West Lindsey District Council

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AGENDA

This meeting will be recorded and streamed live (at the below link) and the video archive published on our website

Concurrent Meeting of the Prosperous Communities and Corporate Policy and Resources Committees
Thursday, 22nd April, 2021 at 7.00 pm
Virtual - MS Teams

https://west-lindsey.public-i.tv/core/portal/home

Members:

Prosperous Communities Committee

Councillor Owen Bierley (Vice-Chairman of the Concurrent meeting)

Councillor Stephen Bunney
Councillor Mrs Tracey Coulson
Councillor Christopher Darcel
Councillor Michael Devine
Councillor Steve England
Councillor John McNeill
Councillor Mrs Jessie Milne
Councillor Mrs Judy Rainsforth
Councillor Tom Regis
Councillor Jim Snee
Councillor Mrs Mandy Snee
Councillor Mrs Anne Welburn
Councillor Trevor Young

Corporate Policy and Resources Committee

Councillor Anne Welburn (Chairman of the Concurrent meeting)

Councillor Owen Bierley
Councillor Matthew Boles

Agendas, Reports and Minutes will be provided upon request in the following formats:

Large Clear Print: Braille: Audio: Native Language

Councillor Stephen Bunney
Councillor David Cotton
Councillor Michael Devine
Councillor Ian Fleetwood
Councillor Paul Howitt-Cowan
Councillor Giles McNeill
Councillor John McNeill
Councillor Mrs Mandy Snee
Councillor Jeff Summers
Councillor Robert Waller
Councillor Trevor Young

1. **Register of Attendance**

2. **Members' Declarations of Interests**
   Members may make any declarations at this point but may also make them at any time during the course of the meeting.

3. **Procedure** (PAGES 3 - 4)

4. **The Council's Carbon Management Plan and draft Sustainability, Climate and Environment Strategy and action plan** (PAGES 5 - 140)

Ian Knowles
Head of Paid Service
The Guildhall
Gainsborough

Wednesday, 14 April 2021

3. Protocol for Concurrent Meetings

3.1 Calling meetings

As per Part IV page 29 of the Constitution **and agreed by Council on 4 September 17** a concurrent meeting of the Policy Committees can be called by the Head of Paid Service "when it is considered prudent and efficient to do so."

3.2 Consultation requirements

The Chairman of Prosperous Communities and the Chairman of the Corporate Policy and Resources Committee will be consulted, and their agreement sought prior to the meeting being formally announced as 'concurrent'.

3.3 Agenda

A single agenda will be published – the meeting will consider the same report(s), but the recommendations will clearly state which Committee is being requested to pass which resolution(s).

3.4 Chairmanship

If in attendance, The Chairman of the Corporate Policy and Resources Committee (as the most senior committee of the Council, as specified in the Constitution) will Chair all concurrent meetings. The Chairman of Prosperous Communities Committee will act as Vice-Chairman for concurrent meetings.

In the absence of the Chairman of the Policy and Resources Committee the role of Chairman for the meeting will be allocated in the following priority order:-

- Chairman of Prosperous Communities;
- Vice -Chairman of Corporate Policy and Resources;
- Vice Chairman 1 of Prosperous Communities;
- Vice Chairman 2 of Prosperous Communities.

In the event that the Chairman of Prosperous Communities assumes the role of Chairman due to circumstances as outlined above, the position of Vice-Chairman will be allocated by way of the same priority order, to those positions mentioned above.

3.5 Quorum

No quorum will apply to the Concurrent Committee itself; the usual quorum will apply to each Committee (4). Those Councillors who are Members of both of the Policy Committees will be marked as present at each Committee.

There could be a situation whereby up to 6 Members are present at the concurrent meeting, but this would not necessarily mean that either of the Policy committees are quorate. In this case the usual rules would apply to inquoracy; ie no decisions could be taken and the meeting would be adjourned as per 8.2 of Part 4 of the Constitution. If there was a quorum for only one of the meetings, the following would occur:

- PC is quorate but CPR isn't – only the PC elements of the report could be agreed;
- CPR is quorate but PC isn't – nothing could be signed off as the policy should be agreed before the spend

3.6 Voting and Order of Decision making

Recommendations within concurrent reports will clearly include which Policy committee they apply to.

Only Members of the relevant Policy Committee can move recommendations relevant to that Committee.

Policy decisions required from the Prosperous Communities Committee will be taken in the first instance followed by the financial decisions required by the Corporate Policy and Resources Committee

There will be a separate vote for each Committee, each conducted by the Chair of the concurrent meeting

As it is likely a number of "dual-hatted" Members will be present, the casting of votes will be way of alphabetical roll call, to ensure only those committee Members permitted to vote do so.

Following both votes, the Chairman of the Concurrent Committee would then sum up proceedings, and confirm what had happened during each vote;

3.7 Casting Vote

The Chairman of the Concurrent Committee would not have an overall casting vote. The casting vote would remain with the Chairman of each Policy Committee.

In the event that either is not present the right of casting a vote would fall to their respective Vice-Chairman (Vice-Chairman 1 in the case of Prosperous Communities Committee)

3.8 Substitutes

Substitutes would be allowed for the Concurrent Committee subject to the standard rules in paragraph 4.3 of part 5 of the Constitution. If a Councillor is substituting for a dual-hatted Member (a member of both PC and CPR), then this would need to be made clear before the start of the meeting in writing to Democratic Services.

Note: - All procedure rules marked * (As referenced in paragraph 21 of Part V, Council Procedure rules) will apply to concurrent committee meetings as specified also, unless separately addressed by this procedure.

Agreed by Governance and Audit - 16 Jan 2018

Concurrent Meeting of the Prosperous Communities and Corporate Policy & Resources Committees
22nd April 2021

Subject: The Council's Carbon Management Plan and draft Sustainability, Climate and Environment Strategy and action plan

Report by:	James O'Shaughnessy Head of Policy Strategy and Sustainable Environment
Contact Officer:	Head of Policy Strategy and Sustainable Environment
Purpose / Summary:	To present the Council's Carbon Management Plan and draft Sustainability, Climate and Environment Strategy and action plan for approval prior to submission to Annual Council on 17th May 2021.

RECOMMENDATION(S):

1. That the Prosperous Communities Committee approves the Carbon Management Plan and the draft Sustainability, Climate and Environment Strategy and action plan, and therefore the **report is recommended to Corporate Policy & Resources Committee.**

2. The Corporate Policy and Resources Committee approves the Carbon Management Plan and the draft Sustainability, Climate and Environment Strategy and action plan, and therefore the **report is recommended to Full Council.**

IMPLICATIONS

Legal: The UK Climate Change Act of 2008 was the first piece of legislation to legally mandate a nation to reduce greenhouse gas (GHG) emissions - in this case by 80% of 1990 levels by 2050. Many countries have subsequently introduced their own equivalent legislation and in 2015, the Paris Agreement was signed by 197 countries with the aim of limiting "the increase in the global average temperature to well below 2◦C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5◦C above pre-industrial levels". The 2018 Special report of the Intergovernmental Panel on Climate Change (IPCC) on the impact of a 1.5◦C rise in global temperatures above pre-industrial levels further highlighted the urgency with which GHG emissions must be reduced to avoid the worst impacts of climate change. In May 2019, the UK Government declared a non-legally binding Climate Change Emergency declaration and the Committee on Climate Change recommended a new emissions target for the UK: net-zero greenhouse gases by 2050. This was made a statutory target in June through the Climate Change Act (2050 Target Amendment) Order 2019.

Financial: FIN/7/22/TJB

The Council has earmarked £500k to support delivery of the Carbon Management Plan, however in addition we will need to develop realistic, viable and affordable funding solutions to deliver this Strategy whilst still continuing to fund our services.

There are a number of options of how this might be achieved as detailed within the Strategy document Resourcing and Finance (page 31-33)

The Council's Carbon Management Action Plan investment cost is estimated at £6,458k which would equate to £67.50 per head of population.

All projects will be subject of full Business Cases and funding strategies will be developed as appropriate.

The capital programme 2021-22 to 2025-26 includes for £260K of carbon reduction initiatives.

Staffing: Staffing and skills requirements to deliver the strategy will be continually reviewed and monitored.

Equality and Diversity including Human Rights: The Council's ambition is to ensure that neither the effects of climate change, nor the costs of reducing emissions, disproportionately affect any residents of the District.

The action plan will reap many co-benefits that have the potential to increase equality and community cohesion. These include improving health and wellbeing through more active travel, improving air quality with reduced vehicle use, increasing social inclusion through community activities and reducing fuel poverty by insulating homes and installing on-site renewable energy.

In practice the actions are too high-level and long term to undertake a meaningful equality assessment on the Council's Strategy and Action Plan. Individual equality assessments will be undertaken as actions are developed.

Data Protection Implications: None

Climate Related Risks and Opportunities: The Carbon Management Plan, Climate Strategy and Action Plan contain proposals aimed at reducing the Council's carbon emission to a net-zero position by 2050 and achieve the same across the District of West Lindsey within the same timescale.

The Council's current carbon footprint has been calculated at 3429tCO2e and that of the District is calculated at 524ktCO2e. These are baseline figures relating to 2019/20 and 2018 respectively. Carbon emissions fluctuate for many reasons, but having accurate baseline data provides a sound starting point of reference against which the impact of subsequent work can be evaluated.

Climate related risks are inherent. The risk of not approving the strategy and its aims and objectives could lead to the Council contributing to irreversible temperature rises and subsequent damage to the climate and natural environments. Additionally, sudden and unexpected changes in global temperatures which result in the forecasts of the IPCC, upon which our work is predicated, being no longer valid, would require an even more urgent response to climate challenges.

Section 17 Crime and Disorder Considerations: None

Health Implications: : Health and wellbeing are strongly linked and interwoven into the aims of the strategy as co-benefits of taking positive action to address climate change and enhance the environment and sustainability.

Title and Location of any Background Papers used in the preparation of this report:

Update Position on Work to Develop Sustainability, Climate Change and Environment Strategy - Council 29th June 2020

Risk Assessment:

Call in and Urgency:

Is the decision one which Rule 14.7 of the Scrutiny Procedure Rules apply?

i.e. is the report exempt from being called in due to urgency (in consultation with C&I chairman)	**Yes**		**No**	

Key Decision:

A matter which affects two or more wards, or has significant financial implications	**Yes**		**No**	

Executive Summary

1. This report recommends that the Committees approve the Council's revised Carbon Management Plan (CMP) and the draft Sustainability, Climate and Environment Strategy and action plan for submission to Annual Council on 17th May 2021.

2. A key message of the strategy is that in addressing climate change a number of important co-benefits can accrue. In addition to greenhouse gas reductions, long-term sustainable financial savings; better development; improved health and wellbeing; new technologies and skilled employment; greater community resilience and secure energy supplies can be realised.

3. Alongside the Covid-19 pandemic, climate change and its adverse impacts is the biggest issue we face as individuals, communities, organisations and nations. The special report of the Intergovernmental Panel on Climate Change (IPCC) highlights the irreversible impact of a 1.5◦C rise in global temperatures above pre-industrial levels and stresses the urgency with which greenhouse gas emissions must be reduced to avoid the worst impacts of climate change.

4. The draft strategy and action plan, supported by a CMP, sets out the Council's response to this challenge. It provides a path way for the Council to follow in order to reach a net-zero carbon position across its own operations and for the wider District to achieve the same position by 2050 at the latest. Not taking immediate action is not an option.

5. The scale of the carbon reduction challenge has been calculated. The Council's most recent carbon footprint has been calculated at 3428t CO2e p. A, with an initial targeted footprint of 2089 tCO2e p.a.to be tackled and the Council's current carbon 'hotspots' have been identified. Also the carbon footprint of the whole District is estimated at 524 ktCO2e p.a. which signifies that the Council's overall impact is minimal in comparison. However, as a leader of place it is vitally important that the Council brings to bear its influencing skills to support and encourage all stakeholders across the District to also meet the challenge.

6. The key contributory factors to climate change have been identified and are discussed within the strategy. Their identification provides a robust framework against which action can be taken to mitigate their harmful effects.

7. The report sets out the key steps undertaken during the strategy's production. These include work with the Carbon Trust to deliver the CMP; two phases of consultation; training/awareness packages for staff and Members; the production of a communications plan; updates to the website and keeping abreast of the review of the Central Lincolnshire Local Plan.

8. A number of matters remain to be determined. These relate to the overall internal governance arrangements of the work required; how to achieve both District and County-wide collaboration and exert influence and on-going resourcing requirements in terms of officer capacity and skills and finances.

9. In conclusion, the route towards achieving a net-zero carbon position will require a strong level of ambition. However, consultation and feedback have shown that the Council has considerable support from stakeholders across the District.

1 Introduction

1.1 This report presents to Members:

- A brief reminder to Members setting out the original rationale for this work and the approach adopted to undertake the task
- A report produced by the Carbon Trust detailing the Council's revised carbon footprint and an associated carbon reduction action plan.
- The Council's Sustainability, Climate Change and Environment Strategy and action plan.
- An outline of the process followed to develop the Strategy.
- Matters for consideration to progress this agenda.

2. Background

2.1 In response to the UK Government's 2019 amendment to its Climate Change Act 2008, whereby it revised its greenhouse gas emissions reduction target to achieve a 'net-zero' position by 2050, the Council passed a motion in November 2019 to:

I. Make the Council's activities net-zero carbon by 2050, in line with the UK Government's target.

II. Ask the Prosperous Communities Committee to develop a new strategy on sustainability, climate change and the environment for the Council, with an initial outline being present to the next Annual Council, looking toward achieving the above target.

2.2 Such a strategy was also asked to consider:

I. Achieving 100% clean energy across the Council's full range of functions by 2040;

II. How to ensure that all strategic decisions, budgets and approaches to planning decisions are in line with a shift to zero carbon by 2050, working to ensure that the Central Lincolnshire Local Plan review embraces this approach;

III. How to support and work with all other relevant agencies towards making the entire area zero carbon within the same timescale;

IV. Suggestions for budget actions and a measured baseline;

V. How the Prosperous Communities Committee can consider the impact of climate change and the environment when reviewing Council policies and strategies;

VI. Any available research (that is expected to be forthcoming) from APSE relevant to this work;

VII. Report on the level of investment in the fossil fuel industry that our pensions plan has;

VIII. Ensure that all reports in preparation for the 2021/22 budget cycle and investment strategy will take into account the actions the council will take to address this agenda;

IX. Call on the UK Government to provide the powers, resources and help with funding to make this possible and ask local MPs to do likewise.

2.3 To progress work on this agenda a Member Working Group, chaired by Cllr Tracey Coulson, was formed and at the Full Council meeting of 29th June 2020, Members gave consideration to a report which presented an initial scoping document, which allowed for an "interim" update to be provided in respect of work undertaken in progressing the Council resolution to consider environmental and other implications associated with climate change. The report presented set out a strategy development plan, as requested by Council in November 2019 which had been recommended to Council by the Prosperous Communities Committee.

2.4 Cllr Coulson, as Chair of the Working Group, presented the report to the meeting and highlighted several key points including, the work undertaken to-date (Section 3 of the report); the interim findings (Section 4 of the report) and arising from this, the proposed way in which the Strategy would be developed: namely by adopting the Ashden toolkit, which would provide a robust framework around which the Strategy could be built.

2.5 The report on the whole was welcomed, as was the proposed approach.

2.6 Since that time further work has progressed to develop the Council's Sustainability, Climate Change and Environment Strategy. Key facets of this work are set out below.

3. Carbon Footprint and Carbon Management

3.1 A reduction in the emission of greenhouse gases (CO2 equivalent) to a net-zero position by a certain point in the future is the main driver in tackling climate change. Such a reduction has to be achieved on an individual, local, regional, national and international basis and must

include sectoral participation i.e. business, industry, logistics, agriculture, transport etc. Gaining an understanding and baseline of an organisation's emission levels is crucial therefore to provide a starting point to work from.

3.2 It is important to stress that CO2 emissions vary over time as an organisation develops, improves efficiency and/or disposes of/brings new assets into use. External factors play a part also such as the decarbonisation of the electricity supply which in turn reduces the carbon impact of energy usage.

3.3 As an organisation, the Council has been working to reduce its CO2e emissions for more than 10 years and has worked through two Carbon Management Plans (CMPs), 2010-2015 and 2016-2021. Delivering against these plans was intended to produce a reduction in emissions of 35% to 1325 tCO2e, based on 2008/09 baseline figures of 2036 tCO2e emitted p.a. Projects implemented to secure such reductions include the installation of solar panels on certain assets (which also produce an income of approx. £21k p.a. to the Council), LED lighting in buildings; voltage optimisation initiatives and more energy efficient replacement ICT infrastructure.

3.4 In September 2020, the Council commissioned the Carbon Trust to re-calculate the Council's carbon footprint and produce a Carbon Management Plan (CMP) for the period 2021-2026. The results of this work are set out in Appendix One.

3.5 This piece of work is integral in supporting the Council to reduce the carbon impact of its operations to a net-zero position by 2050. It also forms a key element of, and lies within the overall context of, the Council's Sustainability, Climate Change and Environment Strategy.

3.6 The scope of the work required of the Carbon Trust was to determine emissions relating to:

Scope 1	Org Facilities	Y
	Org Vehicles	Y
Scope 2	Emissions due to purchase electricity, steam, heat, cooling	Y
Scope 3 Upstream	Purchased goods and services	
	Capital Goods	
	Fuel and energy related activities	Y
	Upstream transportation/distribution	
	Waste generated in operations	Y (waste water calculation?)
	Business Travel	Y
	Employee Commuting	Y
	Upstream leased assets	Y
Scope 3 Downstream	Downstream transportation/distribution	
	Processing of sold products	
	Use of sold products	
	End of life treatment of sold products	
	Downstream leased assets	Y – where we are landlord energy usage?

	Franchises	
	Investments	

3.7 The Carbon Trust have worked (remotely) with officers to collate data relating to energy and fuel usage, mileages (fleet and officers) and heating systems. Where accurate data is not available, proxies have been used and certain assumptions have been made from which to calculate carbon emissions.

3.8 The year 2019/20 was used to provide a baseline for the Council's carbon footprint. However, to ensure that as many of the Council's operations as possible were captured during this exercise, Lea Fields Crematorium and the Market Rasen Leisure facility were also included, even though in the case of the Crematorium it was not in operation for the whole of 2019/20 and the leisure facility only came on stream last Autumn. Emissions calculations for these facilities were based on profiled energy usage based on one quarter's actual (Crematorium) and building industry standard data (leisure facility).

3.9 Taking all factors into account, the Council's carbon footprint has been calculated as 3428tCO2e. This figure is greater than that expected upon the completion of the CMP 2016-2021 (as detailed at 3.3 above). This is due to the fact since the inception of that CMP, the Council has built or acquired new assets which contribute to its carbon footprint and the CO2e impact of these assets has been included when calculating a new baseline figure. This demonstrates that CO2e emissions are not a static phenomenon; they do fluctuate over time.

3.10 Scope of emissions**:** 69% of the footprint is associated with scope 3 emissions from leased buildings, leisure centres, business travel and commuting, water and waste. Scope 1 emissions account for 25% of the overall footprint, whilst scope 2 emissions account for the remaining 6%.

3.11 Emissions by activity: Approximately 55% of the measured footprint emissions are associated with electricity and gas use across the council's leased buildings. This includes emissions arising from the Gainsborough and Market Rasen Leisure Centre facilities, which account for 16% of the overall footprint. Fleet fuel consumption is responsible for 26%, whilst electricity and gas use across council operated buildings accounts for 11% of the total footprint. Approximately 8% of emissions are associated with the treatment and disposal of water and waste across council operated sites, alongside emissions from business travel and commuting. The table below illustrates this breakdown:

Scope	Emission Source	tCO2e
1	Natural Gas	83.6
1	Other fuels	67.4

1	Fleet	881.1
2	Electricity	241.7
3	Leased Buildings	1339
3	Leisure Centres	530.7
3	Employee Commuting	214.8
3	Business Travel	66.4
3	Water	2.1
3	Waste	1.0
Total Emissions		3428

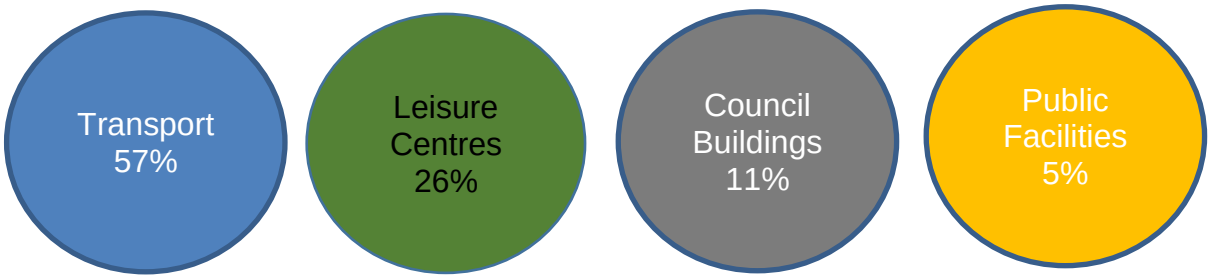
3.12 Targeted Footprint

3.12.1 The Carbon Trust have advised that the Council's initial targeted footprint should exclude those emissions created by leased buildings, which the Council owns but are run by other operators. This accounts for 1339 tCO2e and therefore produces an initial net-zero target of 2089 tCO2e.

3.12.2 The Carbon Trust's rationale for the exclusion at this stage of emissions related to leased buildings is that, in calculating the emission figures across this estate a series of proxies and estimates had to be used in the absence of actual energy consumption data. The Carbon Trust advise that it is in the Council's medium-term interests to work with the operators of these buildings to obtain verifiable data, re-calculate a more reliable emission figure across the estate and consider at that point what remedial actions are required to reduce emissions.

3.13 Carbon Reduction Opportunities

3.13.1 Four emission 'hotspots, accounting for a combined total of 99% of the targeted footprint, have been identified:



3.13.2 Having reviewed existing energy sources, fuel usage data and operational practices and considering existing technologies, the Carbon Trust has produced a summary of recommended actions that the Council should consider to reduce its targeted carbon footprint. The recommendations also carry estimated costs of implementation and expected tCO2e reductions, but carry a caveat that actual figures would be subject to robust business case development and the future maturity of technologies. Suggested implementation dates have also been provided.

Emissions hotspot	Project	CAPEX [GBP]	Annual savings [GBP]	Simple payback [yrs.]	Annual savings [tCO_2e]	CAPEX/ tCO_2e	Implementation
Transport	Review all travel related policies and ensure alignment with decarbonisation ambitions	Internal costs only	0	Instant	21.09	0	2021
Transport	Incorporate fuel efficient driving into driver training and refresher courses	8,000	10,800	0.8	26.43	303	2022
Transport	Replacement of manager vans with electric vehicles	12,000	3,900	3.1	15.17	791	2025
Transport	Waste and Street Cleansing fleet electrification	6,264,000	17,300	362.5	865.93	7,234	TBC
Leisure Centres	Require third-party operators to implement a formal energy management system, e.g. ISO 50001	Internal costs only	0	Instant	26.54	0	2022
Leisure Centres	Implement requirement for third-party operators to report energy/carbon performance of buildings, at least annually	Internal costs only	0	Instant	10.61	0	2022
Leisure Centres	Compile plant and equipment inventory and work with site operators to implement a replacement schedule based on life cycle analysis	Internal costs only	0	Instant	39.46	0	2022
Leisure Centres	Solar PV at Market Rasen Leisure Centre	18,000	1,912	9.4	5.03	3,576	2028
Council Buildings	Implement a formal energy management system to cover all major energy consuming sites	Internal costs only	1,900	Instant	6.87	0	2022
Council Buildings	Compile HVAC plant inventory and implement a replacement schedule based on life cycle analysis	Internal costs only	2,200	Instant	11.08	0	2021
Council Buildings	Electrification of space heating	TBC	TBC	TBC	83.64	TBC	2035
Public Facilities	LED street lighting	155,900	20,800	7.5	54.82	2,843	2035

Totals	6,457,900	58,812	1,230.03	5,250

3.13.4 The estimated cost to deliver this plan in its entirety, based on the estimated figures provided, would be £6.458m and would generate on-going savings of almost £59k p.a. The targeted footprint would reduce by 1230 tCO2e leaving a residual balance of approximately 859 tCO2e to deal with. The costs, which are predominantly in respect of low carbon waste and street cleansing vehicles, are in addition to those already profiled in capital budgets.

3.13.5 In reviewing the recommendations, consideration has been paid to the initial allocation of £500k granted by Council (and reflected in the MTFP) to support emission reduction projects. Such a sum would enable all of the actions, where costs have been estimated, to be undertaken; bar the de-carbonising of the waste fleet. Timescales are as suggested, but it is recommended that LED street lighting be brought forward, as should explorations related to the electrification of space heating in council buildings and solar PV at Market Rasen Leisure Centre.

3.13.6 Early action to work with the operators of leased buildings to establish more verifiable data relating to emissions from these assets should also be prioritised.

3.14 Carbon Offsetting

3.14.1 The residual balance of 859 tCO2e referred to at 3.13.4 above, illustrates the difficulty in achieving a truly zero carbon position. Hence decisions would have to be made at the appropriate time as to how best ‘net-off’, or offset, the 859 tCO2e. Options currently include tree planting, renewable energy production and carbon storage.

3.14.2 It should be noted that in the hierarchy of carbon reduction methods, offsetting is regarded as relatively expensive per tCO2e removed and should be viewed as a last option once all practical means of reducing the amount of carbon produced have been explored.

