such as Planning and Highways & Transport are aligned in supporting this commercial development and ensuring that it aligns with the Transport Strategy and the wider Leeds targets for decarbonisation.
- 5 Engage proactively with developers on EV hubs/EV-car parks, or similar commercial infrastructure plans as well as with the wider community to demonstrate the benefits of EV uptake for the city and wider environment.
- 6 Detailed next steps for 2022/23 are to establish and commence delivery of pilot projects to capitalise on the interest in investing in Leeds that exists.
 - i) Establish frameworks for agreeing contracts with potential investors / CPO's
 - ii) Work with Asset Management and Highways to identify potential sites for infrastructure
 - iii) Agreement of contracts or frameworks with CPO's to facilitate the capital injection required for city scale charging
 - iv) Aim to commence delivery of pilot projects with commercial partners within 12 months so that first phase of installations can be commenced in 2022/23.

- v) Evaluation of pilot projects and identification of a forward plan of projects with CPO's agreed to meet 2025/2030 targets

To aid in achieving the above objectives an EVCI Action Plan has been developed to enable the Council to record and track deliverables that will deliver on the development of charge point infrastructure. The plan is intended to be dynamic and will be updated regularly and refreshed annually in line with progress, changes to national context, grants and technology whether in vehicles or chargers. The action plan includes the following headings that detail the steps required to deliver against the outputs covered above.:

- a. Increasing EV Uptake – Focus on Communications and Engagement
- b. Delivering Infrastructure – Projects, Planning & Procurements
- c. Maintaining Infrastructure – Operations & Maintenance, Enforcement
- d. Government Asks – Where more support is required

Social and Equality Impacts

The development of EVCI will have a positive impact on residents as electric vehicles have near-zero tailpipe emissions and their uptake will therefore mitigate the impact of transport on air pollution. Air pollution is an issue that disproportionately impacts residents who live in inner-city areas which suffer from poorer air quality through a combination of intensive traffic corridors, industry, and the concentration of development. There is strong evidence that greater exposure to air pollution is correlated with a greater risk of developing long term health conditions. Poor health is linked to time off work and reduced productivity and can contribute to lower income. By supporting uptake of zero emission vehicles, the council will improve the health of residents facing poverty and inequality and balance these areas with more affluent parts of the city which enjoy relatively good air quality.

Electric vehicles are also demonstrated to be the lowest cost vehicle to own over the total life cost of ownership. Ensuring accessibility of charging infrastructure to all, not just those who have properties with driveways, or garages means that the benefits of that economic modelling are available to all. Whilst the initial cost of EV's may be prohibitive currently, the industry does project that price parity between conventional engine vehicles and plug-in vehicles will be achieved within a few years. As such it is important that those who live in areas that do not lend themselves to home charging are not excluded from the benefits of plug-in vehicle ownership, both in terms of the financial savings, but also the air quality benefits.

Equality, diversity, cohesion, and integration issues have been described in further detail in an EIA. In summary, the EIA concludes that poor air quality has a disproportionate effect on Black and Minority Ethnic communities as they are more likely to live in inner-city areas with poorer air quality. Children can be particularly adversely affected. There are no discernible specific impacts of air quality or provision of electric vehicle charging on the protected characteristics of gender identity, sexual orientation, and sex.

One of the main issues with regards to equality is that of communicating appropriately and reaching all parts of the community in a clear and understandable way on how they can benefit from the development of plug-in vehicles use as well as understand how the growth of EV utilisation will reduce their exposure to air pollution and reduce emissions. This will include engaging with businesses, individuals, equality hubs, ward councillors, the Locality

team and ensuring the strategy and communications are clear and accessible to all. Broader messaging on the wider benefits of electric vehicles, the use of and availability of charging and promotion of sales and commercial promotions would remain the responsibility of manufacturers and charge point operators and central government as part of its aim to end the sale of conventional engine vehicles in 2030.

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

Air Quality is recorded as a risk on the Council's corporate risk register and is reported on a regular basis. Recently the impact and probability of the risk has been reduced due to Air Quality improvements in the city, in part delivered by changes in fleet profile such as uptake of plug-in vehicles. It is important that this progress is maintained.

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 deliver 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.

Charging on the highway has not been rolled out at any scale in Leeds, as such it is important that any potential risks to pedestrian, vehicle or other road user safety are maintained. Highways and Transport will develop a technical design specification that will carefully manage any risks from installation of charge points.

Installation of charge infrastructure that is not utilised, is not suitable for intended users or is in areas not suitable for its intended users would damage the perception of EV uptake and the council's reputation. As consultative planning of the type of charging, its location and assessment of user profiles and demand will form a key part of planning for both pilot projects and future roll out. Utilising external investment from CPO's is also designed to protect council from financial exposure and protect resources.

How will success be measured?

Progress will be reported to the Executive on an annual basis.

Monitoring of EV Uptake and EV charge point provision on council estate and city wide will be undertaken.

What is the timetable for implementation?

Upon the recommendations being approved by the Executive, implementation of the Action Plan can occur instantly. Resources are in place to start delivery of the actions contained with the Plan.

The Action Plan will be refreshed every 12 months with an accompanying report to the Executive to report progress.