4. Sustainability, Climate Change and Environment Strategy

4.1 As set out above, the Council’s own carbon reduction efforts sit within the overarching strategy. This ensures that the focus of the strategy is not only on carbon reduction, but also considers wider aspects pertaining to sustainability and the environment and the enabling role the Council must play. Great emphasis is placed on the co-benefits that will accrue from taking action such as improved health and wellbeing; reduced costs; new technologies and skilled employment opportunities.

4.2 The framework agreed and used to develop the strategy covers the following 10 themes set out below. Diagrammatically, this illustrates

how the framework complements the Council's Corporate Plan themes of Our People, Our Place, and Our Council.

4.3 The strategy in full, forms Appendix Two and sets out the compelling scientific argument for taking positive action; references the (fast-moving) social, political, legislative and policy contexts within which the work has been and will continue to be developed; details the size of the task at hand in terms of setting out the size of the Council's own carbon footprint and that of the wider district (524kt CO2e p.a.); provides evidence (in the form of introducing the concept of carbon budgets) to illustrate that urgency is required and concludes with thoughts on how progress will be monitored and reported and that success will be very much dependant on a strong level of ambition and commitment, backed up by significant interventions and investment across the Council.

4.4 Within each of the themes, commentary is provided to explain the nature of each of the topics and pointers are provided to illustrate the role they can play in addressing climate change, promoting sustainability and enhancing the environment.

4.5 Supporting the strategy is a detailed action plan built around the themes set out above. It acts as a repository for recording ideas and is a working document which will flex over time and will provide a means of recording actions; their progress and success. A summary version of the action plan will act as a front-facing document, used to highlight and publicise live projects. A copy of the summary is set out in Appendix Three.

5. Supporting Actions

5.1 To arrive at this position a number of supporting tasks have been undertaken. These have contributed to the content of and thinking

behind the strategy and the ability to comprehend unfamiliar concepts and theories.

5.2 CONSULTATION: Firstly, consultation and engagement. Effective consultation and engagement is a key supporting aspect of strategy development, as it allows initial thoughts and considerations to be shared with interested stakeholders and the receipt of feedback and opinion on the material presented.

5.2.1 Under 'normal' circumstances a range of consultation methods would be utilised. However, due to Covid19, the Council was restricted to the use of on-line surveys supported by direct messaging to key stakeholder groups (schools, Parish/Town Councils, businesses); updated web-pages showing related content (www.west-lindsey.gov.uk/climate/); media coverage including social media messaging and radio broadcasts; the creation of a dedicated email address (climate@west-lindsey.gov.uk) to receive associated correspondence; the Members' bulletin and the Council's intranet.

5.2.2 Two phases of consultation were undertaken. Phase 1, which ran in the summer of 2020 and took the form of a survey, questioned respondents on how important a topic climate change, the environment and sustainability is to them and also asked for feedback on the areas the Council proposed to cover in the Strategy. The survey asked if the scope was wide enough, was targeting the correct areas and for any other relevant thoughts.

5.2.3 In summary over 150 responses were received, with the vast majority supportive of the actions the Council was proposing to take.

5.2.4 The findings were reflected upon as the Strategy was further developed to the point where Phase 2 consultation was undertaken in December 2020. This again took the form of a web-based survey and used the draft Strategy as a basis for further questioning on matters such as: Is it ambitious enough? Is it achievable? Again direct messages were issued to relevant stakeholders and media communications, including a radio interview were issued, raising awareness of the survey's purpose and existence.

5.2.5 Phase 2 elicited 294 responses and the results show that the issue of climate change does concern respondents to a significant degree. The Council has a strong level of support among respondents for the action it is taking and its ambitions are deemed to be achievable. Points raised which may hinder the Council's progress related to resourcing, apathy among the public; the difficulty in engineering behavioural and societal change and the degree of collaboration required.

5.2.6 Appendix Four offers a summary of both consultation exercises.

5.3. TRAINING & AWARENESS: Climate change and the associated science is a technical and complex subject, therefore it is important to

be able to understand some of the basic concepts and theories that underlie the science.

5.3.1 To increase knowledge, both corporately and across Members, a mixed group of 20 individuals (including all members of the Working Group) have partaken in an accredited Climate Literacy Course run by APSE. This took delegates through areas such as the science of climate change; global and local climate change policy; carbon foot printing and planning for change and influencing local stakeholders.

5.3.2 Attendees found the material stimulating, thought provoking and it provided a really useful source of information and reference. It has enabled the Working Group to more quickly gain an understanding of some of the key concepts, terminology and science that support the work required to develop the Strategy.

5.3.3 It is envisaged that on-going formal training for a wider cohort of staff and Members will become a feature of both staff and Member development packages.

5.3.4 In addition to training, engagement exercises based around a number of staff workshops and Member facing presentations have been held. In total approximately 50 individuals have taken part across these cohorts. The purpose has been to set the policy context for the development of the Strategy, highlight the science that points to the need for urgent climate action to be taken; detail activities the Council has undertaken to date and what actions are to be completed. Sessions for both staff and Members have been well received and for some, provided a useful starting point in respect of this subject matter. Again, on-going updates and awareness raising packages are planned for staff and Members alike.

5.3.5 External awareness and engagement packages have been difficult to arrange under the prevailing circumstances. One Parish Council has been in contact and a constrictive discussion took place. It is intended that use will be made of the principles within the refreshed Parish Charter and use this vehicle as a means of holding session(s) with Parish and Town Councils across the District to inform, facilitate discussion and develop networks. The UK will host the 26th UN Climate Change Conference of the Parties (COP26) in Glasgow in November 2021. The summit will bring parties together to accelerate action towards the goals of the Paris Agreement and the UN Framework Convention on Climate Change. This will provide an excellent backdrop for the Council's engagement plans.

5.4 COMMUNICATIONS: a significant amount of time has been spent on ensuring that communication messages related to this work are as effective as possible. Clear, consistent messaging, delivered to the appropriate stakeholder(s), via the most appropriate means, at the most appropriate times is essential. The aims therefore of the Communications Plan have been determined as thus:

- Raise awareness and engagement of sustainability, climate change and the environment
- Demonstrate the agenda is real
- Facilitate change
- Engage hard to reach groups (under 40's)
- Develop a significant programme for the climate change initiative; including businesses, schools and residents. Press coverage and events; creating content for officers to deliver

5.4.1 The key messages which form the bedrock of the communications strategy, which must be stressed by officers and Members alike, at all opportunities are:

- Science demonstrates that urgent and radical action is needed to avert severe and widespread environmental, social and economic disaster
- Action on climate change is required to support the most vulnerable in society
- Emphasising the co-benefits of delivering the Strategy i.e. investment, employment, economic recovery, social and well-being related benefits
- The green agenda is relevant to us all
- Every small step can have a big impact on our environment

6. Current Considerations

6.1 At this moment in time the Council is nearing the 'end of the beginning' of its work to address climate related matters within the Council and across the wider district. Attention has therefore been paid as to what will be required to ensure the achievement of the Council's ambitions can be attained and reported.

6.2 Oversight of Delivery

6.2.1 From an internal perspective, mechanisms are required to ensure the effective oversight and delivery of the action plan, to assess, appraise and oversee implementation of new related projects and initiatives and to ensure that climate, sustainability and environmental related concerns are hard-wired into Council decision making and wider corporate activity such as procurement decisions, risk management, business planning, financial planning, programme/project management and performance management.

6.2.2 To achieve this, it is intended that an internal board is formed to take responsibility and have oversight of all related activity. Membership will be drawn from relevant officers from across the Council and will also have senior officer representation.

6.2.3 The Council's performance management systems will be used to monitor and report on progress. Suitable measures will be determined

(qualitative and quantitative). The Council's robust programme and project management methodology will provide a framework to ensure that business case development, project development, delivery and outcomes monitoring are routinely undertaken.

6.2.4 Also, the Council's Overview and Scrutiny function may have a key role to play in examining proposals, tracking the delivery of projects and the realisation of expected benefits and overseeing delivery of the CMP action plan and other associated performance management.

6.3 District-Wide Leadership

6.3.1 Looking towards the wider-district, the Council's role is to facilitate, encourage, co-ordinate; acting as a fulcrum bringing together organisations from the business, voluntary, government and educational sectors from across the District to participate in meaningful discussion and activity. Working at scale; identifying mutually beneficial initiatives; forming an effective lobbying, campaigning and influencing alliance and feeding into county-wide structures would be more achievable via the formation of a district-wide grouping and provide a strong collective voice. Initial thoughts are that the Place Board may be a suitable structure for this and developments will progress from this starting point.

6.3.2 Consideration also needs to be paid as to how the District's interests are represented and considered on a county-wide basis. LCC has adopted its own Green Masterplan which it will be progressing and therefore it is vital that their actions and intentions and ours, are complementary. The outcome of the review of the CLLP, which has considered how it can contribute to the achievement of a net-zero carbon position, will provide a strong policy framework from which to work.

6.4 Resources

6.4.1 To deliver the action plan, consideration needs to be paid to resources, in both financial and officer capacity/capability terms. However, one of the main considerations in respect of finances is that, often investing in climate related initiatives at an early stage can reduce futures costs and/or generate additional income. Hence, the financial aspect of business cases must explore all possibilities and set out viable costed options and associated payback considerations. Members will have noted the estimated costs to implement the CMP as calculated by the Carbon Trust. These are undoubtedly significant and need to be considered and prioritised on an investment v carbon reduction basis.

6.4.2 An initial sum of £500k has been agreed by Members to support the delivery of the strategy's aims. This was agreed by Council and is set out in the MTFP. This is a considerable amount of money and signifies the seriousness with which the Council is taking the subject. Such a

commitment will no doubt be beneficial in attracting further external funding as and when opportunities arise.

6.4.3 The strategy explores various possible means of resourcing the action plan. Working closely with finance colleagues, keeping abreast of opportunities and new funding streams and innovative funding arrangements will be an on-going process.

6.4.4 Staff resources pertaining to capacity and capability are also to be considered. An immediate action has been the creation of, and appointment to, the role of Head of Policy, Strategy and Sustainable Environment. However, as detailed, the breadth of work is broad and in some cases very deep. The subject matter is fast-moving with regular policy, technology and initiative announcements to keep abreast of. It can also be technical and complex, requiring a high level of understanding of key terms and concepts and an ability to transfer the theory and apply it to the context of the organisation; thereby ensuring that climate related considerations are accurately reflected and reported and decision-making processes fully contain related information.

6.4.5 The on-going training and awareness packages on sustainability, climate and environment issues for staff and Members will play a key role in increasing general knowledge. But while awareness and understanding of the subject matter has increased among a small cohort of enthusiastic officers over the past year or so, the Council does not currently possess any real technical expertise. Options will have to be explored as to how best remedy this and provide capacity alongside the Head of Policy, Strategy and Sustainable Environment, for the action plan to gain traction. Potential solutions include:

- The recruitment of relevantly qualified staff and/or the commitment to support any current staff member(s) who may be interested in obtaining professional accreditation in the subject matter.
- Secure expert/technical support on a retained contract(s) to draw on at appropriate times for project development and delivery. Progress on this as a solution is underway.

7. Conclusion

7.1 The production of this strategy and action plan has involved considerable work across many topic areas. However, it has led to the Council being in a position where it has met the requirements of the Council motion made in November 2019 and is now fully appraised of its own climate reduction challenge and responsibilities and also of the issues facing the wider District. The strategy provides a roadmap to achieving a net zero carbon position across both Council operations and on a district wide basis. Input into the development of the strategy from interested parties via two consultation exercises has to a large extent validated the Council's intent and shows that there is a high

level of support. It is imperative therefore that progress is consistent, transparent and evaluated to ensure actions taken are meeting their intended objectives on an on-going basis.

West Lindsey District Council

Carbon Action Plan

February 2021

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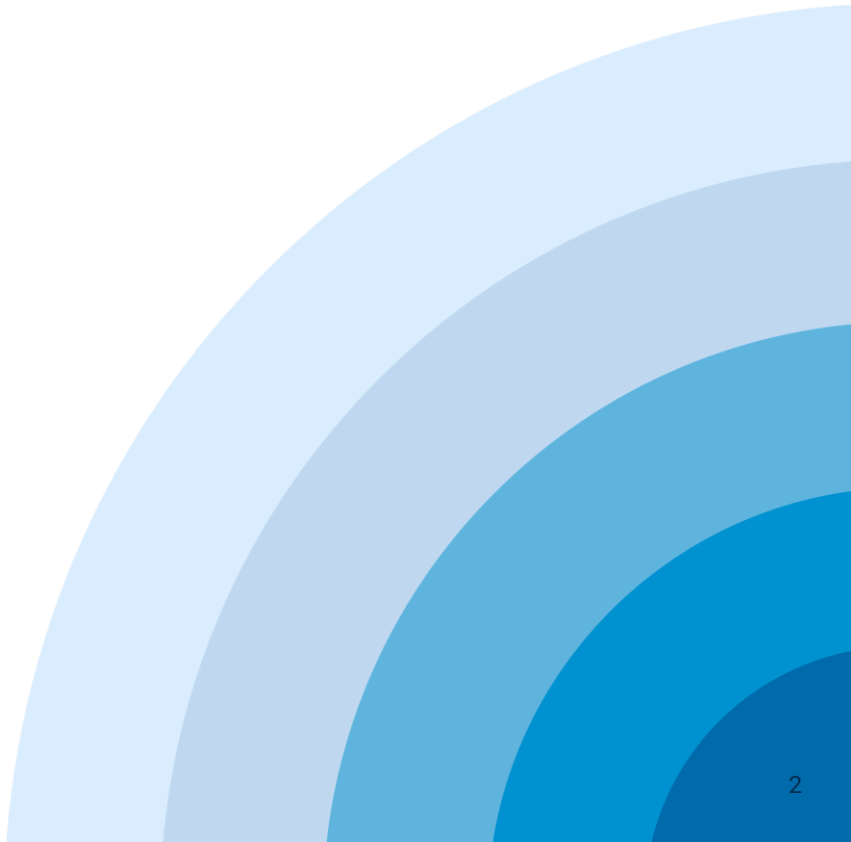
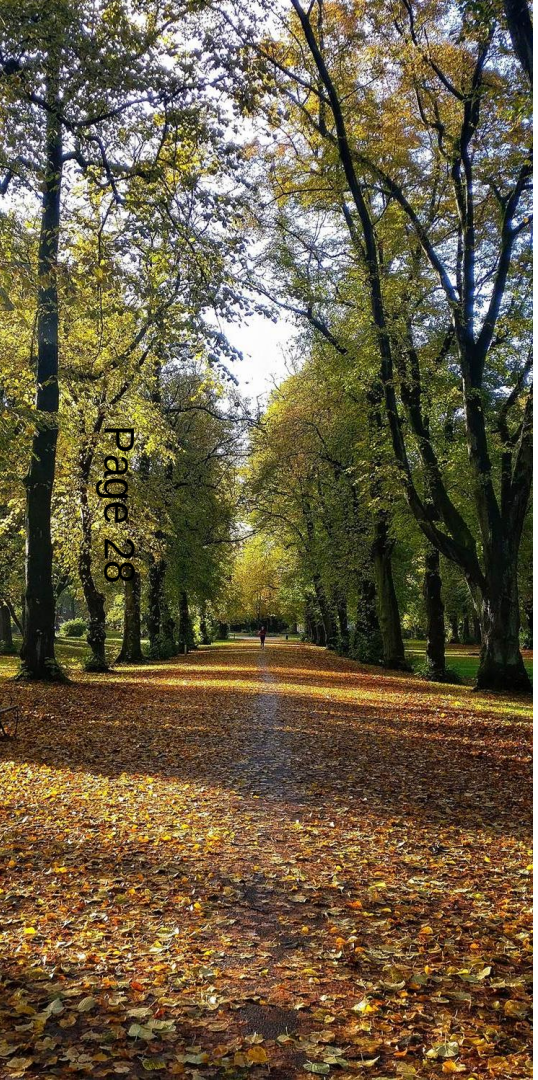


1. Executive summary



Background and Context

Growing acknowledgement of the latest science and recommendations from the Committee on Climate Change have resulted in unprecedented recognition of the global climate emergency and the need to act urgently in order to reduce carbon emissions to limit further global warming and associated environmental impacts. Global initiatives are now focused on limiting warming to well below 2°C, aligning to the pledges outlined in the Paris Agreement. Despite this, warming continues, with the impacts being felt both nationally and internationally. Across the UK, continued warming is projected to make winters warmer and summers hotter and drier. Sea levels will also continue to rise and threaten many coastal communities across the country. Many industrial and farming processes will also be affected by a continuation of rising temperatures, exacerbating impacts that warming will have on communities across the UK.

In 2019, the UK Government became the first major economy in the world to pass laws to end its contribution to global warming by 2050 by setting a target of achieving net zero emissions by 2050. Local authorities have a crucial role to play in developing effective pathways towards reducing their emissions, which, if successfully achieved, will help to reduce climate impacts at both the local and national scale as well as delivering public health co-benefits resulting from cleaner air and leading a more active lifestyle.

In November 2019, West Lindsey District Council (WLDC) resolved to make the council's activities net zero carbon by 2050. To support this target, the council are developing a new Sustainability, Climate Change and Environment Strategy, due to be launched in May 2021. This report has been commissioned by the Council to help achieve their carbon reduction targets.

Action Plan summary

- This Carbon Action Plan will form a key part of WLDCs response to the climate crisis and emerging Sustainability, Climate Change and Environment Strategy. This Plan sets out a number of recommendations that WLDC should initially work towards in order to accelerate carbon reduction across the Council, actions that will seek to support their carbon reduction target.
- The Council has recently produced an updated Carbon Management Plan, which has enhanced overall understanding of the key emissions hotspots across the organisation, allowing for the targeted analysis identified throughout this Action Plan.
- WLDC has set a carbon reduction target of achieving net zero emissions across their own operations by 2050. The Council recognises the importance of decisive action on this issue, and will work closely with members and the wider district to ensure that this target is continually reviewed and updated to reflect emerging carbon reduction ambitions.

Carbon reduction opportunities

A summary of the recommendations identified are listed below:

Emissions hotspot	Project	CAPEX [GBP]	Annual savings [GBP]	Simple payback [yrs]	Annual savings [tCO_2e]	CAPEX/ tCO_2e
Transport	Review all travel related policies and ensure alignment with decarbonisation ambitions	Internal costs only	0	Instant	21.09	0
Transport	Incorporate fuel efficient driving into driver training and refresher courses	8,000	10,800	0.8	26.43	303
Transport	Replacement of manager vans with electric vehicles	12,000	3,900	3.1	15.17	791
Transport	Waste and Street Cleansing fleet electrification	6,264,000	17,300	362.5	865.93	7,234
Leisure Centres	Require third-party operators to implement a formal energy management system, e.g. ISO 50001	Internal costs only	0	Instant	26.54	0
Leisure Centres	Implement requirement for third-party operators to report energy/carbon performance of buildings, at least annually	Internal costs only	0	Instant	10.61	0
Leisure Centres	Compile plant and equipment inventory and work with site operators to implement a replacement schedule based on life cycle analysis	Internal costs only	0	Instant	39.46	0
Leisure Centres	Solar PV at Market Rasen Leisure Centre	18,000	1,912	9.4	5.03	3,576
Council Buildings	Implement a formal energy management system to cover all major energy consuming sites	Internal costs only	1,900	Instant	6.87	0
Council Buildings	Compile HVAC plant inventory and implement a replacement schedule based on life cycle analysis	Internal costs only	2,200	Instant	11.08	0
Council Buildings	Electrification of space heating	TBC	TBC	TBC	83.64	TBC
Public Facilities	LED streetlighting	155,900	20,800	7.5	54.82	2,843

2. Carbon footprint

Carbon Footprint Methodology

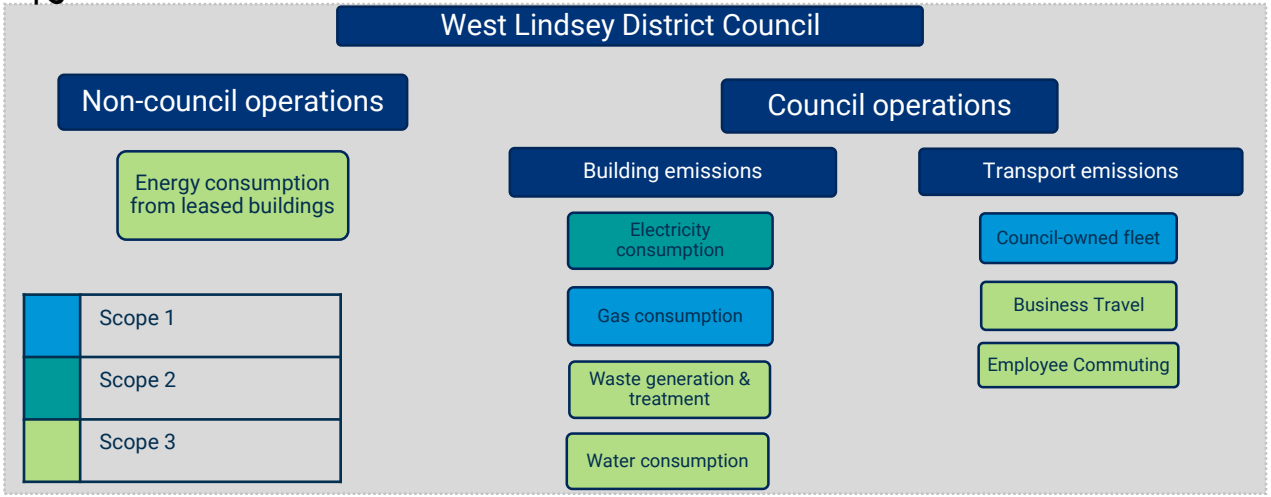
This chapter provides an inventory of greenhouse gas emissions for WLDC for the financial year 2019/20. This inventory, or footprint, provides the council with a 'baseline' of emissions for this period.

Council Target

It is important to note that the emissions included in the council's footprint measurement are different to those emissions included in the council's carbon reduction target (**see slide 17**). It is these emissions included under the council's target that will be used to measure and evaluate the council's carbon reduction progress going forward.

Methodology

This footprint has been calculated according to the Greenhouse Gas (GHG) Protocol, the most widely used and accepted methodology for greenhouse gas accounting. The GHG Protocol classifies emissions as either scope 1, 2, or 3 (figure 1). This chapter presents the scope 1,2 and selected scope 3 footprint for WLDC. In the case of the council, a scope 1 and 2 footprint measures those emissions associated with direct council-led operations, whilst scope 3 elements of the footprint account for the emissions associated with indirect activities.



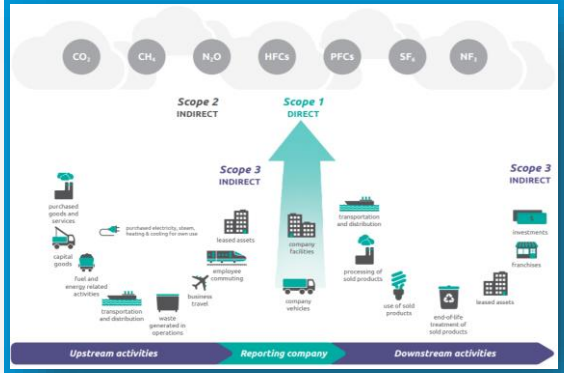


Figure 1: The GHG Protocol emissions classification

- **Scope 1:** Direct emissions from combustion of gas and other fuels.
- **Scope 2:** Emissions resulting from purchased electricity, heat, or steam.
- **Scope 3**: Emissions made by third parties in connection with operational activities.

How carbon footprints are calculated

Calculating a carbon footprint

A carbon footprint is calculated by multiplying **activity data** (e.g. litres of vehicle fuel, kWh of electricity/gas) by an associated **emissions factor.**

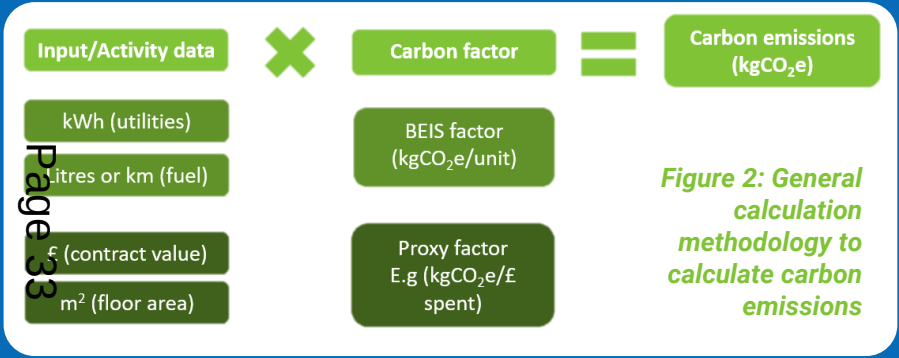


Figure 2: General calculation methodology to calculate carbon emissions

What does CO_2e mean?

Carbon dioxide (CO_2) is the most well known of all of the greenhouse gases. There are six other commonly reported GHGs, which can be seen in Figure 1 on the previous page. In footprinting carbon dioxide equivalent (CO_2e) is used in order to express the impact of the other gases in terms of the amount of CO_2 that would create the same amount of warming.

Data availability and the use of benchmarks

Where possible, real activity data should be collected throughout the reporting period for use in the footprint calculation.

- Emission factors are updated annually and published by the UK Government's department for Business, Energy and Industrial Strategy (BEIS).

If activity data is not available, various **benchmarks and proxies** can be used:

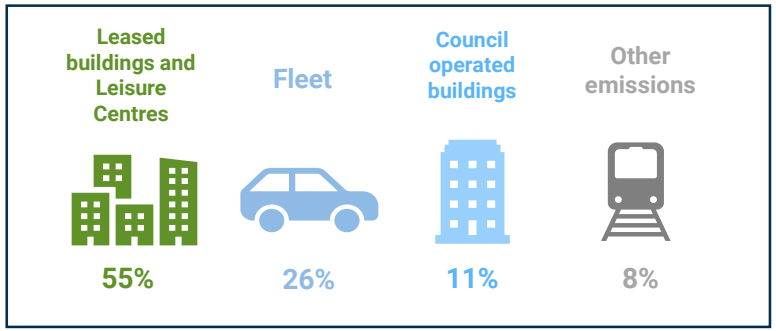
- Benchmarks can be used to approximate activity data. For example, typical electricity consumption per m^2 of a building.
- When input data is scarce, proxy factors can be used in place of the BEIS factors to approximate emissions from the available input data (e.g. contract value).

West Lindsey District Council has worked closely with the Carbon Trust to ensure that their carbon footprint is as comprehensive and accurate as practically possible at this time. Real activity data for gas and electricity consumption has been used for all council-operated sites. Additional assumptions have been made in order to obtain a full data-set for LPG emissions at the council's Lea Fields Crematorium, alongside data for employee commuting (see Footprint Report for full breakdown of assumptions).

West Lindsey District Council FY 19/20 Footprint

West Lindsey District Council's total measured carbon footprint for the 2019/20 financial year is 3,428 tonnes of CO2 equivalent (tCO_2e).

- **Scope of emissions:** 69% of the footprint is associated with scope 3 emissions from leased buildings, leisure centres, business travel and commuting, water and waste. Scope 1 emissions account for 25% of the overall footprint, whilst scope 2 emissions account for the remaining 6%.
- **Emissions by activity:** Approximately 55% of the measured footprint emissions are associated with electricity and gas use across the council's leased buildings. This includes emissions across the Gainsborough and Market Rasen Leisure Centre facilities, which account for 16% of the overall footprint. Fleet fuel consumption is responsible for 26%, whilst electricity and gas use across council operated buildings accounts for 11% of the total footprint. Approximately 8% of emissions are associated with the treatment and disposal of water and waste across council operated sites, alongside emissions from business travel and commuting.



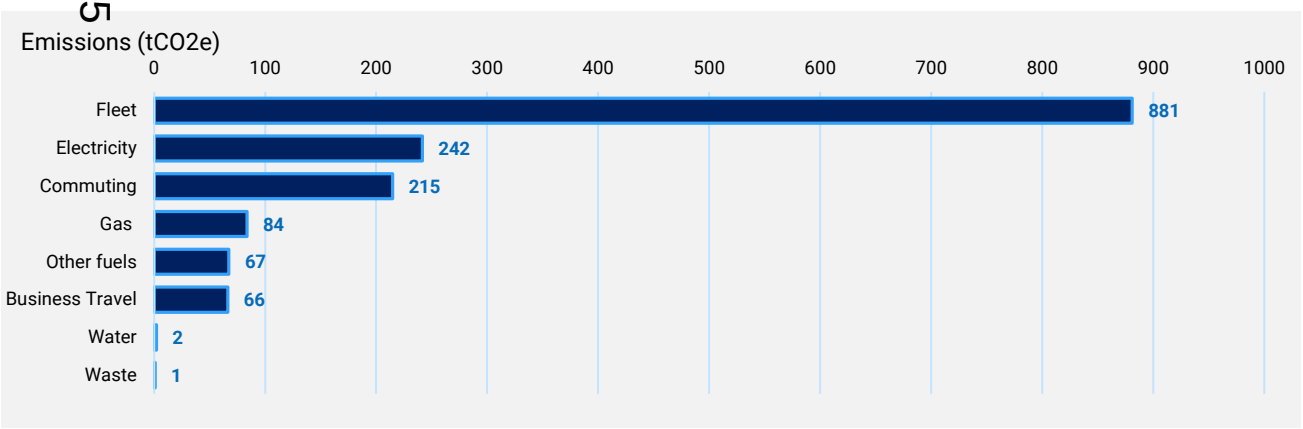
Scope	Emission source	tCO_2e
1	Natural gas	83.6
1	Other fuels	67.4
1	Fleet	881.1
2	Electricity	241.7
3	Leased Buildings	1339
3	Leisure Centres	530.7
3	Employee Commuting	214.8
3	Business Travel	66.4
3	Water	2.1
3	Waste	1.0
	Total Emissions	3,428

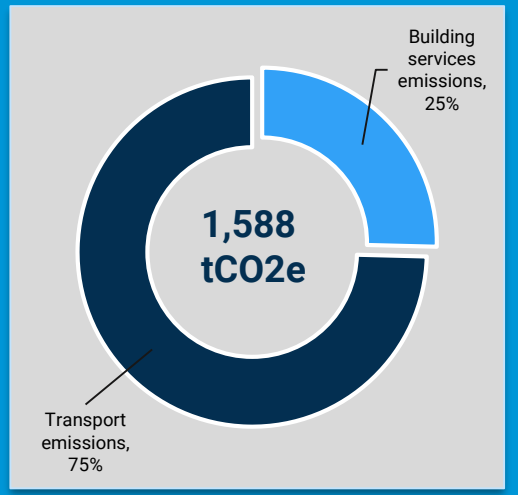
Footprint in Detail: Operational emissions

The next pages in this chapter explore the **operational carbon emissions of WLDC**. These include a mix of direct and indirect emissions associated with the council's direct operations and use of their own buildings and assets, i.e:

- **Scope 1:** Gas (primarily for heating buildings and water), other fuels (LPG), and vehicle fuel consumption across the Council's own fleet;
- **Scope 2:** Electricity consumption within WLDC buildings and across council owned car parks (streetlighting);
- **Scope 3:** Waste, water supply & treatment (arising from WLDC operated buildings), business travel and commuting.

Operational emissions across WLDC total 1,588 tCO_2e (45% of the total footprint). Fleet and electricity consumption are the two largest sources of emissions. Operational emissions across the council can be categorised into two main sources: **Building Services and Transport emissions.** 75% of emissions are associated with activities relating to transport, including the operation and use of the council's fleet vehicles, employee commuting and business travel.





Breakdown of WLDC operational emissions by source

Footprint in detail: Transport emissions

The council own and operate a large fleet of vehicles, all of which are diesel powered. **Emissions from council-owned fleet vehicles account for 26% of the overall carbon footprint, the largest operational source of emissions.**

- The majority of emissions from fleet vehicles are associated with the use of Heavy Goods Vehicles (HGVs) across the council. HGVs of all sizes account for 98% of total emissions from fleet vehicles.
- The common decarbonisation pathway for fleet vehicles is the adoption of low carbon alternatives. The share of low carbon vehicles across the Council's fleet will therefore have to grow in order to achieve decarbonisation targets.

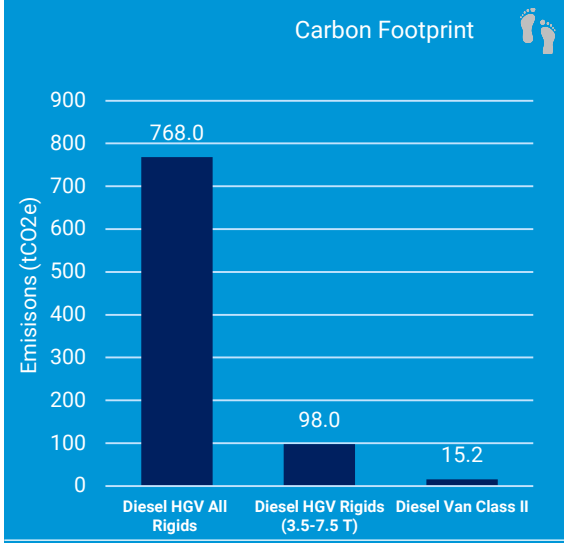
Emissions associated with business travel and employee commuting total 281 tCO_2e, accounting for 8% of the council's overall footprint.

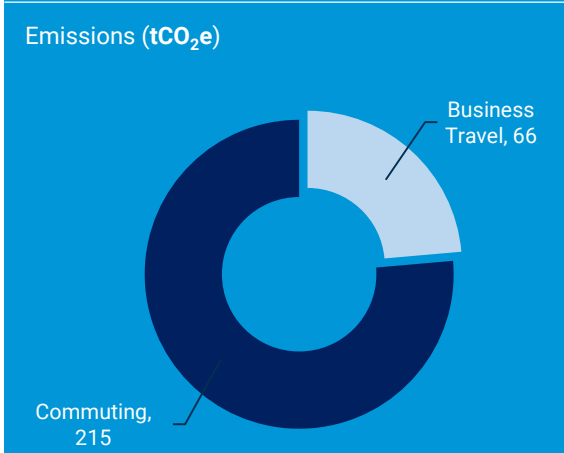
Business Travel

- Includes the emissions associated with vehicles not directly operated by the council, but used to perform council business (i.e. use of employee vehicles during business hours)
- An overall mileage of 179,464.9 was provided and used to calculate emissions for business travel.

Employee Commuting

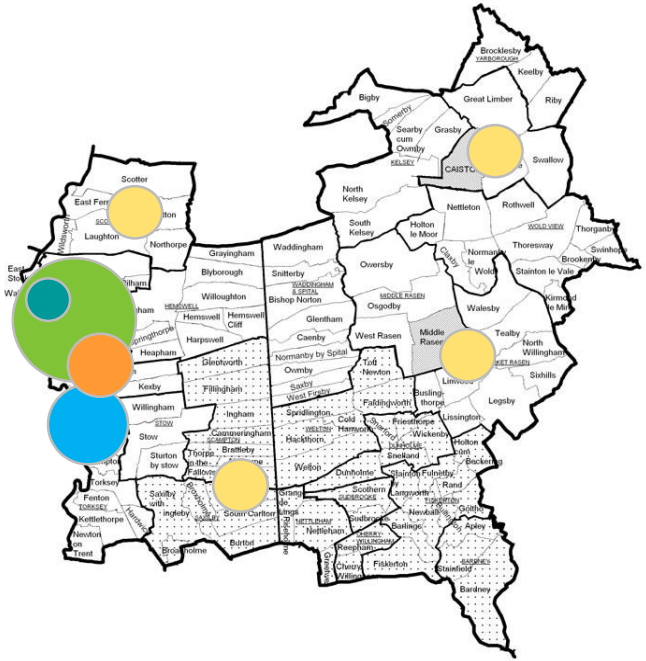
- Emissions associated with vehicles not directly operated by the council, but used by employee to travel to and from a place of work (i.e. use of employee vehicles outside of business hours).
- A number of assumptions have been used to calculate commuting mileage in the absence of first-hand data. A representative sample of 139 employees was used and average commuting distance calculated to obtain commuting mileages (See Footprint Report).





Footprint in detail: Building Services emissions

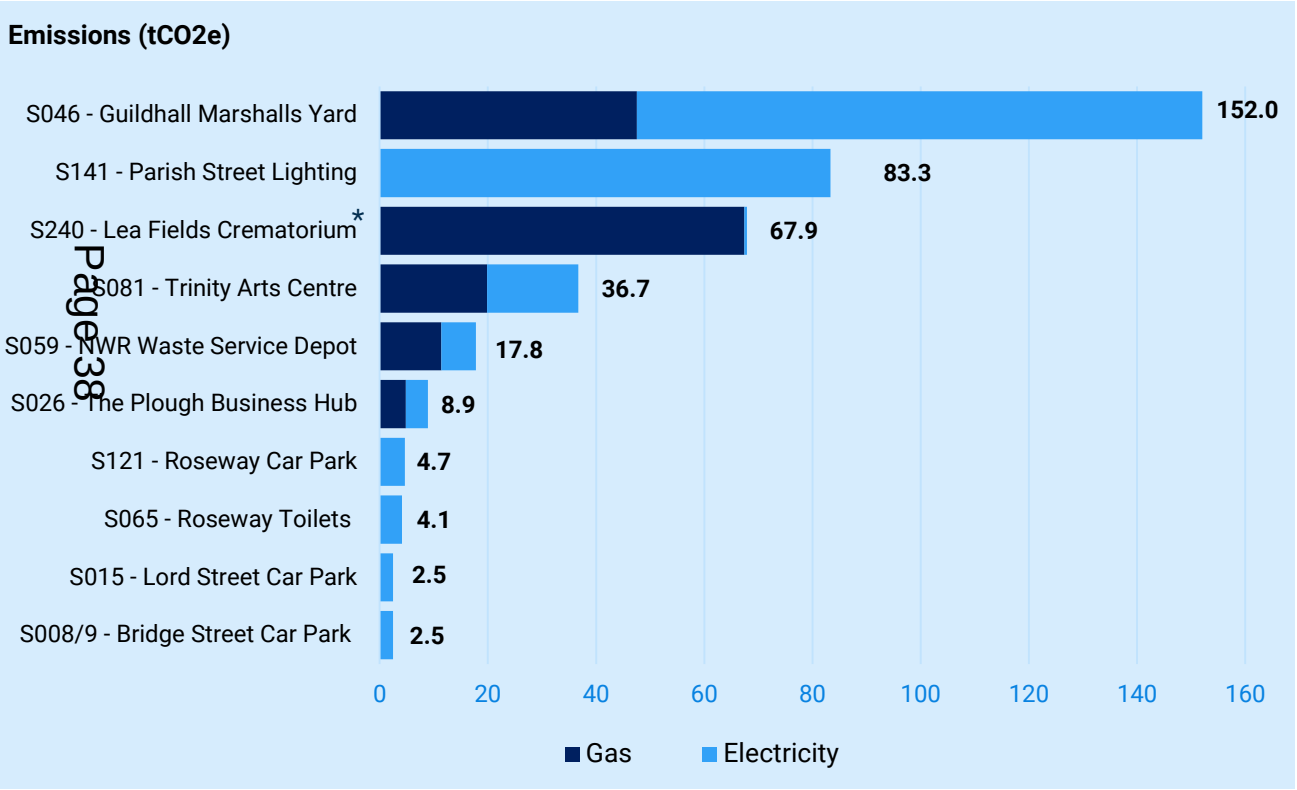
The majority of carbon emissions from WLDC operated buildings and sites are associated with the Council's main office building, **Guildhall Marshalls Yard**, which accounts for **39% of total gas and electricity emissions across council operated sites.** Emissions from streetlighting across council operated car parks are also included in the council's carbon footprint measurement, accounting for 24% of total emissions across council operated sites.



Building/Site*	Total tCO_2e
Guildhall Marshalls Yard	152
Parish Street Lighting	83.3
Lea Fields Crematorium	67.9
Trinity Arts Centre	36.7
NWR Waste Service Depot	17.8

** Only the top 5 buildings/sites are shown, ordered by total emissions*

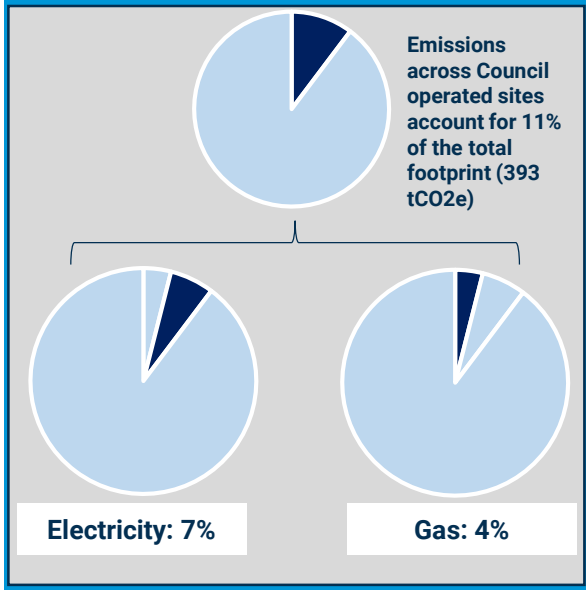
Footprint in detail: Building services emissions



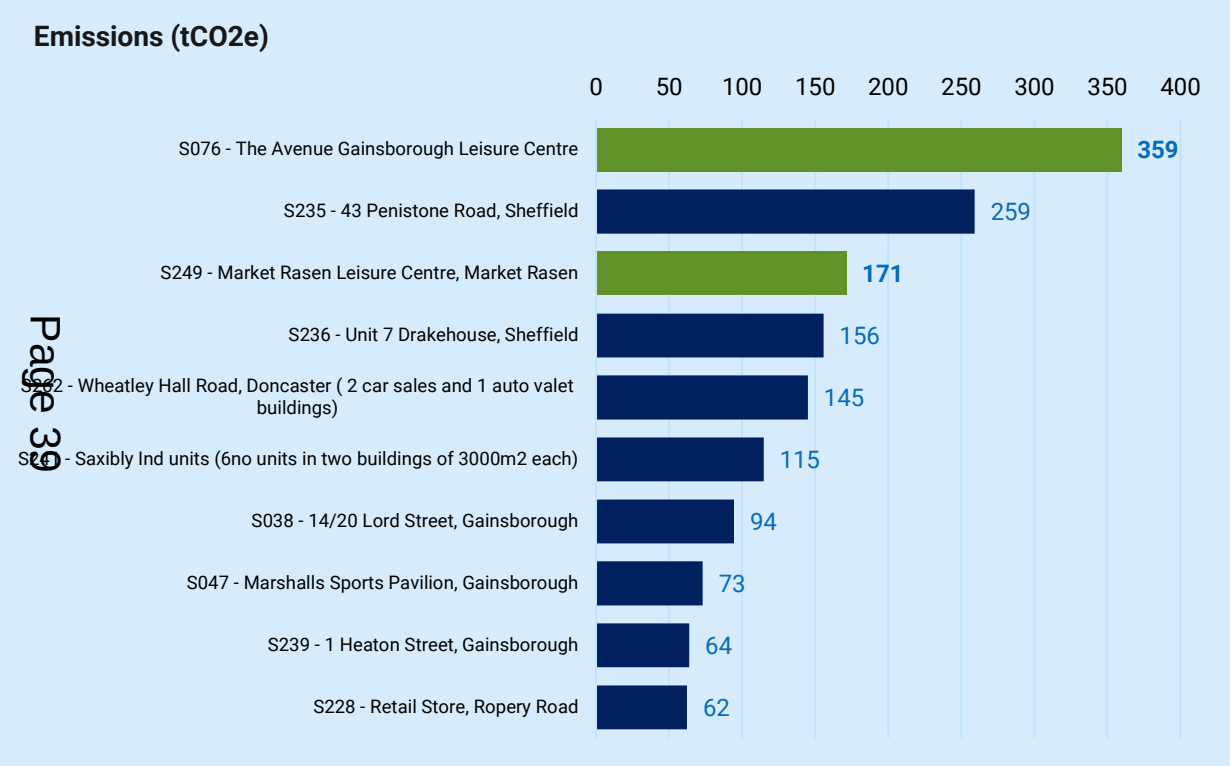
** Emissions from the Lea Fields Crematorium site are as a result of Liquid Petroleum Gas (LPG) consumption*

Analysis of emissions

- Only the top 10 buildings/sites are shown
- Total emissions from electricity and gas consumption across all council operated sites are **393 tCO_2e**, accounting for approximately 11% of the council's overall carbon footprint.



Footprint in Detail: Leased Buildings and Leisure Centres



Leased Buildings

- For this iteration of the Council's footprint, the majority of emissions from leased buildings have been calculated using CIBSE benchmarks, taking into account overall floor area. Where available, actual consumption data has been used to calculate a buildings emissions e.g. Gainsborough Leisure Centre.
- Energy consumption (gas & electricity) in buildings owned by the Council and leased to a 3rd party operator accounts for approximately **55% of the Council's total carbon footprint (1339 tCO_2e).**
- The council has 32 buildings that they own and lease out to a third party operator. Only the top 10 highest emitting sites are shown.
- WLDC owns the Gainsborough and Market Rasen leisure centres but leases both these sites to a third-party operator who is in charge of operations across the centres. **Both these sites account for 16% of the overall carbon footprint.**
- The Council acknowledges the fundamental role that both leisure centre facilities have on council operations. The decision has been made to include both facilities in the Council's Net Zero target for carbon reduction moving forward (see Slide 17).

3. Net Zero target

A note on the net zero target boundary

West Lindsey District Council's total measured carbon footprint for the 2019/20 financial year is **3,428 tonnes of CO2 equivalent (tCO2e)**. Full details of this can be found in the WLDC Footprint Report.

WLDC has set a carbon reduction target of achieving net zero emissions across their own operations by 2050.

This target covers those emissions sources that are under the operational control of the Council, as well as emissions associated with the provision of services to the community, Leisure Centres (which are currently operated by third parties on behalf of the Council). A full list of the emissions sources covered by the Council's net zero target is shown in the table opposite.

A decision has been made to exclude all other leased buildings from the Council's net zero target. The Council acknowledges the importance of reducing emissions across these sites, and will work closely with building operators in order to improve overall understanding of emissions across these buildings, however, in the short term WLDC's Action Plan will focus on reducing emissions from the sources opposite.

Below: WLDC Net Zero Target Boundary

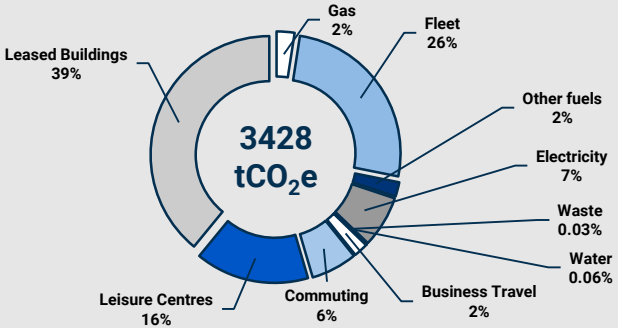
WLDC Net Zero Target Boundary	
Scope 1	• Natural gas • Other fuels (LPG) • Fleet vehicles
Scope 2	• Purchased electricity
Scope 3	• Water • Waste • Business travel • Employee commuting • Emissions from the council's leisure centres (Gainsborough and Market Rasen)

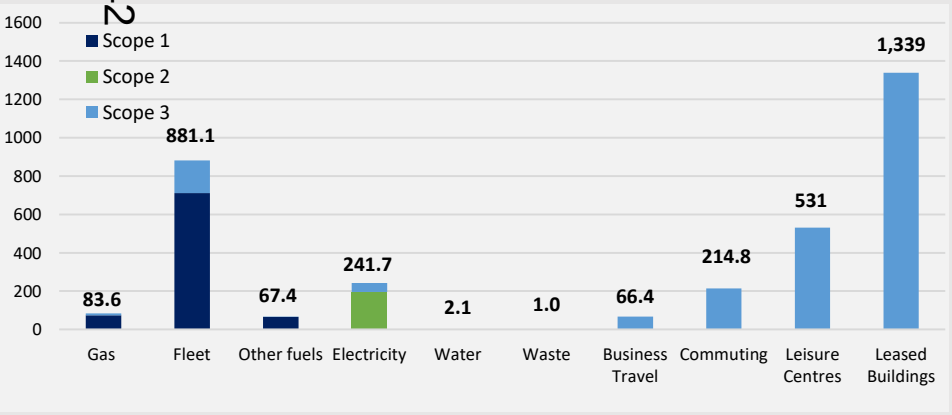
Excluded scope 3 emissions (to be considered for future inclusion in the net zero target boundary):

- Leased buildings (excluding leisure centres)
- Capital goods
- Procured goods and services
- Investments

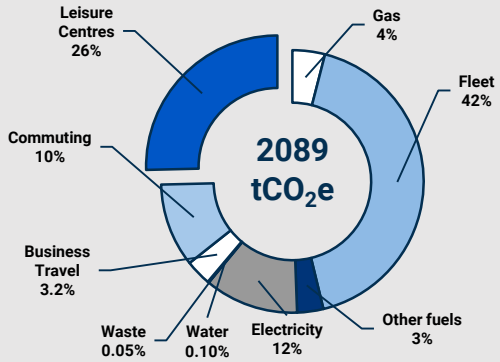
Measured Footprint vs Targeted Footprint

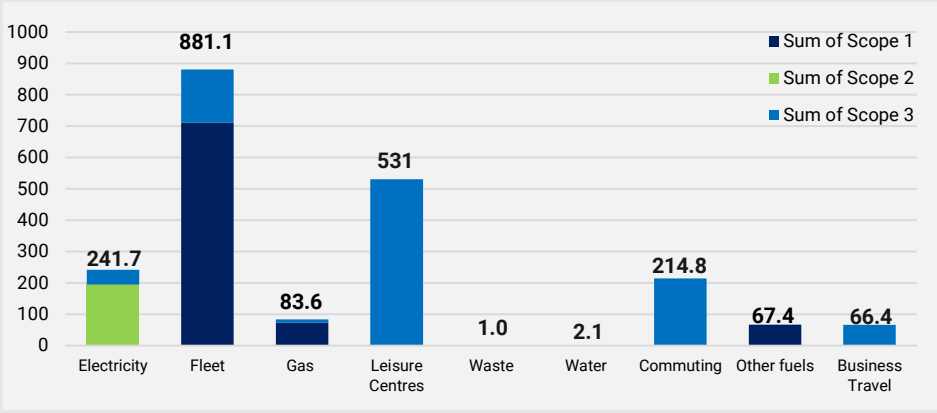
Total measured footprint





Targeted footprint

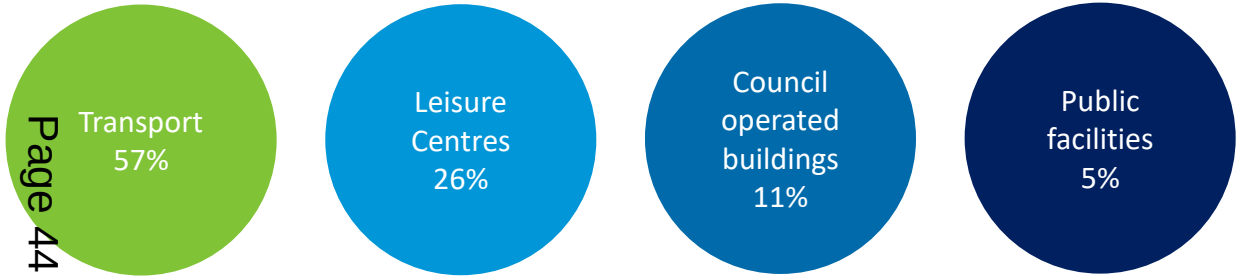




4. Carbon reduction opportunities

Introduction to project identification

The Carbon Trust has performed desk-based analysis to identify decarbonisation initiatives across the targeted footprint. This analysis focused on 4 emissions 'hotspots' which when combined are responsible for approximately 99% of the targeted footprint:



A data collection phase was initiated for each emissions hotspot. The project identification was based on the data received, primarily a fleet inventory, site audit data collection forms, streetlighting inventories, footprint data, and interviews with key stakeholders. The expected carbon savings and costs of the initiatives (where these could be reasonably estimated) are presented in the following pages. Recommendations in the report cover:

- Transport policy
- Driver training
- Fleet electrification
- Monitoring & reporting
- Carbon accounting
- General energy management
- HVAC plant
- Solar PV
- LED streetlighting

Between now and 2030, the carbon intensity of the UK's national grid is expected to reduce by 64%.

The carbon intensity of the UK's electricity supply is reducing as renewable generation (e.g. wind, solar) is replacing traditional fossil fuels (e.g. coal, natural gas). Many of the recommendations made in this report focus on the 'electrification' of conventional fuel sources so that this greener electricity can be utilised by the Council.

Recommendations summary

The anticipated financial requirement for each of the recommendations was estimated, including capital costs (CAPEX), annual savings, and cost of carbon abated, wherever data was available to calculate this. **IMPORTANT NOTE:** The costs, technologies and emissions provided in this report are estimates and the order (CAPEX / tCO2e) may be subject to change when actual quotes are received from contractors as individual technologies mature and projects progress. All suggestions are subject to further feasibility/design studies and procurement processes.

The results show that the environmental and business case for many of the technologies are conflicting. This demonstrates the need for WLDC to:

- Actively include environmental considerations and weighting in procurement decisions
- Avoid siloing individual projects and take an estate-wide view to optimise the distribution of technologies across the estate
- Retain an active view of the market (e.g. cost reductions, government support) and be prepared to engage with specialised market instruments to improve the financial viability of marginal business cases (e.g. specialised tariffs)

Some recommendations will require significant capital investment and will be subject to suitable technologies becoming available on the market, e.g. waste fleet electrification, space heating electrification. These recommendations are likely to be viewed by WLDC as longer term opportunities/investments, some of which may not be practically implementable immediately, i.e. not within the next 1-3 years, however, at the same time will contribute significantly to decarbonisation of the Council's operations. Electrification of vehicle fleet and space heating systems recommendations assume that electricity is procured on renewable electricity tariffs until the UK electricity grid mix fully decarbonises.




Recommendations summary

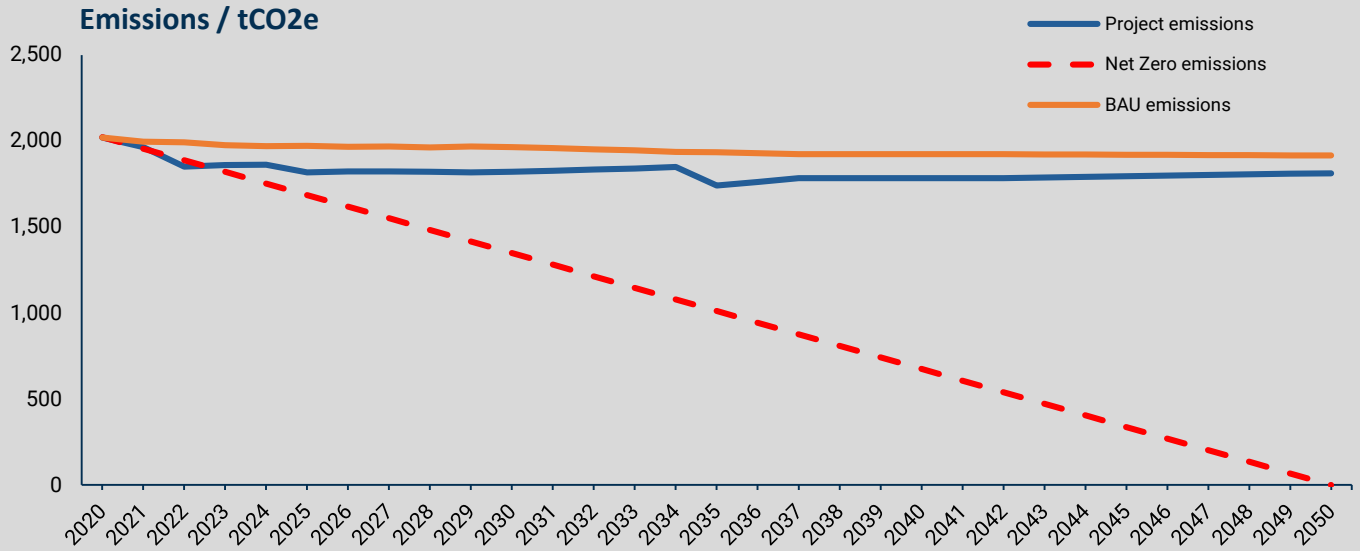
Emissions hotspot	Project	CAPEX [GBP]	Annual savings [GBP]	Simple payback [yrs]	Annual savings [tCO_2e]	CAPEX/ tCO_2e
Transport	Review all travel related policies and ensure alignment with decarbonisation ambitions	Internal costs only	0	Instant	21.09	0
Transport	Incorporate fuel efficient driving into driver training and refresher courses	8,000	10,800	0.8	26.43	303
Transport	Replacement of manager vans with electric vehicles	12,000	3,900	3.1	15.17	791
Transport	Waste and Street Cleansing fleet electrification	6,264,000	17,300	362.5	865.93	7,234
Leisure Centres	Require third-party operators to implement a formal energy management system, e.g. ISO 50001	Internal costs only	0	Instant	26.54	0
Leisure Centres	Implement requirement for third-party operators to report energy/carbon performance of buildings, at least annually	Internal costs only	0	Instant	10.61	0
Leisure Centres	Compile plant and equipment inventory and work with site operators to implement a replacement schedule based on life cycle analysis	Internal costs only	0	Instant	39.46	0
Leisure Centres	Solar PV at Market Rasen Leisure Centre	18,000	1,912	9.4	5.03	3,576
Council Buildings	Implement a formal energy management system to cover all major energy consuming sites	Internal costs only	1,900	Instant	6.87	0
Council Buildings	Compile HVAC plant inventory and implement a replacement schedule based on life cycle analysis	Internal costs only	2,200	Instant	11.08	0
Council Buildings	Electrification of space heating	TBC	TBC	TBC	83.64	TBC
Public Facilities	LED streetlighting	155,900	20,800	7.5	54.82	2,843

Carbon Reduction Pathway

- In a do-nothing scenario, WLDC's footprint is expected to decrease as a result of the decarbonisation of the national grid. Taking into account those emissions sources included under the council's net zero target, projected Business as Usual (BAU) emissions fall to **1915 tCO2e** by 2050.
- In addition to a BAU scenario, a project emissions scenario* has also been modelled, taking into account the projected levels of carbon reduction associated with the recommendations provided across the WLDC estate** (see previous slide). Based on potential recommendations and decarbonisation of the national grid, the council's footprint in 2050 could be reduced to **1811 tCO2e**, from a baseline of **2089 tCO2e**.
- Under the project emissions scenario, WLDC will still have a gap to target of **1811 tCO2e**. Under this scenario, greenhouse gas removals (e.g. forestation) would therefore be required to reduce residual emissions in order for the council to achieve net zero emissions by 2050.

* See appendices for further explanation of the modelled scenarios shown.

** The project emissions scenario shown does not include the modelled carbon reduction associated with the electrification of the council's fleet of waste vehicles (866 tCO2e). Additional technical information on alternative fleets (i.e. electric waste vehicles) is required in order to develop a robust pathway projection. Due to the fact that electric waste vehicles are still considered an emerging technology, there is currently a shortage of data which covers the technical specifications of selected vehicles.



Travel related policies

Summary Recommendation. It is recommended that a review of all travel related policies be carried out to ensure alignment with current carbon reduction targets.

Introduction. The emissions associated with transport (including operation of the Council's vehicle fleet, staff commuting and business travel) currently total 1,162 tCO2e, or 34% of the Council's footprint. During the transport audit is was noted that some transport related policies may no longer be aligned to WLDC's increasingly ambitious carbon reduction targets, e.g. vehicle procurement, staff travel, remote working.

Project identification. The following are examples of areas of policy guidance that could be updated to encourage a reduction in transport associated emissions:

- Ensure that the Council's procurement policies and processes reflect its ambition to decarbonise it's vehicle fleet, e.g. by setting requirements for new vehicles to have electric motors, or be the most fuel-efficient model available, ensuring EV charging infrastructure is installed as standard at new-build sites.
- Providing all staff with the option of working remotely on an ongoing basis, where appropriate, to reduce commuting mileage.
- The use of video-conferencing tools could be promoted to cut down on travel to face to face meetings.
- Car sharing and encouragement of the use of active and public transport where possible should also be investigated.

Fuel efficient driver training

Summary Recommendations. Driving style has a big impact on all fleet fuel efficiency and driver training can reduce fuel consumption and emissions, as well as maintenance costs and risks of accidents. Typically training can save around 5-10%. Sustaining these savings over the longer term is challenging, so we have assumed that all drivers of fleet vehicles attend the training twice between 2021 and 2030. We have estimated that WLDC could achieve a 3% reduction in fleet emissions by ensuring that all drivers attend driver training.

Introduction. Fuel consumption of the Council's vehicle fleet accounts for 42% of the targeted footprint. While in the longer term it is anticipated that most (if not all) vehicles will be replaced by electric vehicles, ensuring that all drivers receive fuel efficient driver training will help to reduce this footprint the short term by encouraging drivers to improve fuel performance.

State of play. WLDC currently operate a fleet of over 30 diesel engine vehicles, which are a mix of refuse collection vehicles (rigid HGVs) and medium sized vans. A range of fuel efficiency technologies are fitted to the waste fleet, including: vehicle telemetry systems, soft pedals and electric bin lifts. Annual 'round reviews' are carried out to identify any potential to reduce waste fleet mileages, however, as the district grows it is anticipated that mileages will increase overall. All drivers are required to attend initial and refresher driver training courses at least annually, however, fuel efficient driving is not currently covered. This could be integrated into the training sessions to promote best practice amongst drivers. Driver league tables could also be used to promote healthy competition and actively engage drivers in WLDC's efforts to decarbonise its operations.

Fuel efficient driver training

All drivers of fleet vehicles attend the training twice between 2021 and 2030

- 26.43 tCO_2e/year saving
- 8,231 litres/year diesel saving
- £10,372/year fuel cost saving

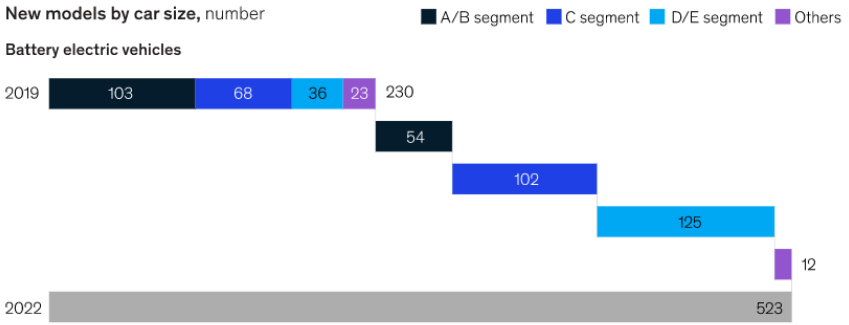
Fleet electrification

Summary Recommendations. Significant fuel-switching of the fleet is required for the Council to achieve their decarbonisation ambitions. The Council should commit to a phased fuel-switching of the fleet, accounting for vehicle type and use. The supporting infrastructure requirement is the largest constraint to electric vehicle (EV) deployment and the Council should, as a priority a) ratify internal support for infrastructure roll-out, b) understand the financial and technical requirements accounting for local constraints, c) explore potential funding avenues, and d) seek collaborative partnerships.

Introduction. Fuel consumption of the Council's fleet accounts for 42% of the baseline footprint. As with gas, the emission factors associated with liquid fossil fuels will not decrease significantly between now and 2030 and fuel-switching will be required to achieve meaningful reductions in emissions. However, the provision of a reliable, efficient and available waste and street cleansing fleet is central to the Council's function and cannot be compromised in any decarbonisation strategy.

State of play. WLDC currently operate a fleet of over 30 vehicles, which are a mix of refuse collection vehicles (rigid HGVs) and medium sized vans. All vehicles have diesel engines. Uptake and use of EVs within the Council has been low, predominately due to their limited range and lack of understanding amongst users. However, EV technology has improved drastically in recent years and the market is becoming far more saturated and competitive as mainstream manufacturers begin to offer electric ranges. This is expected to continue, and McKinsey estimate that 523 new electric vehicle models will be launched between 2019 – 2022 across a variety of vehicle sizes.

Despite the growing market, the current capital costs of specialised electric waste fleet vehicles are prohibitively expensive. It is therefore recommended that the Council focus initially on the electrification of manager vans where there is a far more established market for low-to-zero emission vehicles. Government grants are available for the procurement of electric vans.



Above: the global EV market is underdoing a period of rapid growth

Source: McKinsey, Electric Vehicle Index 2020

Fleet electrification

Project identification. The Council operate a small fleet of 6 manager vans which are appropriate to be considered for immediate electrification. For each vehicle a suitable electric vehicle (EV) model was identified and life cycle costs were compared with a similar internal combustion engine (ICE) model. Similarly, replacement of the 27 waste fleet HGVs with new-to-market electric refuse collection vehicles was modelled. Key findings include:

- At the point-of-use the **business case for replacing manager vans with EVs is favourable** over their lifetime compared to ICE equivalents.
- Due to capital cost there is currently no business case for replacing the waste fleet with EVs. However, these vehicles account for ~270,000 L of annual fuel consumption (98% of the Council's total), therefore, **in order to materially reduce the Council's footprint the waste fleet will need to decarbonise.**
- Full fleet electrification could result in annual emission reductions of **881 tCO_2e, 43% of the targeted footprint.**

Manager van electrification

Replacement of 6 diesel engine fleet vehicles with equivalent EVs

- 15.17 tCO_2e/year saving
- £12k estimated marginal capital cost vs ICE procurement (BAU)
- £3,850/year cost saving (difference between EV and current vehicle running costs)
- £791/tCO_2e saved

Waste fleet electrification

Replacement of 27 diesel-fuelled HGVs with e-HGVs

- 865.93 tCO_2e/year saving
- £6.2m estimated marginal capital cost vs ICE procurement (BAU)
- £17,280/year cost saving (difference between EV and current vehicle running costs)
- £7,234/tCO_2e saved

N.B.

- These calculations assume that EV's are operated according to manufacturer's specifications.
- It is currently unclear whether electric or hydrogen fuel cell waste collection vehicles (or both) will become established as the market standard, with neither solution being widely available yet. WLDC are encouraged to conduct further feasibility studies when alternatives for waste fleet vehicles are further developed.

Electric vehicle infrastructure

The business and environmental case for electric vans at the point-of-use is convincing. The Council should prioritise securing access to a robust and available charging network to facilitate the roll-out of electric vehicles. Detailed technical and economic analysis of infrastructure requirements is outside of the scope of this assessment, however it is recommended that the Council:

Understand the financial and technical requirements accounting for local constraints

Charging infrastructure costs vary significantly based on the number, wattage and specification of chargers required. Higher wattage charge-points are more expensive but required if vehicles need to charge rapidly over shorter periods of time, whereas more lower-wattage charge-points could be installed if it's feasible for EVs to charge over longer periods. The specification for any given-wattage varies too; the cost of a basic 7.4 kW charger (common for van charging) could be as low as £300 but rise to over £1,200 if smart-charging is incorporated. Civil and engineering costs have to be taken into account, which are heavily influenced by site conditions (e.g. length of and trenchwork, ground conditions); assessments in some areas of the UK estimate the installation cost of a 7kW charger at £5,000 with the caveat that these can vary significantly. Once the charging requirement is estimated, a site survey should be conducted to determine the available grid capacity at the site. Depending on local network capacity, grid upgrades may be required that will carry significant additional cost.

Explore potential funding avenues

Recognising the potential costs of EV infrastructure, grant schemes and innovative financing mechanisms exist that can support infrastructure deployment. The UK Government operates a workplace charging scheme, offering a grant contribution of £500 per socket for charge points installed at the workplace. Depending on ownership model preferences, various levels of private-sector involvement can also be sought to minimise the upfront financial requirement.

Seek collaborative partnerships and engage with support schemes

Local and national-level initiatives exist that can help the Council develop a network of usable infrastructure. ESPO Vehicle Charging Infrastructure and CCS Vehicle Charging Infrastructure Solutions are two national frameworks that can support Central Purchasing Bodies in the procurement and installation of infrastructure. The Energy Savings Trust offer free fleet strategic assessment the UK that can assist with initial strategic and technology advice. Currently, Flexible Power Systems ltd. is also offering free fleet strategy assessments for vans that are monitored with telematics or a job management system as part of an Innovate UK funded project.

Leisure Centres: energy management

Summary Recommendations. Significant reductions in Leisure Centre energy consumption will be required for the Council to achieve their decarbonisation ambitions. Adoption of an energy management system, such as the ISO 50001 standard, at these sites will help energy performance improvement via the development and use of an energy management system (EnMS) based on a model of continual improvement.

Introduction. Energy consumption of the Gainsborough and Market Rasen Leisure Centres accounts for **approximately 15% of the targeted footprint**. As the Council do not have operational control over these assets and their associated emissions they will need to work closely with third party operators to implement energy management systems and reduce the carbon footprint of the buildings.

State of play. Audits of leased buildings highlighted that no formal energy or environmental management systems have been put in place by building operators. This is of particular concern at the high energy consuming leisure and fitness centres, which account for 23% of the leased building footprint. It is recommended as a first step that WLDC work with the operators of Gainsborough and Market Rasen Leisure Centres (the two sites included in the targeted footprint) to implement formal energy management systems at each site. It is expected that, given their significant energy consumption, improving the management systems at these sites will result in significant carbon footprint reductions. By managing energy as a controllable resource it is conservatively estimated that a 5% reduction in gas and electricity consumption could be achieved at both Gainsborough and Market Rasen Leisure Centres, this is equivalent to a **26.54 tCO2e/year saving.**

Above: the ISO 50001 'plan, do, check, act' model

Implement energy management systems

Require third-party leisure centre operators at Gainsborough and Market Rasen to implement a formal energy management system

- 26.54 tCO_2e/year saving
- 119,507 kWh/year energy saving
- £5,795/year cost saving (to building operators)

Leisure Centres: performance monitoring

Summary Recommendations. Significant reductions in Leisure Centre energy consumption will be required for the Council to achieve their decarbonisation ambitions. Implementing basic energy performance monitoring at these sites will enable the Council to understand the energy consumption and review performance against its carbon reduction targets, without the need for estimation. Through improved awareness of the energy performance of these sites the Council will be able to better understand the potential to improve it.

Introduction. Energy consumption of the Gainsborough and Market Rasen Leisure Centres accounts for approximately **26% of the targeted footprint.** As the Council do not have operational control over these assets and their associated emissions they will need to work closely with third party operators to monitor the energy consumption of these sites and reduce the carbon footprint of the buildings.

State of play. There is currently no requirement for third party operators to share energy consumption/carbon performance data with the Council. As stated in the footprint report, this means that the majority of WLDC's scope 3 footprint has been estimated using building energy consumption benchmarks. This lack of data visibility means the Council cannot monitor the energy consumption of these buildings, which account for the majority of its carbon footprint. By requiring building operators to annually report energy and carbon performance WLDC will be able to monitor and review the footprint of leased buildings against its carbon reduction targets. As a first step it is recommended that the Council ask the operators of the Gainsborough and Market Rasen Leisure Centres to report annually on site energy consumption. This data can then be fed into the Council's annual footprint calculation compared against previous years. It is conservatively estimated that monitoring of the Council's Gainsborough and Market Rasen Leisure Centre footprints will result in a 2% reduction in gas and electricity consumption, equivalent to a **10.61 tCO_2e/year saving.**

Annual reporting of building energy performance

Require third-party leisure centre operators at Gainsborough and Market Rasen to report energy consumption annually

- 10.61 tCO_2e/year saving
- 47,803 kWh/year energy saving
- £2,318/year cost saving (to building operators)

Leisure Centres: energy efficiency improvements

Summary Recommendations. Heating, ventilation and air conditioning (HVAC) systems typically account for the majority of energy consumption and associated emissions at Leisure Centres, therefore, there are often significant savings to be achieved from refurbishing or upgrading these systems. It is recommended that the Council, along with third party operators, compile an inventory of HVAC plant at the Gainsborough and Market Rasen Leisure Centres and develop a replacement schedule based on a life cycle analysis' of each replacement option.

State of play. It is understood that a mix of gas-fired and electrical HVAC systems are in place at both Leisure Centres, however, details of these were not readily available during the remote audits. By compiling an inventory of this plant the Council will be able to assess the replacement options for each item of plant and when it would be economically feasible to replace. A life cycle analysis of all options should be carried out to assess the lifetime cost and carbon impact of each.

As a general rule, the installation of heat pumps should be considered for every heating system requiring replacement and installed as standard in new builds. Heat pumps are not a like-for-like replacement with gas boilers or conventional electric heating and improved energy efficiency in buildings is a pre-requisite for heat pump retrofit. Whilst not practically suitable for all applications, the electrification of heat will be required for the Council to achieve their decarbonisation targets.

It is conservatively estimated that moderate upgrades to HVAC plant at Gainsborough and Market Rasen Leisure Centre will result in a 10% reduction in gas and electricity consumption, equivalent to a **39.46 tCO_2e/year saving.**

HVAC plant upgrades

Compile plant inventory for Gainsborough and Market Rasen Leisure Centres and develop replacement schedule based on life cycle analysis

- 39.46 tCO_2e/year saving
- 189,918 kWh/year energy saving
- £5,698/year cost saving (to building operators)

Leisure Centres: solar photovoltaic (PV)

Summary Recommendations. Solar PV is the most affordable method of producing on-site renewable electricity. In the absence of feed-in-tariffs, solar PV should be prioritised where on-site usage can be maximised. Emission reductions relative to the National Grid will decrease out to 2030 and solar will increasingly be viewed from a financial standpoint, rather than one that achieves significant emissions reductions across the estate.

Introduction. Solar PV is a modular, scalable technology that allows for renewable electricity to be produced at source. Cost reductions over the past decade have made it an increasingly-attractive technology and resulted in it's accelerated roll-out at both utility and small-scale.

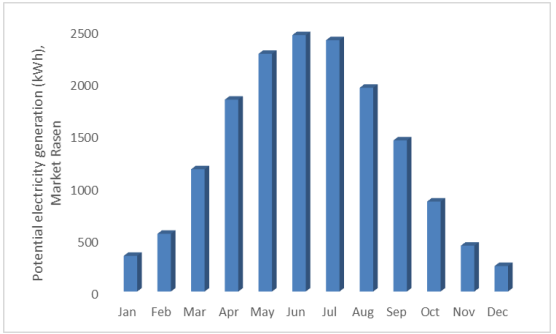
State of play. 49kWp of solar PV was installed on the roof of Gainsborough Leisure Centre in 2012, for which the Council receives Feed in Tariff payments. It is understood no solar PV was installed on the recently built Market Rasen Leisure Centre – although this is referenced in the plans. The market in the UK is now well established and there are plentiful providers of solar PV and related services. However, UK government support for small-scale projects has been significantly curtailed and any new project will be subject to market prices.

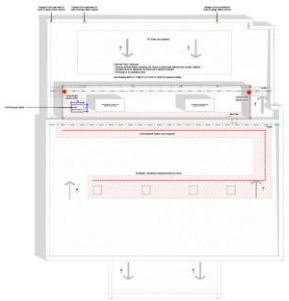
Project identification. MCS calculations were used to model retrofitting a rooftop solar PV array at Market Rasen. Key findings include:

- Around **20 kWp** of solar PV could be feasibly installed, generating 15,930 kWh per annum
- This represents a **5.03 tCO_2e** emission saving using 2019 emission factors
- The financial case for solar PV is significantly improved when more solar PV is consumed or site (displacing grid electricity at 12 p/kWh) as opposed to exporting to the grid (5 p/kWh)

Emission reduction

The avoided emissions of solar installations will decrease out to 2030 as the national grid decarbonises and the variance between local, zero-carbon generation and national generation decreases.





Above: Modelled generation profile of a 20kWp solar PV array at Market Rasen Leisure Centre. Left: Roof Plan of Market Rasen Leisure Centre.

Council Buildings: energy management

Summary Recommendations. Reductions in energy consumption across the Council's buildings estate will be required for WLDC to achieve their decarbonisation ambitions. Adoption of an energy management system, such as the ISO 50001 standard, across these sites will help energy performance improvement via the development and use of an energy management system (EnMS) based on a model of continual improvement.

Introduction. Energy consumption of Council-operated buildings accounts for **approximately 11% of the targeted footprint**. While this footprint is less material than that of the Council's vehicle fleet or leisure centres it is likely that this will still need to be reduced in order for the Council to achieve its decarbonisation targets.

State of play. While a number of energy efficiency improvements have been implemented across the Council's built estate, remote audits of these buildings highlighted that no formal energy or environmental management systems are in place. The lack of a coordinated plan to reduce the footprint of Council buildings means that some carbon reduction opportunities may have been missed, particularly behavioural and operational measures. Therefore, it is recommended that the Council implement formal energy management systems to cover all Council-operated sites. By managing energy as a controllable resource it is conservatively estimated that a 3% reduction in gas and electricity consumption could be achieved across Council buildings, this is equivalent to a **6.87 tCO2e/year saving.**

Implement energy management systems

Implement a formal energy management system to cover all Council-operated sites

- 6.87 tCO_2e/year saving
- 24,888 kWh/year energy saving
- £1,910/year cost saving

Council Buildings: energy efficiency improvements

Summary Recommendations. Similar to the Leisure Centres, Heating, ventilation and air conditioning (HVAC) systems are expected to account for the majority of energy consumption and associated emissions at Council-operated buildings, therefore, again, there are often significant savings to be achieved from refurbishing or upgrading these systems. It is therefore recommended that the Council also compile an inventory of HVAC plant across Council-operated buildings and develop a replacement schedule based on a life cycle analysis' of each replacement option.

Introduction. Energy consumption of Council-operated buildings accounts for **approximately 11% of the targeted footprint**. While this footprint is less material than that of the Council's vehicle fleet or leisure centres it is likely that this will still need to be reduced in order for the Council to achieve its decarbonisation targets.

State of play. A mix of gas-fired and electrical HVAC systems are in place across the Council-operated buildings, however, a detailed list of these assets does not currently exist. By compiling an inventory of this plant the Council will be able to assess the replacement options for each item of plant and when it would be economically feasible to replace. A life cycle analysis of all options should be carried out to assess the lifetime cost and carbon impact of each.

As a general rule, the installation of heat pumps should be considered for every heating system requiring replacement and installed as standard in new builds. Heat pumps are not a like-for-like replacement with gas boilers or conventional electric heating and improved energy efficiency in buildings is a pre-requisite for heat pump retrofit. Whilst not practically suitable for all applications, the electrification of heat will be required for the Council to achieve their decarbonisation targets.

It is conservatively estimated that moderate upgrades to HVAC plant across Council buildings will result in a 10% reduction in gas and electricity consumption, equivalent to a **11.08 tCO_2e/year saving.**

HVAC plant upgrades

Compile plant inventory for Council-operated buildings and develop replacement schedule based on life cycle analysis

- 11.08 tCO_2e/year saving
- 82,962 kWh/year energy saving
- £2,233/year cost saving

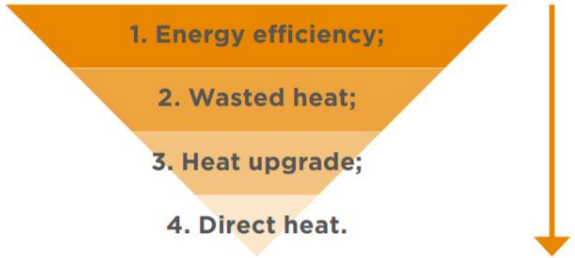
Heat hierarchy

Gas consumption for space and water heating in buildings (including leisure centres) accounts for approximately 24% of WLDC's targeted footprint. Compared to electricity, the emission factor for gas usage is less sensitive to policy and technology changes and is expected to remain relatively constant between now and 2030. In order to achieve their decarbonisation targets, the Council will therefore have to proactively target a significant reduction in gas use across the estate.

The challenge of heat decarbonisation is multifaceted and there is no one-size-fits-all solution that can be implemented across the estate. However, we recommend that any approach to heat decarbonisation should consider the heat hierarchy outlined below. The hierarchy has four key stages, which should be addressed in chronological order:

- **Energy efficiency.** Reduce the heating demand of the building by improving its thermal performance through fabric upgrades (e.g. insulation, draught proofing). As the initial step, this is referred to as a fabric-first approach and should be maximised for each building within the bounds of reasonable viability (i.e. respecting technical and financial constraints) regardless of the heat source.
- **Wasted heat.** Utilise any heat that is already being produced in other processes but wasted.
- **Heat upgrade (i.e. heat pumps).** 'Upgrading' heat refers to the process of raising a low-temperature heat source to a higher temperature that can be utilised in heating system. This process requires an energy input (e.g. electricity) and is the function of heat pumps.
- **Direct heat.** This is where energy is directly inputted for the *creation* of heat (e.g. fuel into a boiler). This should be restricted to when wasted heat is not available, or the use of a heat pump is not technically or financially feasible.

A decarbonised WLDC will likely involve a combination of the above measures in varying proportions. The appropriateness of each option needs to be assessed in the context of the fabric and efficiency of each building to ensure that the space is adequately heated. Due to the remote nature of the assessment, the Council should look to consolidate this work with further site specific investigations, using the heat hierarchy as a foundation.



Above: the heat hierarchy

Source: ADE, A framework for net-zero for new and existing buildings.

Applying the heat hierarchy and moving to low carbon heat

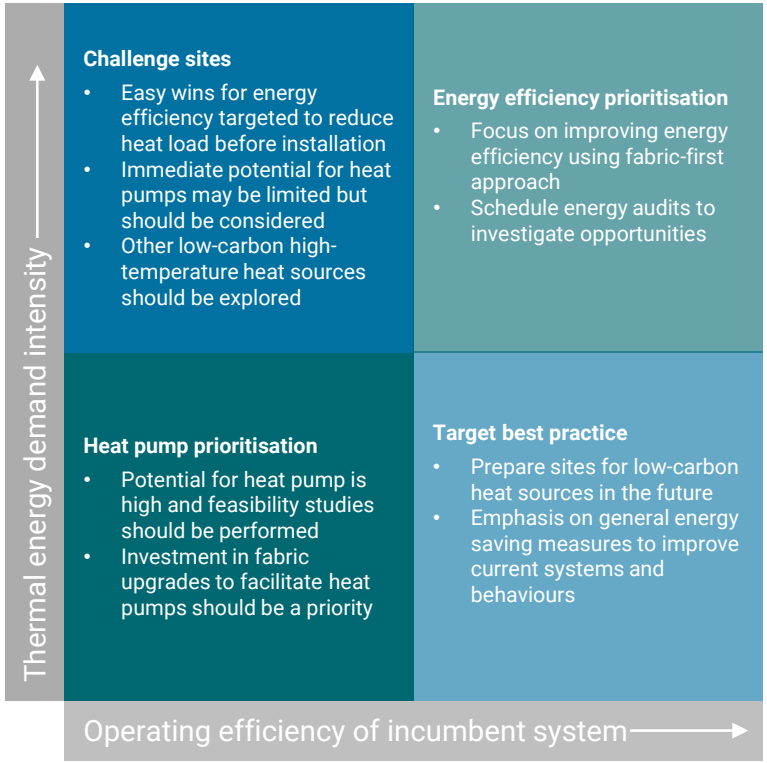
A broad approach to applying the heat hierarchy should be understood and established. However, it should be recognised that site specific conditions will ultimately determine which technologies and interventions are both appropriate and financially viable.

Technology Replacement Mapping. As a good first step, mapping the expected heating technology replacement timeline and the operation efficiency of current systems will help prioritise sites for energy audits and heat pump assessment. This mapping should be updated regularly; any heating system that comes up for renewal should have an assessment performed that considers alternative heating technologies including heat pumps – as set out in previous recommendations.

The approach will vary site-by-site. The matrix to the right explores likely actions depending on the thermal energy demand intensity of the site and the immediacy of heating technology replacement. This matrix is only a start, each site is unique in practice, and the approach will be different site-by-site. Low carbon heating will be technically feasible for every site, but some sites will be financial prohibitive due to the amount of retrofit required to achieve the required levels of thermal performance.

Top tips for low carbon heating:

- Understanding flow temperature is important. Lower flow temperatures are more compatible with the efficient operation of heat pumps, and heat pump business cases become favourable when temperatures are <45°C.
- Flow temperatures are a function of the building's thermal retention and area of heat emitters (e.g. radiators). A building with high heat retention and large heat emitters is a prime candidate for installation of a heat pump.



Boiler upgrades

In accordance with the heat hierarchy, alternative heat sources are preferred solution over boiler upgrades. However, it is recognised that technical and/or financial constraints may limit the feasibility of these alternative sources (e.g. heat pumps). When this is the case, boiler upgrades can contribute to decarbonisation through efficiency gains while also making sure that the building is heated properly.

Introduction. Though gas-fired boilers are carbon intensive, they provide flexibility in heating several building archetypes and often present attractive business case relative to low-carbon alternatives. This has resulted in gas boilers being the preferred heating mechanism in the UK, with 1.67 million gas boilers sold in 2019. Technology advances and stricter government legislation has led to advances in boiler design that has increased the efficiency of new boilers to over 90% when properly applied.

State of play. It is understood that most sites (Council-operated and leisure centres) have gas-fired boilers connected to central heating with radiators. At Gainsborough Leisure Centre gas-fired boilers also provide pool heating. Replacement gas boilers will present a strong financing case as current boilers approach end of life. However, the emission savings associated with their widespread replacement is not compatible with the Council's decarbonisation ambitions, particularly for leisure centres. Emission savings can be realised through increased efficiencies and the reduction in gas consumption for a given heat load. However, their relative carbon intensity means that the Council should only pursue like-for-like replacement when the financial or technical constraints for low-carbon technologies are overwhelming.

Heat pumps

The installation of heat pumps should be considered for every heating system requiring replacement and installed as standard in new builds. Heat pumps are not a like-for-like replacement with gas boilers or conventional electric heating and improved energy efficiency in buildings is a pre-requisite for heat pump retrofit. Whilst not practically suitable for all applications, the electrification of heat at some sites will be required for the Council to achieve their decarbonisation targets.

Introduction. Heat pumps are a highly efficient form of electric heating; as such they save ~60-70% of emissions compared to conventional electric heating and have lower running costs. Compared to an A-rated gas boiler, heat pumps save ~55-65% of CO_2. Heat pumps perform optimally at lower temperatures than conventional heating systems and require a thermally efficient site to operate effectively.

State of play. Currently, it is understood there are no heat pumps installed in the WLDC estate. The business case for installing a heat pump is expected to be poor for the majority of sites and **environmental weighting** will have to be included to promote their procurement. Current government support to incentivise heat pump use in the form of the non-domestic renewable heat incentive (RHI) is due to finish in March 2021. WLDC should keep an eye out for a new mechanism that is expected to be announced that may improve the business case. It should be noted that the emission savings associated with electrifying heat increase as the national grid decarbonises. This will be further improved if the heat pump is powered by on-site renewable power. The emissions saving stated opposite is based on the projected scenario of the UK electricity grid fully decarbonising as electricity generation becomes 100% renewable.

Electrification of space heating

Replace gas-fired space heating systems in all Council buildings with air source heat pump systems

- 83.64 tCO_2e/year saving

Public Facilities: LED streetlighting

Summary Recommendations. Good quality LED luminaires offer superior illumination, control and energy performance over many of the Council's incumbent lamp types. They should be installed by default wherever streetlighting and car park lighting is replaced. Once LEDs are installed, additional savings will also be possible through implementing control savings such as dimming and/or trimming. Beyond energy and carbon savings, WLDC would also benefit from reduced maintenance and lamp replacement lifecycle costs thanks to the significant additional burn hours that LED alternatives bring over traditional lighting.

Introduction. LEDs have the highest efficiency and lamp life of all widely used lighting types. Cost reductions and a step-change in the technological performance of LED lighting over the past 10-15 years has made them the mainstream solution for the vast majority of lighting applications in the UK.

State of play. WLDC has responsibility for over 300 MWh per annum of street and car park lighting across the District, equivalent to **106 tCO_2e, 5.2% of the targeted footprint.** Some streetlighting has already been upgraded to LED however the majority of lamps are efficient low pressure sodium and fluorescent lamps. No information has been received regarding their state of repair (or column upgrade needs). Based on the Council's lighting inventory, streetlighting is responsible for ~264 MWh of electricity consumption per annum while car park lighting results in ~46 MWh of electricity consumption.

Project identification. A Council-provided streetlighting inventory was used to determine the current luminaire/lamp types and annual burn hours. The costs and emission savings from replacing each luminaire (excluding column) with a like-for-like LED luminaire were estimated and these are shown opposite.

LED streetlighting

Replace low pressure sodium and fluorescent street and car park lighting with LED lighting

- 54.82 tCO_2e/year saving
- 173,502 kWh/year energy saving
- £20,820/year cost saving

5. Governance and engagement

Programme management

To manage the implementation of a carbon reduction programme, it is important that organisational procedures and resources are put in place to maintain a focus on carbon reduction over time.

In order to achieve the carbon reduction target, the Council will have to consider robust yet dynamic organisational structures to ensure that they remain flexible in the approaches being taken to tackle climate change through time.

Key functions of the dedicated project team across the Council will include:

- Gaining senior endorsement and publication of the Council's Carbon Reduction Plan
- Providing regular and ongoing oversight and monitoring of progress towards achieving WLDC's Net Zero target across key delivery teams
- Ensuring that carbon reduction stays on the strategic agenda across WLDC, including at senior management level and among the elected members
- Managing the expectations of key stakeholders and recognising achievements on carbon reduction across the organisation

Stakeholder engagement

Robust engagement with stakeholders from across the Council and beyond will be crucial for successful implementation of climate action.

- Achieving the greatest possible input and buy-in will allow WLDC to work closely with all stakeholders to identify the areas of the Council to prioritise and implement action in order to reduce emissions.
- It will be important for the Council to remain transparent throughout all engagement activities to provide stakeholders with the opportunity to contribute towards the planned reduction activities that the Council intends to implement across its own estate.

Developing a robust stakeholder engagement plan should build on previous engagement to:

- Develop an initial list of key stakeholders from across the Council with whom to engage on an ongoing basis
- Complete internal in-depth stakeholder mapping exercise to identify, map and prioritise key stakeholders from across the Council. This will ensure that key stakeholder needs are identified and understood, with the relevant resources being targeted effectively.
- Develop and agree a communications/engagement strategy that clearly details the Council's approach towards stakeholder engagement, ensuring complete transparency.
- Develop the appropriate tools to accurately plan and track all stakeholder interaction and store

5. Monitoring and reporting

Monitoring and reporting

Once a carbon footprint has been measured and a target set, monitoring progress is an important part of implementation. Monitoring and reporting are essential activities that should be undertaken at least annually between the baseline year and target year, and beyond.

Monitoring

- Collecting the data should be completed internally on a regular basis. This process should become streamlined as the necessary data sources and associated contacts/owners become familiar with the process and adopt best practice data management.
- Not only does the footprint need to be monitored at least annually but progress with implementing carbon reduction opportunities should be actively monitored too, including implementation year, energy reduction and cost savings. In this way, successful projects can be reported in a quantitative as well as a qualitative way. This can help to drive momentum and support the securing of budget for future measures.
- In addition to monitoring the footprint itself, the project team should continually monitor how local plans and policies will affect the Council's footprint and affect the ability of the Council to reach its carbon reduction targets. This will help the team to identify other potential carbon reduction opportunities and ensure that any carbon reduction co-benefits of specific policies and actions can be delivered.

7. Appendices

Detailed calculations

Transport

Site	Current fuel consumption [litres]	Current spend [GBP]	Footprint [tCO_2e]	Annual saving [litres]	Annual saving [GBP]	Annual saving [tCO_2e]	CAPEX [GBP]	Simple payback [years]
Review all travel related policies and ensure alignment with decarbonisation ambitions	unknown	unknown	281.26	unknown	unknown	21.09	£0	instant
Incorporate fuel efficient driving into driver training and refresher courses	274,381	£345,720	881.09	8,231	£10,372	26.43	£8,000	0.8
Replacement of manager vans with electric vehicles	4,723	£5,951	15.17	4,723	£3,850	15.17	£12,000	3.1
Waste and Street Cleansing fleet electrification	269,658	£339,769	865.93	269,658	£17,280	865.93	£6,264,000	362.5

- Policy review savings assume a 7.5% reduction in business travel and commuting mileage can be achieved as a result.
- Driver training savings assume that fleet fuel consumption can be reduced by 3%. This does not include potential associated maintenance cost savings.
- A capital cost of £200 per driver has been applied to the Driver Training recommendation, based on 40 drivers attending.
- CAPEX figures applied to EV procurement are marginal costs against a business as usual scenario of procuring internal combustion engine vehicles.
- A cost of £1.26/litre of diesel has been used to calculate current spend.

Key assumptions for transport calculations have been sourced from the BEIS statistical data set on weekly road fuel prices: https://www.gov.uk/government/statistical-data-sets/oil-and-petroleum-products-weekly-statistics

Detailed calculations

Leisure Centres

Site	Current energy consumption [kWh]	Current spend [GBP]	Footprint [tCO_2e]	Annual saving [kWh]	Annual saving [GBP]	Annual saving [tCO_2e]	CAPEX [GBP]	Simple payback [years]
Require third-party operators to implement a formal energy management system, e.g. ISO 50001	2,390,139	£115,890	530.72	119,507	£5,795	21.09	£0	instant
Implement requirement for third-party operators to report energy/carbon performance of buildings, at least annually	2,390,139	£115,890	530.72	47,803	£2,318	26.43	£0	instant
Compile plant and equipment inventory and work with site operators to implement a replacement schedule based on life cycle analysis	1,899,184	£56,976	394.57	189,918	£5,698	39.46	£0	instant
Solar PV at Gainsborough Leisure Centre	311,824	£37,419	86.47	39,825	£4,779	12.58	£45,000	9.4

- A gas cost of 3p/kWh and an electricity cost of 12p/kWh have been applied to energy consumption at both sites.
- The energy management system recommendation assumes a 5% reduction in annual gas and electricity consumption can be achieved.
- The energy reporting recommendation assumes a further 2% reduction in annual gas and electricity consumption can be achieved.
- The plant and equipment inventory and replacement schedule recommendation assumes a 10% reduction in annual HVAC energy consumption can be achieved.
- The solar PV figures are based on installing a 50kWp array on the flat roof of Gainsborough Leisure Centre.

Detailed calculations

Council Buildings

Site	Current energy consumption [kWh]	Current spend [GBP]	Footprint [tCO_2e]	Annual saving [kWh]	Annual saving [GBP]	Annual saving [tCO_2e]	CAPEX [GBP]	Simple payback [years]
Implement a formal energy management system to cover all major energy consuming sites	829,616	£63,662	229.02	24,888	£1,910	6.87	£0	instant
Compile HVAC plant inventory and implement a replacement schedule based on life cycle analysis	487,978	£22,326	110.85	48,798	£2,233	11.08	£0	instant
Electrification of space heating	402,569	£12,077	83.64	TBC	TBC	83.64	TBC	TBC

Public Facilities

Site	Current energy consumption [kWh]	Current spend [GBP]	Footprint [tCO_2e]	Annual saving [kWh]	Annual saving [GBP]	Annual saving [tCO_2e]	CAPEX [GBP]	Simple payback [years]
LED streetlighting	334,402	£40,128	105.66	173,502	£20,820	54.82	£155,850	7.5

- A gas cost of 3p/kWh and an electricity cost of 12p/kWh have been applied to energy consumption at all sites.
- The energy management system recommendation assumes a 3% reduction in annual gas and electricity consumption can be achieved.
- The plant and equipment inventory and replacement schedule recommendation assumes a 10% reduction in annual HVAC energy consumption can be achieved.

Resources to help deliver decarbonisation

Resource Name	Resource type	Notes	Link
Salix Finance	• Interest-free finance • Recycling Fund		https://www.salixfinance.co.uk/
Non-domestic Renewable Heat Incentive (RHI)	Financial incentive; payments received based on heat generation	Due to finish March 2021; expected to be replaced by another mechanism	https://www.ofgem.gov.uk/environmental-programmes/non-domestic-rhi
Energy Technology List	List of the top performing equipment to help make sure new purchases are efficient. Includes heat pumps, boiler equipment, automatic monitoring and targeting equipment, and more.		https://etl.beis.gov.uk/purchasers
Local authorities and sixth carbon budget	A guide for local authorities on their local contributions to the sixth carbon budget		https://www.theccc.org.uk/wp-content/uploads/2020/12/Local-Authorities-and-the-Sixth-Carbon-Budget.pdf

Carbon Reduction Pathways

Key assumptions

- The project emissions scenario shown demonstrates the potential to reduce emissions from the installation of low carbon technologies across the key sites evaluated as well as fleet electrification of management vans.
- The scenario shown does not include the modelled carbon reduction associated with the transition of Waste and Street Cleansing to low-carbon vehicles. More information on alternative fleets (i.e. electric waste vehicles) is required in order to develop a robust pathway projection.
- The project emissions scenario has been quantified based on the reductions associated with the indicative recommendations provided on slide 23. For the purposes of this scenario modelling and to allow for a realistic phased approach, the LED street lighting recommendation has been separated into two separate project phases.
- Phasing for individual projects has been based on assumptions surrounding the ease of implementation associated with individual measures e.g. scale of the recommendation and development of individual technologies. In reality, these projects would be appropriately phased out over a prolonged project timeline and would be dependent on a number of factors not assessed within e.g. available funding, operational impacts.
- Further information on the phasing of individual projects is provided on the next slide.

Carbon Reduction Pathways

Project phasing

Hotspot	Recommendation	Year of implementation
Transport	Review all travel related policies and ensure alignment with decarbonisation ambitions	2021
Council buildings	Compile HVAC plant inventory and implement a replacement schedule based on life cycle analysis	2021
Transport	Incorporate fuel efficient driving into driver training and refresher courses	2022
Leisure Centres	Support/require third party operators to implement formal energy/environmental management systems, e.g. ISO 14001/50001	2022
Leisure Centres	Set requirements for third party operators to report energy/carbon performance of buildings to the Council, at least annually	2022
Leisure Centres	Compile plant and equipment inventory and work with site operators to implement a replacement schedule based on life cycle analysis	2022
Council buildings	Implement formal energy management systems across all sites, e.g. ISO 50001	2022
Transport	Replacement of manager vans with electric vehicles	2025
Public facilities	LED streetlighting phase 1	2025
Council buildings	Solar PV at Market Rasen Leisure Centre	2028
Council buildings	Electrification of space heating	2035
Public facilities	LED streetlighting phase 2	2035

West Lindsey
DISTRICT COUNCIL

Sustainability, Climate Change and Environment Strategy

Contents

West Lindsey District Council's Sustainability, Climate Change and Environment Strategy defines our vision, aims and high-level ambition for the Council itself, as well as wider aspirations for the district that we think are achievable by working in partnership.

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Foreword

Our goal is to reduce the carbon emissions produced by the council to net zero and achieve the same position across the district by 2050 at the latest. This strategy and action plan are designed to achieve this.

A number of projects will sit underneath our strategy. These will be specifically geared to help us slow down and reverse our contribution to climate degradation, but also deliver outcomes that our residents and businesses tell us that we should be working towards.

It is clear that we have to act now, and we have tough international and national targets to achieve. But we think that by working together, the Council can exceed these targets and become a leading Green Council. This will deliver community benefits by safeguarding our natural environment and bringing economic growth and jobs.

Our strategy explains some of the climate science and why we need to change. It then sets out our aspirations for a greener, sustainable and thriving, low carbon West Lindsey for the next 10 years and beyond.

The environmental challenges that we face today are well known. Climate breakdown is happening before our eyes, and as traditional resources are becoming harder to obtain and the environmental impact of their extraction and unconstrained use more difficult to justify, it is clear that change is coming in the way we go about our lives. It will also affect the way our council operates.

However, with change comes opportunity and we are in a great position to act. We haven't declared a 'Climate Emergency' as some have, because we recognised what climate scientists were saying a long time ago. As a result, we embraced environmental policies and have a carbon management plan that is already delivering – not just in reducing greenhouse gas emissions, but real, cashable savings for our Council – and our residents. This means that we have committed political and managerial leadership that are on board and passionate about driving this agenda forward.

We are also fortunate that we have businesses and people living in our district who take the environment seriously. Climate change and protecting the environment are often seen as big issues that only world governments tackle. But we all have a part to play and it cannot be done in isolation. We will need to work together and take action.

During the development of the Strategy we have undertaken two phases of consultation. These have generated around 400 responses and the feedback we have received has been reflected upon and referenced within this document. There is a real sense that among our residents, businesses, parish and town councils, climate, sustainability and environmental matters are of real importance to them; they want the Council to take urgent action and are supportive of the aims of this Strategy.

Our Strategy

We examine 10 key topic areas in the strategy, but all are interlinked and taken together the outcomes of the strands are clear: reduced carbon emissions, improved quality of life, a protected natural environment, community and economic benefit.

The council has an ambition to be a Green Council and that means taking ownership of our own activities and actions. We also recognise that we have a role to play in facilitating and developing partnerships to create Green Communities and if we want a Green District and a supporting local economy, we need to use our leadership and influencing skills to achieve this.

However, it is clear that the achievement of the district wide target will be difficult without additional support from Government and effective collaboration with key partner organisations and stakeholders.

Ian Knowles
Chief Executive of West Lindsey District Council

Cllr Tracey Coulson
Chair Person of the Environment and Sustainability Working Group

Our Framework

We have developed a robust framework with three key policy strands Green Council, Green Communities and Green Business, to support the delivery of our action plan. It supports our Corporate Plan for 2019-2023 which sets out the vision based around Our People, Our Place, Our Council.

"West Lindsey is a great place to be where people, businesses and communities can thrive and reach their potential."

Specific reference is made within the Corporate Plan of the need to improve the quality of our **built environment**, whilst ensuring **our natural environment is preserved** for the benefit of both current and future residents and the Council promotes environmental sustainability and conducts its own business accordingly.

Emphasis is also placed on achieving sustainable growth as the key to the future prosperity of the district. However, it is recognised that we must work simultaneously to ensure our natural environment is protected and where development occurs, look to ensure that appropriate green space and recreational facilities are provided.

Strand:	Green Council
Key Focus:	Own activity/emissions
Example:	Carbon Management Plan/Project delivery
Strand:	Green Communities
Key Focus:	Facilitation/Partnership
Example:	Town/Parish Council initiatives
Strand:	Green Business
Key Focus:	Leadership influence
Example:	Greater Lincolnshire Local Enterprise Partnership/ Economic Recovery Plan

Introduction

Global changes in the earth's average temperature have been rapidly increasing and is impacting on the planet's environments, which is everything natural around us, rivers, trees, plants and animals. Human activities such as the way we dispose of waste, burn oil, coal and gas, deforestation and population growth have led to this rise. Approximately 1.0°C of global warming above pre-industrial levels is a result of human activities with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.

The Paris Agreement

This is the first truly global effort to reduce emissions. To date, 160 United Nations Framework Convention on Climate Change (UNFCCC) parties have made voluntary pledges to reduce emissions up to 2030, including China, the US and the European Union (on behalf of the UK and other EU nations).

The main aim of the Paris Agreement is to hold the increase in global average temperature to well below 2°C, above pre-industrial levels, and to pursue efforts to limit warming to 1.5°C. Overall, the current pledges would lead to lower global emissions compared to previous expectations. However, further action will be required to keep warming to below 2°C or 1.5°C.

Carbon Budgets

A carbon budget is the cumulative amount of carbon dioxide (CO2) emissions permitted over a period of time to keep within a certain temperature threshold. In the context of the Paris Agreement, calculations have been made to determine what level of additional CO2 emissions could be produced before global temperatures exceed 2°C or 1.5°C above pre-industrial levels. Keeping within the budget figure should enable climate change to be tolerable. Budget calculations have been produced on a global, international, national, regional and local authority scale.

National Context

The UK Climate Change Act commits the UK Government by law to reducing greenhouse gas emissions by 100% of 1990 levels (net zero) by 2050. To ensure significant early progress is made towards achieving this target, in December 2020, the Government announced an ambitious target to cut emissions by 68% by 2030 based on those same 1990 levels.

Furthermore, to strengthen the UK's commitment to achieving a net zero carbon position by 2050, the Government has set out an ambitious ten-point plan for a green industrial revolution. The plan covers clean energy, transport, nature and innovative technologies, mobilising £12bn of government investment to create and support up to 250,000 highly-skilled green jobs in the UK.

The Government's 25 year Environment Plan sets out the action it will take to deliver cleaner air and water and to protect threatened species and provide richer wildlife habitats.

The UK Climate Change Risk Assessment has identified six priority risk areas:

1. Flooding
2. High temperatures
3. Water supply shortages
4. Natural capital
5. Food production
6. Pests and diseases.

National Legislation and Policies

The Environment Bill

This puts into legislation a series of environmental principles and establishes an Office for Environmental Protection, which will have scrutiny, advice and enforcement functions. It also makes provision for the setting of long-term, legally binding environmental targets in four priority areas:

1. Air Quality
2. Water
3. Biodiversity
4. Resource Efficiency and Waste Reduction

This is along with the production of statutory Environmental Improvement Plans as part of the Government's 25 Year Environment Plan.

Future Homes Standard

Homes are a significant contributor to greenhouse gas emissions. The Committee on Climate Change (CCC) reports that they were responsible for 14% of the UK's total emissions in 2018. Unlike other sectors such as business, transport and energy supply, residential homes saw emission levels rise between 2017 and 2018. Additionally, the CCC suggest that efforts to adapt the UK's housing stock to the impacts of the changing climate: for higher average temperatures, flooding and water scarcity, are also lagging far behind what is needed to keep us safe and comfortable, even as these climate change risks grow.

- Around 4.5 million homes overheat, even in cool summers
- Average UK water consumption is higher than in many other European countries.
- 1.8 million people live in areas at significant risk of flooding
- Cost-effective measures to adapt the UK housing stock are not being rolled-out at anywhere near the required level. The UK Green Building Council (UKGBC) calculates that 40% of the UK's total emissions are derived from the whole built environment.

The Government is planning to introduce a new Future Homes Standard by 2025, helping us towards that net zero goal. Homes being built now will still be there in 2050 so getting them built right and to high environmental standards is a crucial part of meeting the targets.

Green Homes Grant

There have been a number of Government backed schemes designed to encourage home owners to improve the energy efficiency of their homes. This £2bn initiative is aimed at giving over 600,000 homeowners in England up to £10,000 to install insulation, heat pumps, draught proofing and more to help households cut energy bills and improve energy efficiency. The jobs created by such a scheme are also designed to form part of an overarching 'Green Recovery' from the effects of the Covid-19 pandemic. Commentators however are querying the effectiveness of this initiative. Uptake has been not as expected and delays in works being commenced and completed have been experienced by householders.

Climate Assembly

The first UK-wide citizens' assembly on climate change, was commissioned by six House of Commons Select Committees. It has published its final report on how the UK can reach its legally binding target of net zero emissions by 2050. The work was commissioned to

understand public preferences on how the UK should tackle climate change because of the impact these decisions will have on peoples' lives. The Climate Assembly UK's report, The Path to Net Zero, detailed recommendations across ten areas on how we can meet our target. This includes: how we travel; what we eat and how we use the land; what we buy; heat and energy use in the home; how we generate our electricity; and greenhouse gas removals. Each chapter details assembly members' views on the advantages and disadvantages, including the trade-offs and co-benefits of different ways of reaching net zero.

It also includes recommendations on Covid-19 recovery and the path to net zero. In total, the report contains over 50 recommendations for policy measures designed to meet the net zero target by 2050. The report also conveys assembly members' agreement on themes that recurred throughout their discussions, on the need for:

- Improved information and education for all on climate change
- Fairness, including across sectors, geographies, incomes and health
- Freedom and choice for individuals and local areas
- Strong leadership from government

It also stresses the assembly's support for protecting and restoring nature, and the value of 'co-benefits' to tackling climate change, such as improved health, advantages for local communities, high streets and the economy, including by the promotion of innovation in technology. It calls on policy makers to make use of the report as an "invaluable resource" for decision making.

Greater Lincolnshire Local Enterprise Partnership

Across Lincolnshire, the Greater Lincolnshire Local Enterprise Partnership (GLLEP) is working in a collaborative nature with public and private sector bodies to position the region in an advantageous position to attract inward and external investment. The Local Industrial Strategy and embedded Economic Recovery Strategy are in place for all partners to deliver against. However, the GLLEP is conscious that growth must be sustainable and also complement the climate and carbon reduction agendas. Hence, the creation of a low carbon economy across the region is a key priority sector to support growth in offshore wind as well as in the development of other low carbon goods and services.

The agri-food sector is another priority to ensure that agriculture and associated, research, manufacturing and logistics take account of climate change to ensure sustainability in production and adaptation in the event of the worst effects of climate change. Water management is also a concern of the GLLEP as it recognises the need for reliable water supplies to support growth, bio-diversity and also the need to mitigate against the worst effects of flooding and coastal erosion.

Central Lincolnshire Local Plan

The Central Lincolnshire Local PLan (CLLP) aims to prepare plans and policies that help create places that are sustainable and attractive to live in. The Local Plan should work together with other plans and policies, such as economic, housing and environmental strategies. The delivery of new homes and jobs for Central Lincolnshire up to 2036, will be provided for through a new single Local Plan.

The CLLP for the period 2012 to 2036 has been adopted but is currently the subject of review to ensure that it remains fit for purpose. Part of the review is to investigate the role of the CLLP in addressing climate change and to investigate whether a carbon neutral plan can be delivered. To this extent consultancy support has been sourced to bring together existing evidence on climate change and carbon emissions that is widely recognised and endorsed as being robust, and developing bespoke evidence for the Central Lincolnshire area, to build up a clear and robust picture of the carbon implications arising from the Local Plan, and thereby delivering options for how the plan might reduce or negate this to deliver a carbon neutral plan.

Lincolnshire County Council and Lincolnshire District Councils

Across Lincolnshire all councils are acting to address climate change, enhance the environment and promote sustainability. Considerations are underway with regard to the best means of collating and combining efforts to ensure that the councils as a whole work in partnership and lead the engagement with the wider community around the county on climate change issues. Efforts have to be

particularly concentrated on the business community to assist in delivering a community wide low carbon economy that meets the local and national targets of achieving a net zero carbon emissions by 2050. A Lincolnshire Sustainability Officers Group has already been established to facilitate cross-learning and collaboration and this will be developed further to support the wider concept of partnership working.

Neighbourhood Plans

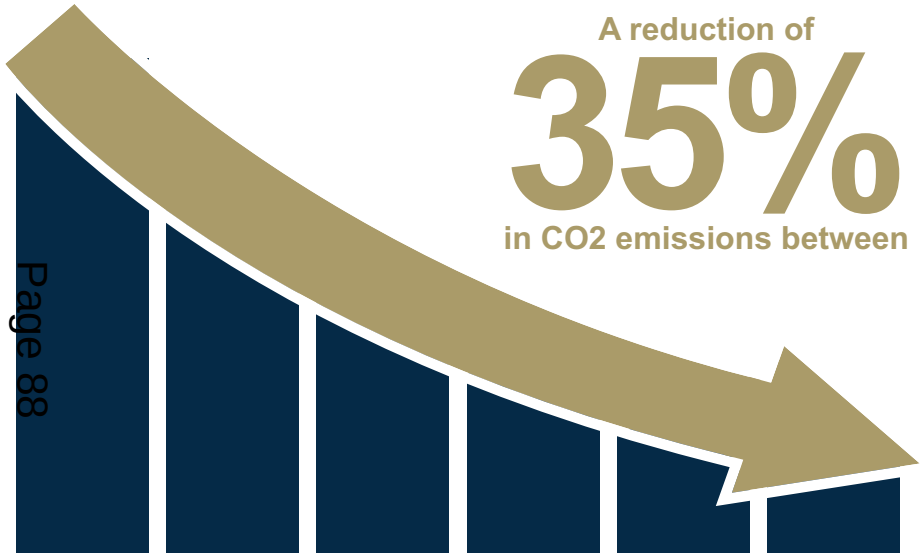
At a local level the council fully supports and endorses the concept of Neighbourhood Plans. At the time of writing 15 have been ‘made’ with 28 at various stages of development. This work is important so that communities and parishes take an active part in influencing development in their local area and identify local solutions to local problems. It is a key role for the council to ensure that at a local level, climate, sustainability and environmental concerns are reflected in Neighbourhood Plans. It is evident that for international, national and local climate related targets to be achieved, all must play their part by identifying supporting initiatives and implementing changes to current practises or behaviours.

Parish/Town Councils

Engagement at a grass-roots level is vital to ensure that a collaborative approach is adopted in the efforts to tackle climate change. Across the district there is great enthusiasm and interest among parish and town councils to enhance the natural environment of their local communities and in some instances they are devising their own local strategies. Building on this interest, joining communities together and facilitating the sharing of information will be a key role for the Council.

Carbon Management

The council has been taking action to reduce the impact of its operations on the environment for a number of years and has worked through two Carbon Management Plans (CMP). From an initial baseline of 2036 tCO2e, over the lifetime of the two CMPs, emissions have reduced by 711 tonnes.



Work undertaken to reduce the footprint includes the introduction of LED lighting in council buildings, replacement of ICT equipment and infrastructure with lower energy using alternatives, a greater adoption of flexible and remote working facilitated by tele-conferencing, a move to paper-light meetings, introduction of more energy efficient and less polluting waste fleet vehicles and the addition of solar panels to a number of cncil buildings.

Since the inception of the last CMP, the council has acquired and built additional assets that have added to its carbon footprint. These include Lea Fields Crematorium, Market Rasen Leisure Centre and the new Waste Depot.

Whilst built to high energy efficiency standards (and in the case of the new Waste Depot incorporating solar and battery storage capabilities), it is important that the impact of these assets on the council's emissions is evaluated. Hence, to arrive at a new baseline and to identify a road map of projects to reduce emissions to net zero, the council has engaged the Carbon Trust to assist in the development of the next Carbon Management Plan, which will run for the period 2021-2026. This work has completed and has provided the council with a revised carbon footprint of 3429 tCO2e. This demonstrates that carbon emissions are fluid in nature and can change over time.

Having this new baseline has identified a number of actions (short, medium and longer-term) that the council should consider to continue its carbon reduction journey. These actions have been incorporated into the action plan that supports this Strategy.

District Data

The table (right) illustrates the level of carbon emissions that are emitted across the whole of the district by sector, as calculated by the Office for National Statistics (2018).

This demonstrates the scale of the challenge to achieve a district wide net-zero carbon position. It is evident that the council's impact on the district as a whole is minimal when compared to the total of 524kt of CO2e emitted across the district. This means that on average each person living in the district is responsible for approximately 5.4 tCO2e. That is equivalent to the weight of an African elephant. However, it is vitally important that as a leader of place, the council takes positive steps to reduce its own emissions whilst also supporting and encouraging residents and businesses across the district to do the same.

District Wide Emissions

Sector Name	CO2 (kt)
Industry & Commercial Electricity	51
Industry & Commercial Gas	35
Large Industrial Installations	0
Industrial & Commercial Other Fuels	33
Agricultural Combustion	29
Domestic Electricity	38
Domestic Gas	83
Domestic Other Fuels	32
Road Transport (A roads)	148
Road Transport (Motorways)	0
Road Transport (Minor roads)	66
Diesel Railways	7
Transport Other	5
Land Use, Land Use Change & Forestry (LULUCF) Net Emissions	-4
Total for all sectors	**524**

Research by the Tyndall Centre for Climate Change has provided a means of calculating carbon budgets on an international, national, regional and local scale. Their research has calculated that the district of West Lindsey's share of the remaining global carbon budget is 3.2Mt CO2. Therefore, at current emission rates it would be entirely consumed within seven years (by 2028). To stay within its carbon budget, the district should reduce emissions by 13.7% every year, or by 50% every five years. Urgent action is therefore required to 'turn the curve' and drastically reduce emissions as quickly as possible.

Decision Making

For the Council to achieve its environment and sustainability related ambitions, it is imperative that such matters are at the forefront of the Council's decision making. Decision makers should be presented with accurate, reliable and up to date information and be sufficiently knowledgeable to effectively scrutinise the information to achieve the best outcomes.

Competing and conflicting needs concerning climate related matters may be simultaneously in play and therefore must be weighed against each other. For example, green spaces not only mitigate heat, but also provide biodiversity, recreational and wellbeing benefits.

However, at the same time the need for more green spaces competes with the need for more housing or commercial space across the district. In such respects environmental and sustainability concerns link to other political agendas, on local, regional, national and international bases. This underscores the need for decision makers to consider issues well beyond the climate change agenda.

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There are a number of actions the council can take to ensure that climate concerns are at the heart of decision-making

Corporate Priority

To ensure that due consideration is paid to the environment and sustainability across all council activity it is important that all key plans, policies and guidance are aligned to reflect the council's intentions to reduce carbon emissions and promote bio-diversity.

The Corporate Plan (2019-2023) presents a key challenge for the council to improve the quality of our built environment, whilst ensuring our natural environment is preserved for the benefit of both current and future residents and the council promotes environmental sustainability and conducts its own business accordingly. The plan therefore sets out a strategic aim to create a safer, cleaner district in which to live, work and socialise.

Actions to achieve this (including the implementation of this Strategy) will be drawn up through the council's annual business planning process with agreed initiatives to take forward referenced within the annual Executive Business Plan. This sets out key activity to progress each year in support of the priorities contained within the Corporate Plan with the financial implications contained within the council's Medium Term Financial Plan (MTFP). By ensuring that the decisions developed within these key strategic documents pay due reference to the climate change agenda, will demonstrate that this focus and emphasis runs throughout the council.

Reporting

The council must ensure all reports requiring a decision clearly set out the climate related issues, benefits, opportunities, risks and

associated costs. Sufficient attention must be paid to climate, environment and sustainability related aspects within policy or project development which can clearly set out the impacts/benefits of alternative options.

Training

The climate agenda is complex and technical and additional training to increase awareness for Councillors and officers will be required. Carbon literacy training, for example, would provide a sound basis from which further knowledge could be developed. The appointment of specialist officers or training existing officers in this area of expertise and drawing upon expert advice at the appropriate time(s) during the implementation stage of the strategy or project development must be considered. This would evidence that the Council has drawn upon and adopted best practice.

Governance

The appointment of a lead Councillor to act as a champion/figurehead for the council, for climate change across the district and region and to promote, lobby and encourage other stakeholders to follow suit is a key step. The council has appointed a Member Champion for Sustainability, Climate Change and Environment and a working group has also been formed, comprising Councillors and officers. Consideration must also be paid to the formation of a Board comprising of representatives from different sectors across the district to identify mutually beneficial initiatives, oversee the delivery of projects and track progress towards carbon reduction targets. The Council has a key influencing and leadership role to play in this regard.

Data

The use of accurate data is a key concept to aid effective decision making. Hence a reset of the baseline of the council's emissions was required to inform the next version of the council's CMP which will cover the period 2021-2026. This will significantly challenge the council to further reduce its carbon footprint. Previous plans have not generally received the focus and publicity that they might otherwise have benefitted from, therefore ensuring the tracking and reporting of progress in a transparent manner will demonstrate key accountability for this work. Collaboration across Lincolnshire and perhaps further afield may be required to ensure that the CMP (2021-2026) marries with and complements wider macro concerns.

Consultation and Engagement

Decision-making relating to the environment and sustainability needs to be inclusive with the public and other key stakeholders kept abreast of developments and provided with opportunities to feed into policy development where appropriate. The council has a strong record of consultation and has recently refreshed its Consultation Strategy. It sets out the council's aim to support strong, active and inclusive communities who could influence and shape the district of West Lindsey, helping to create a more transparent and accountable council.

The council's Citizen's Panel comprising of over 1600 residents is used as a basis for consultation across a wide range of subject matter. The council is well versed in holding theme-based consultation events across the district to impart information, gauge opinion and receive feedback. The council is identifying and considering the adoption of alternative consultation methods which would complement those currently in place. All methods would be

effective vehicles to obtain opinions and feedback from the public on climate and environment related issues which would be fed into strategy and/or project development. This would also serve to demonstrate that the Council is acting in a transparent manner and is upholding the public interest.

Progress and Delivery

The impact(s) of some decisions may not be evidenced for a considerable time and may involve determined, contributory actions on the part of others. It is essential that the council identifies its own sphere of influence and sets out the actions and outcomes that lie within this. Mechanisms need to be established that enable all interested parties to ascertain whether the decisions made have been effective and are achieving their desired outcomes. It is key to set measurable interim and long-term goals and targets to track progress towards the council's ambition of achieving a net-zero carbon position across its activities by 2050, in line with the UK Government's target. The monitoring and reporting of progress is essential to determine whether the decisions made are realising their intended outcomes and to also retain the trust and confidence of the public and stakeholders alike in the council's plans and to demonstrate that the council is taking a lead, example setting role. Importantly, where progress is identified as not being as intended, swift corrective decisions and actions will be required, following the decision-making principles set out above.

Procurement

As a major procurer of goods and services, the choices the council makes in respect of its procurement decisions can have a major impact on climate and environmental related matters.

The awarding of contracts for goods and services goes through an evaluation process with different weightings applied to aspects such as price and quality, and the introduction of the Public Services (Social Value) Act 2012 also compels the council to consider the way in which what is to be procured may improve social, environmental and economic well-being.

To ensure that the correct level of emphasis is placed on the climate agenda during the assessment of bids for contracts, the council will have to consider whether the current weighting it applies to environmental related matters is adequate. Procurement Lincolnshire are currently writing guidance for partner councils to review and we await further information and advice in this regard.

Land Use and Green Space

West Lindsey is defined by its unique natural environment that so many people enjoy living and working within and visiting. The district's wide open landscapes and rich farmlands not only create jobs through agriculture and associated businesses, but they define a way of life and help our residents to experience nature and live healthy lives, consuming local produce in a place that particularly engenders a sense of belonging. The Lincolnshire Wolds, which provide valuable and natural environment capital, run through the district and contain an Area of Outstanding Natural Beauty (AONB) which we strive to preserve for our existing and future residents, yet also promote to attract new residents and visitors.

To make the most of these natural resources and preserve and enhance them for future generations, we need to work in partnership. The council has a leadership role not only in improving its own performance in carbon reduction and provision of natural and green spaces, but also in pushing forward and inspiring businesses and communities to reach their full potential.

As part of this leadership role, it is important that we also consider what the possibilities of a low carbon society, with good provision of and access to its natural and historic environment will offer both to our people and the economy. Along with our obligations to reduce CO2 emissions, we must not lose focus on issues such as improving physical and mental health. Fortunately, all of these things can be encouraged through practical measures designed to achieve increased tree planting, biodiversity and creating a healthy living environment.

One issue with land use is that it can be a delicate balancing act with multiple competing priorities, but the flip side is that the possibilities are endless. Taken together though, the outcomes of our focus on green land use are very clear; higher levels of renewable energy production, reduced carbon emissions, improved quality of life, a protected natural environment, community and economic benefits.

It will be impossible to fully deliver on these outcomes by ourselves. Our strategy aims to focus the work of the programme on bringing together the combined knowledge, enthusiasm and expertise of a wide range of partners who collectively can work with us to deliver on our aspirations.

We will work with our district council partners, Lincolnshire County Council, Parish/Town councils and land owners to consider land use schemes that work best at scale. This gives us greater lobbying power in the national arena and will allow us to utilise more effective planning processes so that, for instance new developments in West Lindsey incorporate proper provision for green spaces.

West Lindsey is already seen as a leader by many in areas such as green agriculture and agri-tech technologies that could place us not only at the heart of the regional picture but also nationally and internationally with huge economic benefits.

To ensure that the use of land across the district fully complements the climate and environment agendas, the Council must use its influence to ensure its aims are fully reflected in the CLLP and Lincolnshire County Council's newly emerging 'Green Masterplan' and their renewables and low carbon energy study. A main thrust of this strategy is that the council is open to business and we have tried to ensure that wider corporate leadership aspirations are captured in the programme and action plan.

We have identified a number of priority areas where we think we all need to do things differently in the future. They are areas where we have identified key short/medium term actions, showing how we will start to deliver the strategy happen.

The areas and their aims are as follows:

Biodiversity

Protect and enhance the diverse natural habitats of the district and the wildlife they support, making them more resilient to climate change, reversing biodiversity loss, and help create conditions for sustainable agriculture. Promote the use of open spaces as part of healthier and more active lifestyles.

Living Environment

Promote the use of open spaces as part of healthier and more active lifestyles. Improve the quality of the environment and our health by reducing air and noise pollution.

Built Environment

Develop high quality environments and green spaces in our towns and villages and protect and enhance the distinctive character of our landscapes. Show respect and care for the built heritage of West Lindsey.

Carbon Offsetting

Consider offsetting practices within the boundaries of the district (and possibly beyond) and this includes tree planting, woodland and parks management for example. This increases the capture of CO2, in a process called sequestration and would allow us to offset emissions elsewhere in the district, helping to achieve our carbon neutral commitment. Whilst offsetting practices, which can be undertaken to help the council's carbon neutral ambition, will begin to be identified, offsetting will not be actively promoted above actions to reduce carbon emissions directly.

We are already making good progress in some areas but the vision is not something that will be fulfilled overnight. It will require partners to work together and show huge commitment and foresight to achieve it, but the stakes are too high for us to contemplate failure.

In 10 years' time we hope to see that ...

- There is a better quality environment which has made people healthier
- People are more aware of how important the environment is to our prosperity and where there are more 'low carbon' and environmental jobs
- We are more self-sufficient and use energy and our land resources better
- We are an important agricultural area that feeds the nation in the most carbon efficient environmentally friendly way possible
- The landscape and built and historic environment retains its unique character and has been protected and enhanced so that it benefits all – visitors, businesses and residents
- Areas of high nature conservation quality have been preserved and the loss of plant and animal species has been reversed
- We are firmly on track to becoming a 'low carbon' district and are more adaptive to climate change
- People have become 'greener' in the way they live their lives
- Local businesses are seen to have the most environmentally friendly land use practices and are leaders in green technologies
- The environment lies at the heart of other strategies and plans for the district and the county and where we have worked together better to implement them

Buildings

Buildings are currently responsible for more than 40% of global energy and one third of global greenhouse gas emissions. As well as being already significant in absolute and relative terms, emissions from the building sector are increasing. It is therefore vitally important that we take action in this area as a priority.

Work will encompass the built environment as a whole taking into consideration:

- How our towns and villages, buildings and communities, existing and new are constructed, located, powered, heated, function
- How resilient they are to the expected local impacts of climate change
- How they need to change in order to align with, and contribute towards, the aims of the strategy

The built environment interacts with other work streams (for instance energy usage of buildings under the ‘Power’ work stream, or ‘Access’ to active travel infrastructure and public transport under the Transport work stream). It is an area which the council, working as part of the CLLP Team, can exercise influence and control over new development through the Local Planning Policy.

There are also opportunities in partnership with Lincolnshire County Council to support future transport planning via locally specific transport strategies such as the Gainsborough Transport Strategy. It is currently under development and considers shared transport methods and encouraging modal shift. The unique position of the Council in terms of its prominent role in the community creates opportunities to act as an enabler to kick start and support wider regeneration initiatives as well as leading innovative projects on council-owned buildings.

The emerging CLLP review is a key document in this area which will identify priority themes and actions and opportunities to ‘combat climate change’ for the built environment. Climate change and the opportunities the Local Plan review presents to ensure a transition to zero carbon are currently being subjected to robust scrutiny. Existing planning policies support and encourage building development, which provides measures to combat carbon emissions. However they often do not go as far as to give decision makers a clear ability to refuse a development on climate or sustainability grounds, or place a mandatory obligation on developers to provide additional sustainability measures as part of a development.

It is important that the CLLP establishes planning policy requirements that fit into wider corporate initiatives across the three district councils concerned, West Lindsey District Council, City of Lincoln Council and North Kesteven District Council.

The council cannot work alone, we need help from the public to ensure our agreed approach complements our wider council(s) priorities whilst driving the move to net zero and combatting and adapting to climate change.

The council's Building Control service will contribute to achieving the outcomes. Building regulations encourage higher energy efficiency standards in new builds and refurbishments and it is highly likely over the coming years that these regulations will be overhauled to take these requirements further. The introduction of higher energy efficiency standards in building regulations, updates to the CLLP and requirements as drafted within the Environment Bill in relation to ecology and the environment will provide a clear framework to deliver outcomes against this 'Buildings' work stream. Additionally, recent government backed initiatives such as the Future Homes Standard and Green Homes Grant will also play a contributory role in this area.

We believe that there are two main themes for this work stream that can form part of our strategy: New Building Development and Existing Buildings and Communities.

The development of the CLLP Framework will help identify outcomes and key tasks, particularly for new building development.

Power

This section looks at how we generate, store and consume power more smartly in terms of both heat and electricity. It considers how we can deliver greater levels of low carbon and renewable energy generation, store this energy so that it is available for use when we need it, improve our levels of energy security, reduce levels of fuel poverty, and improve energy efficiency across all aspects of society.

We will need to consider that we have made a commitment to achieving 100% clean energy across the council's full range of functions by 2040. We will be looking to do that much sooner as we seek to drive progress towards our zero carbon commitment.
The council's main energy usages are identified in the CMP. The council does not have a large balance of assets when compared to other councils and those we have are new and energy efficient already and have been the subject of a renewable energy assessment.

Solar panels have been fitted to a number of our buildings and there is a significant income generation each year of more than £21,000 from the use of these panels on the Guildhall, West Lindsey Leisure Centre, Market Rasen Festival Hall and the Trinity Arts Centre. This demonstrates that green initiatives don't have to cost more and can generate cash and savings. We need to better understand their energy contribution and the contribution of energy that comes from other renewable sources through our existing green energy tariff.

Power interacts with other workstreams (energy efficiency of buildings under the Buildings workstream or proliferating Electric Vehicles (EVs) and reducing our fleet emissions under the Transport workstream). It is an area within which the council can potentially exercise a fair amount of influence and control, through planning, council procurement and operations, as well as acting as an enabler and supporter for others and developing renewable energy projects. We have identified three possible priority themes for 'Power' where we think we can deliver projects that will have most impact:

1. Reducing and Shifting Energy Demand

Reducing the amount of energy consumed to the lowest possible levels is an obvious means of reducing emissions. Initiatives to promote energy efficiency are common place and include, installing more energy efficient heating sources and appliances, the use of Smart meters and water saving techniques and the use of grey water. Across the council's operations, the CMP has identified a number of possible actions for the council to take. Action however is also required across the district with householders and businesses. Therefore the council must also actively encourage development that incorporates energy efficiency at the design stage and promote energy efficiency measures, campaigns and schemes that offer opportunities to reduce demand and usage.

2. Low Carbon and Renewable Energy Generation and Storage Technologies

The means by which energy is produced is a key consideration. The electricity grid is being decarbonised as less reliance on fossil fuels to produce energy gathers pace. This, coupled with the increase in generation of renewable energy in the form of wind, wave and solar power is a major advance in combatting emissions across the planet. As a council, we must keep abreast of developments and maximise and realise the potential for low carbon and renewable energy generation and storage, using our own assets and across the district, whilst taking account of major constraints to deployment such as the Lincolnshire Wolds AONB. The CLLP will be a major consideration in determining the scope for renewable energy production and storage across the District.

3. The Council's Own Estate and Operations

The council's CMP (2021-2026) sets out a series of actions for the Council to take to reduce its energy consumption. The aim will be to decarbonise direct and indirect emissions arising from the council's own operations as quickly and effectively as possible. It is acknowledged that the council will always require energy to carry out its operations, but taking action such as ensuring energy is obtained from renewable sources, switching the existing corporate fleet to EV/Hybrid/ULEV at the most appropriate points and promoting energy efficiency among staff and Members as part of the way in which we conduct our business, will have a positive impact on reducing the council's carbon footprint.

Campaigning and Lobbying

It is vital that the council's declaration to reach a net-zero carbon position across its operations by 2050 and to see that the whole district achieves the same position, leads to real action. Stakeholders will be monitoring and holding the council to account as it progresses its plans and actions. However, the council will need support and assistance from other organisations, councils and central government, as it may require legislative change, additional powers and resources to achieve success.

Over recent years, the council has dealt with a reduction in government grants and the loss of key specialist staff. Deregulation and changing government guidance have also had an adverse impact on the council's ability to address climate change as effectively as it would have liked.

Infrastructure developments in the district, such as the new build Lea Fields Crematorium and Market Rasen Leisure Centre, have primarily focused on the financial cost, with climate related matters taking a secondary role. Concerns remain related to on-going budgetary and proposed structural reforms therefore the need to campaign and lobby is paramount, so that the tools are provided for the council to achieve its goals.

It is important that the council leads from the front and represents the best interests of its communities and businesses to secure the resources and other changes required. The council must campaign, lobby and send a strong message to Westminster individually or collectively with other Lincolnshire Councils or with the local government community as a whole.

The Friends of the Earth identify a number of actions or support that the council should call for. In doing so the council must stress the positive benefits, set out below, that will ensue from success and help to bring about a genuine green recovery.

- Improved access to nature for all
- Tackling health inequalities such as fuel poverty and exposure to air pollution
- Creating jobs fit for the future and giving people the skills to do them
- Supporting resilient local low-carbon economies

1. Resourcing the low-carbon economy

Direct funding

The UK government will need to provide a proportion of the funds needed for a green recovery. For example, funds intended to boost economic recovery like the Shared Prosperity Fund and Industrial Strategy Challenge funds must be used to drive the transition to zero carbon. Councils hold key relationships with training institutions, businesses and communities, making them well placed to deliver both economic recovery and a joined-up response to the climate and ecological emergencies. National economic recovery schemes should include location-based funding to enable spending in places where the need is greatest.

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Covid-19 has placed enormous financial burdens on national and local government. This makes it even more important to deliver a cost-effective response that also delivers on health. For example, supporting more active travel and better insulated homes.

Examples of direct-funding needs include:

- Low-carbon infrastructure – Friends of the Earth estimates that between £7 and £10 billion per year is needed to fund urban public transport and cycling across the UK. This can be raised by re-allocating transport budgets from climate “bads”, such as new roads, to climate “goods”.
- Skills – funding low-carbon skills development (including via the National Skills Fund and National Retraining Scheme) enables councils to align training with local low-carbon employment opportunities, like housing retrofits and heat-pump installation.

Increase powers to raise money

It would also be possible to raise more funds locally if councils were granted new powers to raise money themselves. For example, the law should be changed so that local authorities can raise a significant proportion of funding for urban public transport from businesses through a local public transport payroll levy, as is widely used in France.

Enable local authorities to charge a parking levy

With many large retailers and leisure facilities out of town and poorly served by public transport, a levy on these businesses could fund public transport provision and segregated cycleways connected to them. This scheme would be similar to the workplace parking levy successfully deployed by Nottingham City Council to fund urban public transport.

2. Better buildings

Instead of an obsession with ‘build build build’, the government must ensure that councils have the powers and resources to scale up retrofitting existing housing, to end fuel poverty and cut emissions.

Making grants available to individual householders will help, but councils have a key role in retrofitting social housing and facilitating it in private housing and commercial buildings, while securing high energy-efficiency standards in the public estate, including schools. Where new building is needed, it’s essential that councils have the power through the planning system to insist on zero-carbon development, and to involve their local communities in shaping their areas. Legally, Local Plans must set out how planning will mitigate and adapt to climate change, which will be hard to achieve unless councils have the powers to deliver. But recent planning reform proposals from the government threaten to remove much of councils’ control over new development.

Reform planning policy to support zero-carbon buildings and places

The National Planning Policy Framework (NPPF) contains helpful pointers but needs significant strengthening to enable councils to achieve the radical reductions in greenhouse gas emissions that are needed. For example, by:

- Requiring all new homes and other buildings to be zero carbon by 2025.
- Requiring that suitable areas for renewable and low-carbon energy sources are identified and allocated in Local Plans.
- Ensuring that new development is located near to new or existing high-quality public transport and services.
- Requiring that development plans and planning policies set out measures needed to achieve zero-carbon developments and communities.
- Prioritising protection and enhancement of green space.
- Minimising life-cycle carbon emissions in demolition, construction, materials, and use by advocating circular economy principles for developments.
- Requiring new development to be resilient to extreme weather events.

Empower councils to introduce higher energy-efficiency standards for new buildings

Building regulations must also be used to ensure that all new buildings are net zero. The new Future Homes Standard should set high standards that all developments should meet as a minimum. But this should not preclude local planning authorities setting their own ambitious standards to go further. This approach would avoid the need for costly retrofits of homes built under future standards.

Ensure councils and communities can require high housing standards

Permitted development rights remove a council’s control over new development and exclude local communities’ voices, so shouldn’t be used for new housing. An example is allowing buildings to be converted to residential use without needing planning permission. This has allowed the development of sub-standard properties poorly serviced by public transport and distant from amenities. Despite this, the government wants to extend these rights to more buildings. Permitted development should only be used for very minor developments, such as building a garden shed, fitting solar panels or installing heat pumps.

Put local authorities centre-stage when transforming heating and energy efficiency

Councils should be required and empowered to produce a Local Heat and Energy Efficiency Strategy (as is being piloted in Scotland). As part of this, they should be given the responsibility and resources to coordinate an area-by-area energy-efficiency and eco-heating transformation programme.

Improve standards in the private rented sector and empower local authorities to ensure compliance

The government can take measures to speed up the retrofitting of existing buildings to a high standard of energy efficiency. As well as cutting emissions, retrofitting will help to end fuel poverty and improve the health of people living in badly insulated homes. Cold homes have health impacts that cost the NHS an estimated £2.5 billion each year. Good examples of retrofit systems include Energiesprong and Passivhaus, which deliver cost-effective solutions. To ensure that levels of energy efficiency are raised, the government should increase the Minimum Energy Efficiency Standard in the private rented sector – setting homes on the path to a minimum energy performance certificate (EPC) band C by 2030. Interim steps should also be set out – Scotland has a minimum of EPC band D by 2022, for example.

The maximum spending threshold for landlords should also be increased and should be able to be offset through reintroduction of the Landlord's Energy Saving Allowance. The standards should also apply to houses of multiple occupation and the social rented sector. Local authorities also have a key role in ensuring compliance, which they will be able to perform much better if they have dedicated funding and high-quality data.

Enable public sector retrofitting

Councils need a package of resourcing to enable them to bring all public sector buildings to a minimum of EPC band "C" by 2030, with social housing as a priority. This should be done through whole-house retrofits with immediate short-term support to reduce fuel poverty rates. The government's promise of a fund of £2.9 billion for improving energy efficiency in schools and hospitals must also be fulfilled.

3. Sustainable transport

Support councils to increase cycling, walking and home working

Cycling provision in the UK is decades behind what it is in other parts of Europe. For example, two-thirds of journeys in Amsterdam are by walking and cycling, whereas in UK cities it's typically less than a third.

Cycling and walking bring significant health benefits as well as reduced carbon and local air pollution. Local authorities need support with expertise, as well as encouragement when they face challenges. The government can support councils by establishing a dedicated funding stream at levels seen in countries like the Netherlands. It can ensure it's straightforward to permanently reallocate road space to pedestrians and cyclists following the increase in active transport during Covid-19 travel restrictions. Cargo bike demonstration projects could also show how freight in urban areas can be shifted from vans to e-bikes.

Enable the regulation of bus services and better coordination

Power should be devolved to local authorities, combined local authorities or transport bodies with responsibility for buses, so that they can re-regulate bus services. This would enable them to ensure a comprehensive network of frequent, reliable and affordable buses with a single ticketing system. This should include devolution of bus service operators' grants so they can be targeted at low-carbon vehicles. Also, local authorities that wish to establish a municipal public transport operator should be allowed to do so, to better coordinate public transport networks and ticketing.

4. Renewable energy

Empower local authorities to support the transition to low-carbon energy

The government should make clear that planning authorities should reject applications for fossil-fuel extraction on climate-change grounds. National planning policy needs to be more supportive of renewable energy, to facilitate the increase in supply that's needed. Planning policy should actively encourage new onshore wind developments in England, removing the current barriers in the NPPF.

In addition, as stated above, new development should be required to achieve net-zero carbon. This should include the installation of renewables within new developments, like heat pumps, solar power or micro-wind. It should be clear that appropriate development of renewable energy schemes should be supported in the green belt and AONB, if they do not conflict with the purposes of these areas.

5. Reducing waste

Waste management is only responsible for 4% of UK greenhouse gas emissions. However, the extraction and processing of natural resources to make the products we buy produces large amounts of greenhouse gases and has other negative impacts.

The amount of clothes thrown away is a huge challenge to councils, with around 300,000 tonnes of textile waste ending up in household bins every year, which is then sent to landfill or incinerators. But well before that, the manufacture of consumer goods leads to high carbon emissions, and other problems, such as using large quantities of water, often outside of the UK. More sustainable consumption needs to be encouraged.

Similarly, the problem with plastic pollution needs to be dealt with by cutting the amount of plastic that is used, rather than treating it as a recycling problem for councils to deal with.

Support waste reduction

Phasing out all non-essential single-use products would help reduce pressure on council systems and cut impacts caused in the supply chain.

The government must deliver on its commitment to introducing full cost-recovery for products that end up in household waste. This should mean that funding of recycling and waste services shifts from councils, and therefore taxpayers, to product manufacturers and retailers. More funding needs to be made available to councils for the collection of food waste.

Support sustainable consumption and production

Encouraging people to eat less and better meat and dairy products will not only cut UK emissions but will play a crucial role in cutting our impacts overseas. Cutting down on meat and dairy is also healthier.

The government has a role in enabling behavioural change, for example by supporting councils to introduce more plant-based menu options – in line with the Eatwell Guide – in schools, hospitals, care homes and prisons, including through guidance on standards.

6. Restoring nature

Protecting nature sites and creating more nature-rich green spaces is essential to our own wellbeing as well as addressing the ecological crisis. Increasing the amount of green and blue infrastructure (like ponds) in our towns and cities also plays an important role in sequestering carbon and in helping places adapt to a changing climate, for example by reducing flood risk.

Help councils double tree cover

The government should increase funding to councils for tree planting and maintenance, including large-scale woodland and re-wilding programmes in appropriate locations.

Boost natural flood defences

The importance of green and blue infrastructure (including green spaces, green roofs, gardens, rivers, wetlands and ponds) should be recognised in the grant-in-aid formula for flood defence funding.

Ensure everyone has access to natural green space

Through planning policy and funding for parks services, the government should help councils to ensure that everyone has access to good quality nature-rich green space within five minutes of home. This will include new green space in new developments, and targeted creation of space for nature in areas that are currently deprived of it. Creating pocket parks should be a part of this aim, including reallocating space from roads and parking places.

In summary, the council endorses the work of the Friends of the Earth and recognises the need for action to be taken along the lines they outline. Additional powers and resources are urgently required to enable and empower all councils to address the climate and ecological crises and campaigning for this to materialise is a key role for the council. The response to Covid-19 shows how local authorities can respond effectively to a crisis. A joined-up approach is the only sensible way to respond to the recovery from Covid-19, by ensuring that the actions taken deliver more healthy communities and a healthy environment more resilient to future challenges.

Resources and Financing

Our CMP will detail an overall model for carbon management in the district to carry us towards our goal – currently set as net zero emissions from our operations before 2050. The programme will be presented to full council in May 2021.

All projects identified as part of this programme will be costed, but they will still need to go through the council's approval process, meeting project management controls and receiving expenditure approval in accordance with the budget setting process. The council will position itself to take advantage of external grants and financial incentives, but it must be noted that these corporate controls are required regardless of eventual funding streams as the council needs to ensure value for money is achieved.

In line with the request from council in November 2019, a new decision making framework will be presented for approval which will ensure that carbon budgeting is considered in all reports that come to future committees. Alongside existing financial evaluation, this is expected to introduce an element of 'cost per carbon saving' into larger scale projects, and consider this impact against avoided spend that will be necessary in future to meet our own CO2 emissions targets and likely regulatory obligations. The principle is that this will bring a new focus and allow projects with deferred future benefits to proceed. These include those that might be considered more marginal when viewed through the lens of traditional cost benefit analysis.

Some schemes identified in the new CMP are likely to include projects that should proceed immediately on their own merits and are not dependent upon the approval of the overall programme. This is where it can be demonstrated that there is a straightforward business case with strategic benefits and financial payback in an acceptable timescale. Approval and funding for such schemes have already been agreed in many cases. Where they are identified and approved, they will be added to and detailed in the council's MTFP.

The council does have access to several potential funding streams and the choice of most appropriate funding will depend upon the achievement of value for money. This will be assessed following the completion of a relevant business cases for individual projects. External funding will always be considered before the use of internal council funds, but consideration should be given to how we can ensure we are aware, and best able to take advantage of opportunities. East Midlands Network has a dedicated team that is available to help facilitate and maximise the funds available to the councils in the region. Groups like the LEP, Greater Lincolnshire Energy Efficiency Network (GLEEN), and Lincolnshire Sustainability Officers Group can be valuable sources and knowledge, information and support as well as potential partners in joint schemes. We should continue to forge contacts and partnerships in these areas to best ensure that we can be on the front foot when strategic opportunities arise.

Some of the ways the council may decide to fund the projects associated with the CMP are:

Invest to Save

The council's capital programme contains funding for Invest to Save schemes. This budget is included on the basis that any projects funded from it will deliver savings to the council. Examples include projects that deliver energy efficiency savings and avoid future expenditure on gas and electricity. Previously, installing solar panels on council buildings was done through a revolving carbon management fund and the projects have now paid back and are still generating income of more than £21k per annum for the council through the Government renewables feed-in-tariff (FIT) scheme. This is in addition to the avoided cost of energy spend.

Business cases for future proposals will likely be required to demonstrate how the cost of borrowing will be covered and show how the individual scheme is self-financing and so has no overall impact against the council's financial position. Schemes should also be considered that maintain the medium term financial position (i.e. neither improve nor worsen the position), but contribute towards delivery of service improvements, or contribute to achievement of council priorities.

Grants and Loans

Some projects may be applicable for external funding, where the terms of the grant are complementary to the outcomes contained within the CMP. External funding may be sought from existing grants or other climate change/energy efficiency related funds which are created as a result of the Climate Change Act to help encourage the transition to a low carbon economy. One such source is Salix, an independent social enterprise with public funding from the UK Government.

Match-Funding

Some grant awarding bodies, and other third-party funders might attach a condition that a proportion of funding of the total costs of a project comes from the council.

Internal Resources

This includes borrowing for capital schemes and the possible use of the council's capital reserves.

Salix Finance

The Council has previously taken advantage of funding from Salix Finance. Salix financing facilitates carbon reduction and provides loans for a proportion of the investment necessary for energy efficiency technologies to be implemented in the sector.

They offer two funding options:

Option 1: Recycling Fund

A recycling fund, whereby a public sector body is awarded a match funded, interest free loan to fund a number of projects. The financial savings through each project are recycled to fund more projects, always maintaining the value of the fund at a constant level. Funding is returned to Salix only when no further suitable projects can be identified.

Option 2: Energy Efficiency Loan Scheme (SEELS)

The second option allows public sector bodies to apply for an interest free loan to finance up to 100% of a project, however these loans are targeted at specific projects, which when completed repay their costs to Salix from the financial savings achieved. Repayments are required every six months over a period of five years. Before such funding is applied for, the council must ensure that Salix's strict criteria are met. Therefore, it is not until the projects have been further defined and specific business cases formed that a full evaluation and review of appropriate funding can be undertaken.

Crowdfunding

This is a process by which people provide money to projects, companies or organisations via a website (platform). Depending on the nature of the financial arrangement, people receive a return that is either financial (investment-based) or non-financial (donation-based). Research suggests that investment-based crowdfunding offers the potential to deliver a competitive new model of finance for the public sector, while also providing a new way to engage and communicate with residents in a way that builds new local networks of trust. To date a small number of local authorities have successfully funded carbon reductions schemes via this method. It is an initiative therefore that the council should investigate further to understand its suitability and potential and to also determine the governance related matters that must be considered.

Vulnerable Communities

Climate change is something which effects everyone in West Lindsey to some degree and should not be viewed as an issue which is defined by geography, class or age. Our ambition is to ensure that all of West Lindsey's residents are protected from the impact of climate change, but that equality impact assessments are undertaken on specific projects to ensure that any changes that are made do not have a negative impact on the district's most vulnerable people and communities. The transition to zero carbon must also be a just one which ensures that the social impacts of changes to heating and energy for example, are considered alongside the environmental impact.

Within the context of this strategy, we refer to vulnerable communities in the sense of those at risk of the adverse impacts of climate change. Hence with regard to West Lindsey, we are referring to homes, communities and businesses that are at risk of flooding, travel disruption, potential poor water and air quality issues and also those that experience fuel poverty or poor energy efficiency due to poor quality housing and/or living off grid. The council is well placed to play a key role at a local level in responding to the growing public concerns about the environment and issues such as climate change.

Recent extreme weather events have resulted in flooding and traffic disruption that has affected communities across the district. Climate projections predict more intense and variable rainfall patterns, leading to more flooding, water quality issues and extremes of temperature. This will greatly affect all of us, but research suggests older people and those on lower incomes will suffer the most. Also, habitats and species that are already under threat may suffer further threats to their existence or be lost completely.

However, to assist those communities at risk we must first be able to identify them and perhaps also ensure that they regard themselves as vulnerable in the context of climate change. This is vitally important, so as to be positioned to address the prevailing issues these communities face, the council will need the support and involvement of the communities themselves. We recognise that the council cannot provide all of the solutions, as combating climate change needs system-wide change that involves communities, businesses, individuals and stakeholders across all sectors of the economy, across the country and the wider world. The scale and pace of change needed will require major investments, changes to the way in which we use and interact with energy and changes to how we live our lives and define success. It will also redefine how we manage and interact with our environment. Above all, it will involve collective leadership and shared ambition to deal with this challenge head on and to ultimately realise and enjoy the benefits that will accrue.

To effectively support our vulnerable communities, two over-riding factors will need to be considered; adaptation and resilience.

By adaptation we refer to the need to anticipate the adverse effects of climate change and take appropriate action to prevent or minimise the damage they can cause, or by taking advantage of opportunities that may arise. It has been shown that well planned, early adaptation action saves money and lives later. Examples of adaptation measures include: using scarce water resources more efficiently; adapting building codes to future climate conditions and extreme weather events; building flood defences and raising the levels of dykes; developing drought-tolerant crops; choosing tree species and forestry practices less vulnerable to storms and fires and setting aside land corridors to help species migrate. Much of this work lies outside of the direct remit of the council. Therefore, building close working relationships with partner agencies and identifying mutually compatible outcomes will be a pre-requisite for success.

Building greater resilience within vulnerable communities is also a key factor. There is no clear definition of what this means but the Joseph Rowntree Foundation, having reviewed a wide range of literature, summarise the concept as broadly encompassing the ability of communities to reduce exposure to, prepare for, cope with, better recover from, adapt and transform as needed to, the direct and indirect effects of climate change, where these effects can be both shocks and stresses.

The council must work at a local level through ward plans and neighbourhoods to adapt to make communities more resilient to climate change. This will form part of the council's work through on-going support for the development of Neighbourhood Plans and also through the development of improved communications, information, sign posting and guidance. Implementing strategies and interventions that will improve the capacity and resilience of vulnerable communities and the district overall is vital. In doing this, residents are likely to expect to be involved in the policy process throughout. Community engagement will facilitate a greater understanding and ownership of actions on climate change. The credibility and legitimacy of our elected members may mean that they are well placed to help the council to understand complex local need and be at the forefront of this agenda.

Specific actions the council could consider to increase resilience include, ensuring that the CLLP places climate change at its core and reflects the need for adaptation and resilience to be incorporated into all development and infrastructure planning; working with developers to ensure new housing development meets higher standards and is sustainable, more resilient to the effects of climate change and achieves net-zero carbon emissions; further address fuel poverty issues across the district by supporting a district heating scheme and supporting communities to take energy efficiency measures to improve insulation and glazing; ensure that emergency planning protocols are continually monitored and assessed for effectiveness, particularly in respect of flood risk; understanding the effects of demographic change on our communities and the impact this may have on their existing resilience levels; increasing the resilience of natural habitats and species by acting as a responsible custodian of the natural environment that the council both owns and has an influence over – trees, parks, open spaces and larger tracts of land and working effectively with partners to promote climate action in these areas. Over-riding all of these potential actions is perhaps the most significant; the council can empower and support local groups to develop community-scale climate change projects and can partner with the community through co-production in adaptation and resilience planning. By incorporating community expertise at the design stage, it will address the unique ways that different communities are vulnerable and will increase the capacity of planning processes to be more adaptive to local conditions and vulnerabilities.

Reducing Waste

The waste workstream looks at the waste produced across the district and considers how best to improve management within the waste hierarchy of refuse, reduce, reuse, recycle, recover. It explores how we can build the value of certain waste materials to develop a more circular economy and how we can use our position of community leadership to change habits and practices within our communities.

Waste interacts with other work streams (building a more circular economy and engaging with businesses over their waste management under the 'Influencing' workstream or requiring best practice waste management in new developments under the 'Buildings' workstream).

It is an area within which the council has a good level of influence and control through statutory waste responsibilities, membership of the Lincolnshire Waste Partnership (LWP), our own council operations, as well as acting as an enabler and supporter for others.

The developing Lincolnshire Waste Strategy is the key document for us that identifies priority themes for waste and the council will support and work hard to deliver collective outcomes that all partners have agreed upon.

We have highlighted three key areas below where we will strive to go beyond the LWP strategy. They are:

- Reducing residential waste and improving the quality and quantity of recycling through a Behaviour Change programme
- Commercial Waste and the Circular Economy
- Waste from our own buildings and activities

1. Residential Waste and Behaviour Change

Within this, the intention is to ensure that the council continues to support the direction of the LWP and the high level ambitions identified through the LWP strategy, including improving our already very good levels of domestic waste recycling, reducing domestic food waste and diverting residual waste to generate energy wherever possible. Additionally it is important that forthcoming changes in recycling to improve the quality of materials are effectively communicated and that our residents understand why they are required and support them. It is also essential that the council ensures new development fosters sustainable waste management behaviours.

2. Commercial Waste and the Circular Economy Objectives

Working with commercial enterprises across the district is a re-requisite to ensure they are more aware of the impacts of their commercial waste and are working to reduce waste and improve recycling rates. This would facilitate considerable improvements in the level of commercial waste recycled and reused across the district and ensure significant steps are made towards the development of a circular economy across the district/county/region.

3. Waste from Council Buildings and Activities

Leading by example is a major task for the council and runs through many of the themes within this Strategy. It is no different in respect of waste. Therefore waste from council operations must be effectively reduced and all remaining waste should be appropriately redirected to reuse, recycling or energy production. Single-use items should be removed from council operations by as early a date as reasonably possible and the council must ensure that it leads by example as a role model for other local authorities and local businesses

Influencing Others

The council only has direct control over a small percentage of emissions across the district (our direct emissions). It is therefore important that the council works with and influences others to also play their full part in responding to the climate emergency. This will be vital in the wider district achieving its zero carbon ambitions. We will work with and exert our influence on as many organisations and individuals as possible in the way services are designed, delivered and communicated and create opportunities to encourage and support partners and residents to play a key role in achieving the district's climate change objectives. Different measures can support and influence different groups of stakeholders – residents and customers, visitors to the district, businesses in the supply chain, partner organisations in whose operations the council has an interest, neighbouring authorities across Lincolnshire and beyond, the Government and international interests.

To achieve the goals the council has set to be net-zero carbon by 2050 and to support and work with all other relevant agencies towards making the entire area net-zero carbon within the same timescale, it is clear that this will require collaborative working. As a 'leader of place', the council is in a privileged position to bring together all relevant bodies from across the district and demonstrate, by example, the importance and benefits of taking action to combat climate change. The council already possesses a number of policy levers and funding powers that can be used to influence behaviour. This influence is far greater than the council's actual direct emissions from its operations as an organisation, however the use of such powers and policies must be carefully considered so that communities feel jointly involved, understand and appreciate the benefits of taking action and do not perceive any coercive intentions.

This aspect of the strategy is perhaps the most crucial and important to execute appropriately so that the goal for the council and wider district to achieve a net-zero carbon position by 2050 is achieved. Throughout this document, reference is made to the term 'sphere of influence'. By this we mean the council must have a clear understanding of what it can control, what it can influence and what it cannot influence at any particular point in time. This understanding is critical to enable the council adopt relevant strategies to ensure it exerts as much influence as possible across all sectors operating within the district.

Depicted diagrammatically demonstrates more easily that the further the council moves from its own operations, its ability to control and influence lessens. Hence to exert influence and control internally, the council has a great degree of autonomy. It can also exert a significant degree of influence and control over partner organisations, suppliers and citizens. However, the council's degree of influence weakens when related to attempting to influence other public sector bodies and/or Government and weakens further still in respect of influencing business and industry. It is vital therefore that the council identifies the key stakeholders within each of these sectors and understands the depth of its current relationship with each of them.

In generic terms the council already possesses a number of policy-making and regulatory functions. Many of these already help to incentivise and encourage low carbon behaviours and activities. In order for the council and the district to meet the targets that have been set we will need to ensure that all key decisions the council makes and policies and procedures we implement support this ambition. This will include grant, funding and investment decisions, procurement and commissioning, our capital and revenue gateway process, new build and refurbishment standards, design standards, leases or developments on council owned land, the CLLP and staff and member travel policy. These also provide the opportunity to influence how other large and small organisations in the district and

beyond operate and to encourage them to work towards the zero-carbon target.

As a council, we recognise that we can and must influence within and across the organisation among both staff and councillors to turn into action the message that a dramatic reduction in emissions is required and that such action must be taken on an individual, household, community and organisational level. To assist with this the council has already taken action and influenced change in the form of:

- Holding awareness and training sessions on the subject matter
- Supporting home working policies
- Becoming a 'paper-light' organisation
- Making greater use of virtual meetings/tele-conferencing
- Implementing two CMP's and producing the third iteration
- Procuring fleet vehicles that are the most fuel efficient and produce low emissions
- Created a cross-party Member Working Group

However, there is more that the council can do. The updated version of the CMP 2021-2016 identifies further measures the council can take to reduce its carbon footprint along with a roadmap for delivery. To make progress against the roadmap, the council must be able to persuade decision-makers that the action(s) to be taken are proportionate, will be effective and sustainable but also provide value for money. Building confidence throughout the delivery of the roadmap is key to keeping all internal parties engaged and encouraged that progress is being made and will provide the basis for on-going external communications which highlight success, promote future plans and encourage other organisations to follow suit.

A further positive action that can be taken is referenced within the decision-making section of the strategy but further mention here illustrates the cross-cutting nature of the work. It is vital that to be able to exert influence, decisions made by the council must reference and take account of the climate related impacts and opportunities of any key projects/initiatives the council is considering. By consistently highlighting and referencing such considerations across the council's governance and decision making processes, the council can engineer changes in attitude, awareness and understanding of climate relates issues and consequently ensure that positive actions are taken.

The council's influencing role and duty then spreads further afield to work across the County of Lincolnshire to work with fellow councils to ensure that a collective, consistent and mutually beneficial approach is taken to face the challenges all neighbouring authorities face. Again some good work has already been instigated to support this in the formation of a Lincolnshire-wide Sustainability Officer Group in which West Lindsey plays a key role. The on-going sharing of best practice and initiatives, working collaboratively where possible will be a key feature of the council's work.

Moving further away from the local authority domain, the council must simultaneously attempt to engage and work across the district with businesses, industry, 3rd sector organisations and other interest groups. Among this wider group the council may have less direct influence and therefore it is vitally important to stress the positive benefits of taking action as well as highlighting and explaining the reasons why urgent and sustained action is required. Leading by example, supporting and pin-pointing organisations to relevant advice and third party support and funding streams will be a key requirement. The council will also need to formally engage with organisations across the district. Hence, the creation of a cross-district Climate Board could be an appropriate vehicle to bring together vested interests and form collaborations and joint projects designed so that the district as a whole can achieve net-zero carbon by 2050.

Running through all of the influencing work the council must engage with is the key matter of continually communicating, supporting and encouraging our residents to try and do the right thing by the environment. We have made a positive start with this by creating new climate related web pages and consulting widely during the development of the strategy. However, we must not allow complacency to set in. Therefore we are committed to regularly reporting openly on the progress the council makes and the problems it faces in achieving its objectives, highlighting positive actions that residents can take for themselves, promoting the positive benefits that can accrue both personally and environmentally and crucially engage with the younger generation in a meaningful manner. The creation of public forums or assemblies could be a means of achieving this whereby the council places itself to be held to account for its actions and engages with interested stakeholders in a structured manner.

The use and promotion of trusted, verifiable research data will also help the council to influence across all sectors. By referencing and highlighting relevant climate related information that can be relied upon, the council can be regarded as a trusted third party and leader on climate, environment and sustainability matters. Consequently the council will keep abreast of developments across this agenda, attending relevant conferences and workshops to gain further knowledge and insight and will also regularly issue communications messages across all platforms to reach as many stakeholders as possible across the district and further afield.

So all aspects of the work the council must do to positively influence are vitally important to help the council reduce the impact of its operations to carbon net zero position by 2050 and to also support and work with all other relevant agencies towards making the entire area zero carbon within the same timescale, so that West Lindsey is a great place to be where people, business and communities can thrive and reach their potential.

Green Transport

In the UK, around 40% of all emissions at present are caused by transport. West Lindsey is a district of 445 square kilometres that is divided by the A15 and traversed by the A46. We have a geography that makes many reliant on cars. It is no surprise then that in our district, transport emissions make up an even higher proportion of total emissions, at 43%.

Whilst the Covid-19 lockdown led to a significant reduction in vehicles on our roads and associated emissions, national data shows that they have rebounded quickly and it seems clear that, at least in the foreseeable future, emissions must be reduced through a move to vehicles powered by alternative low-carbon fuels. That will require action by the Government and support from local councils to promote suitable infrastructure and charging networks.

The UK Government is now poised to bring forward its ban on new fossil fuel vehicles from 2040 to 2030 to help speed up the rollout of electric vehicles. The Government's ambitions are that it will end the sale of new conventional petrol and diesel cars and vans by this date. By then, it is expected that the majority of new cars and vans sold will be 100% zero emission and all newer cars and vans to have significant zero emission capability. By 2040 almost every car and van will be zero emission. This is in line with recommendations from Committee on Climate Change (CCC), which in its 2019 report, argued that 2040 is too late for the phase-out of petrol and diesel cars and vans, and current plans for delivering this are too vague. The CCC has also concluded that a switch to electric vehicles by 2030 would produce a cost saving over a 2040, or even a 2035 date.

Whilst we believe the Government must take heed of its CCC's warning and set a more ambitious target date, it appears that ending the sales of all petrol and diesel vehicles much before 2030, as many advocate, would be difficult to achieve. It will take time for manufacturers to convert their production lines to e-vehicles and petrol and diesel will therefore be the norm for new vehicles for several years to come, and those buying them will expect them to have a life of at least 10 years. Moreover, we cannot expect such a transition until batteries have been developed that can vastly increase the distances vehicles can travel on a single charge, until there is technology for much faster charging, until the cost of e-vehicles can be substantially reduced, until there is adequate provision of charging points and until service stations can make the necessary changes. This is happening, but at a slow pace.

In respect of the council, it has few cars and vans compared to most councils; with only six light commercial vans and one car. We are already proposing to reduce this number to three and replace with electric vehicles as current ones come to the end of their working life. However, the majority of our fleet and emissions are made up of our refuse collection fleet and street cleansing vehicles. Due to the

distances covered each day and sheer volume of work undertaken, our hopes for emission reductions lie mainly with the use of alternative fuels (hydrogen being a possibility). But, as with cars, much development work will be needed before major changes are possible. We therefore, regrettably, do not expect transport emissions to drop much in the near term. Beyond 2030, we hope that the ban on petrol and diesel vehicle sales (or the anticipation of its introduction) will result in significant reductions in the following decade, but achieving near zero emissions by even 2040 will present a major challenge.

Our strategy for reducing transport emissions therefore will reflect what we believe are the realities of the time needed for making a transition. Reducing journeys made by cars and freight must be an absolute priority, but alongside that, the council has its part to play in ensuring that the change to e-powered or low-carbon vehicles is not inhibited by a shortage of charging points; either publicly available or incorporated into new development plans.

As a council we are also conscious of the impact our operations have on transport levels. Staff and members commute to work and undertake business mileage in the course of their jobs and roles. Since the onset of the Covid-19 pandemic, many colleagues have worked from home/remotely, thereby significantly reducing the level of commuting mileage, while business mileage has also reduced. As recovery from the pandemic begins to take shape, the council is looking to harness the benefits brought about over the recent period, not only in less mileage accrued, but also in enhancing the work-life balance for many staff and increasing productivity. The way in which the council operates in the future is likely to be somewhat different to the past, but by reviewing travel related policies through a new lens and applying innovative thinking, the benefits will be multiple.

Additionally, encouraging a switch away from cars to public transport, walking and cycling is required. In a rural setting this is problematic as public transport services often do not meet need and the roads may not be conducive to safe cycling or walking. However, the council must work with partners including LCC and also lobby for improvements to the public transport and roads network to provide feasible alternatives for residents which enable them to go about their daily lives without the need for significant own vehicle usage. The co-benefits are obvious, improvements to health and wellbeing, less traffic and pollution and more connected communities.

Conclusion

Monitoring and Review

The council will set up a monitoring and review process to assess progress against the CO2e emission projections and other targets. This could be done on an annual basis through the councils Progress and Delivery reporting mechanism or, to align with the Committee on Climate Change's national carbon budgets, be split into 5-year periods.

Quarterly - Monitor progress against the Carbon Neutral Plan
Report to Members and partners

Annually - Report progress to internal and external audiences
Monitor renewable energy generation and installed capacity
Monitoring of the cost benefits achieved (for instance, by estimating the energy savings that are achieved and the costs avoided as a result). In addition to reporting on the steps taken to achieve specific actions, the priorities of this Strategy will be reviewed on an annual basis. This review will account for broader factors such as policy or technological changes; where appropriate, the action plan will be updated to reflect such changes.

Action Plan

The measures and actions described in this Strategy and Action Plan reflect the following overarching priorities:

The council should take a leadership role in reducing CO2e emissions by examining its own operations, buildings, vehicle fleet, services and policies and identifying best practice measures that can be implemented. The council should also take a leading role in engaging and collaborating with residents, businesses, Lincolnshire Councils, Parish and Town Councils and other stakeholders across the district to support, facilitate, encourage and deliver CO2e emissions across the district.

The council should campaign and lobby the Government to achieve more rapid and deeper carbon reductions across key priority areas, including higher energy efficiency standards for new and existing buildings, policies that support uptake of renewable and low carbon technologies and the development of low carbon transport and infrastructure, including an uptake in the installation of EV charging points. This recognises that some of the actions laid out in the action plan will rely on broader trends that are outside of the Council's immediate control.

Final Thoughts

Through engagement and consultation undertaken in developing the aims of this Strategy, the council has established that it has the support of key stakeholders across the district; residents, businesses, Parish/Town councils alike.

The analysis which has led to the development of the action plan shows that the route towards becoming carbon neutral will require a strong level of ambition and commitment, backed up by significant interventions and investment across the council. Although the Strategy illustrates that meeting the carbon neutral ambition will rely upon some factors outside of the council's control, such as the decarbonisation of the grid and availability of key technology, the fundamental steps required to deliver the net-zero target are clear and with strong leadership from the council these can be set into action now.

You can now have your say on WLDC's plans

Head to our website, **www.west-lindsey.gov.uk/climate**,
where you can find out about WLDC's work
and view key documents and research.

You can also post comments on Facebook, Twitter or Instagram
or email **climate@west-lindsey.gov.uk**

West Lindsey
DISTRICT COUNCIL

Appendix Three: Climate Strategy Action Plan Summary

Click on the action number to access further details on carbon saving, cost, methodology and co-benefits, provided on the next tab.									
	Minimising emissions from the council's estate	Carbon (<500 Low,>1000 Med,>10,000 High Tpa)	Cost (to WLDC)	Ease of implementation. (Green - Easier, Yellow - Medium, Red - Difficult)	Time Scale	CO-BENEFITS			
						Health	Economy	Equity	Resilience
RESOURCES AND FINANCE									
Set up an initial Carbon Savings and project delivery fund from Council reserves		HIGH	HIGH	MEDIUM	SHORT	1	2	1	1
Review, and consider introducing changes to WLDC's travel policy to reduce mileage and incentivise more sustainable work patterns and transport.		LOW	LOW	MEDIUM	SHORT	1	2	3	1
Position WLDC to take advantage of external grants and financial incentives related to this area. Help our communities and		HIGH	LOW	EASIER	SHORT	2	2	2	2

businesses to do the same									
Investigate crowdfunding green projects -		HIGH	LOW	EASIER	MEDIUM	2	2	2	2
Energy Efficiency Loan Schemes		MEDIUM	LOW	EASIER	SHORT	0	0	0	0
BUILDINGS & ASSETS									
Upgrade the insulation and heating systems of council buildings, taking advantage of interest free finance available		MEDIUM	LOW	EASIER	MEDIUM	0	3	0	3
Review minimum energy efficiency standards in the private rental sector		MEDIUM	LOW	EASIER	MEDIUM	3	2	3	3
Encourage retrofitting of houses to improve energy efficiency - initially looking to make use of the Green Homes Grant scheme		HIGH	MEDIUM	MEDIUM	SHORT	3	2	3	3
Look to work with Social Housing Providers to encourage		MEDIUM	LOW	MEDIUM	MEDIUM	3	3	3	3

retrofit housing stock to EPC C minimum									
Use planning powers and relevant policies within the Local Plan to ensure new developments are designed to mitigate against climate change and to be resilient to future impacts.		HIGH	LOW	EASIER	MEDIUM	1	2	1	3
Encourage/enable energy efficiency measures, BMS and retrofit of WLDC lease buildings and assets		MEDIUM	LOW	DIFFICULT	MEDIUM	0	2	0	3
Require new council facilities to be built to the highest standards e.g. BREEAM excellent)		LOW	LOW	DIFFICULT	SHORT	0	1	0	3
TRANSPORT									
Support measures to encourage cycling and walking across the district		LOW	MEDIUM	MEDIUM	MEDIUM	3	1	2	1
Behavioural change programme to		LOW	LOW	MEDIUM	LONG	3	1	2	0

discourage private cars use.									
Low carbon Neighbourhoods enabling people to reduce the amount they need to travel (e.g. through better digital connectivity/rural broadband).		LOW	MEDIUM	EASIER	MEDIUM	3	1	2	1
Encourage car sharing		HIGH	MEDIUM	EASIER	MEDIUM	2	0	2	0
Enable the rapid shift to electric vehicles through putting in place EV charging		HIGH	LOW	EASIER	SHORT	2	0	1	0
Work with partners to help grow a green public transport system, increase active lifestyles and reduce work related travel		HIGH	LOW	EASIER	LONG	3	0	1	1
Deliver a transition of the council's own fleet to electric		MEDIUM	HIGH	DIFFICULT	MEDIUM	2	0	1	1
Develop a taxi licensing policy to encourage the take-up of electric and other low emission vehicles		MEDIUM	LOW	EASIER	MEDIUM	2	0	1	1

and to discourage higher polluting older vehicles.									
Reduce the need to own and use a car through managing developments in the local plan		MEDIUM	LOW	EASIER	MEDIUM	2	1	1	1
POWER									
Investigate the integration of renewable energy such as solar PV or heat pumps in WLDC owned buildings (as per the new waste depot)		MEDIUM	MEDIUM	MEDIUM	SHORT	0	1	0	2
Switch street lighting to well-designed and well directed LED lights		MEDIUM	MEDIUM	MEDIUM	SHORT	1	3	1	0
Work to reduce and shift Energy use and demand		HIGH	MEDIUM	EASIER	LONG	2	3	3	3
Help facilitate move to Low Carbon and Renewable Energy Generation and Storage Technologies		HIGH	MEDIUM	EASIER	LONG	3	3	3	3

WLDC's Own Estate and Operations - energy demand reduction and decarbonisation		HIGH	HIGH	MEDIUM	SHORT	1	1	1	2
Identify areas suitable for renewable energy in support of the local plan		HIGH	LOW	EASIER	MEDIUM	0	3	0	0
Investigate the development of renewable energy & energy storage and support community energy schemes.		HIGH	HIGH	EASIER	LONG	0	3	0	1
WASTE									
Educate and support residents and businesses to reduce, recycle and reuse materials as part of sustainable circular economy		HIGH	MEDIUM	EASIER	SHORT	1	1	2	3
Reduce waste production in Council offices		LOW	LOW	EASIER	SHORT	0	1	0	0
Support Lincolnshire Waste Partnership strategy, including		MEDIUM	MEDIUM	DIFFICULT	MEDIUM	0	2	2	0

reducing waste (especially food) improving levels of recycling, and diverting residual waste to generate energy wherever possible;									
LAND USE									
Biodiversity: Protect and enhance the diverse natural habitats of the district and the wildlife they support,		LOW	MEDIUM	EASIER	MEDIUM	1	0	3	3
Promote the use of open spaces as part of healthier and more active lifestyles.		LOW	LOW	EASIER	MEDIUM	3	0	3	1
Undertake an assessment of opportunities for offsetting residual CO2e emissions. Options could include increasing tree cover on council owned land and on streets; update local planning strategies to		LOW	HIGH	DIFFICULT	MEDIUM	3	1	1	3

encourage nature based solutions such as increasing tree cover across the council area									
INFLUENCING OTHERS									
Encourage and enable energy saving / low carbon behaviour by all council staff		LOW	LOW	EASIER	SHORT	0	1	0	0
Support particularly SME businesses to access funds and expertise for reducing carbon pollution - promote resilience support grants		MEDIUM	MEDIUM	EASIER	MEDIUM	0	3	0	3
Encourage and support schools to cut carbon e.g. through participating in the LESS CO2 programme and through accessing Salix finance. Continue to promote WLDC's recycling schools service		HIGH	LOW	EASIER	MEDIUM	1	2	0	1

Engage with residents to encourage a transition towards local, sustainable food choices with less and better meat		HIGH	LOW	EASIER	MEDIUM	3	0	3	0
Develop a communications action plan to maximise opportunities to promote the council's actions and encourage behaviour change from businesses and residents.		HIGH	LOW	DIFFICULT	SHORT	3	3	3	3
Engage with community groups, parish and town councils in West Lindsey to raise awareness of actions to limit climate change and promote positive behavioural change.		HIGH	MEDIUM	DIFFICULT	SHORT	0	0	3	3
DECISION MAKING									
Use the council's procurement processes to ensure the local authority supply chain is		HIGH	LOW	EASIER	SHORT	0	1	0	1

minimising carbon emissions, including through circular procurement									
Corporate Priority – ensure climate, sustainability and the environment are appropriately reflected in the Council's next Corporate Plan		HIGH	LOW	EASIER	SHORT	2	2	2	2
Governance – put in place appropriate structures to progress climate matters internally and contribute to wider county/national discussions		HIGH	LOW	EASIER	SHORT	0	0	2	0
Ensure all reports clearly set out climate related issues		HIGH	LOW	EASIER	SHORT	0	0	2	0
Training – increase awareness and expertise across members & officers		HIGH	LOW	EASIER	SHORT	0	0	2	0
Business planning - Ensure Environment and Sustainability and		HIGH	LOW	EASIER	SHORT	1	1	2	1

net zero are taken into account by departments									
CAMPAIGNING AND LOBBYING									
Lobby and Campaigning for greater access to resources and funding for Councils to speed up transition to net-zero		LOW	LOW	EASIER	SHORT	0	0	2	2
Lobby and Campaigning for better buildings standards and powers for councils to insist upon them		LOW	LOW	EASIER	SHORT	2	2	2	2
Lobbying and Campaigning for support for Councils to help enable Sustainable Transport, waste reduction, restoration of nature and other identified priorities		LOW	LOW	EASIER	SHORT	3	0	2	2
PROTECTING THE VULNERABLE									

Effective emergency planning procedures		LOW	LOW	EASIER	SHORT	1	0	3	3
Identify potentially vulnerable communities		LOW	LOW	MEDIUM	SHORT	2	0	2	2
Increase resilience among communities		LOW	MEDIUM	MEDIUM	SHORT	2	2	2	3

Appendix Four: Overview of Consultation Responses

1. Analysis of Comments Contained Within the Climate Strategy Survey – Phase One

The survey was conducted between 6 July and 28 August 2020. Two consultations were undertaken which had one concentrating on adult responses while the other was focused on children's responses. This document highlights the results from both surveys.

A further consultation was undertaken during this time which focused on the budget consultation for 2020 for West Lindsey District Council. This consultation included one question to support the development of the climate strategy. The results from this question are also noted in this report but further information can be found in the Budget Consultation Report for 2020.

The survey elicited 151 responses from a mixture of residents, businesses and Parish/Town Councils. The breakdown being:

- Residents – 144 (95.4%)
- Businesses – 4 (2.6%)
- Parish/Town Councils – 3 (2%)

Respondents were asked how important a topic climate change, the environment and sustainability is to them.

Number	%	Rating
2	1.4	1 – Not important
3	2.0	2
11	7.4	3 – Neither
51	34.5	4
81	54.7	5 – Extremely important

The age profile of respondents is worth noting and the age profile of the Council's Citizen's Panel is provided for comparison purposes.

Age Group	Number	%	Citizen's Panel % data
16-25	1	0.8	1.5
26-35	4	3.3	4.5
36-45	10	24	12.0
46-55	24	19.5	22.7
56-65	32	26	35.1
66-75	37	30.1	17.8
76 or over	12	9.8	5.6
Prefer not to say	3	2.4	0.7

Opportunity was provided for respondents to make any additional comments in respect of this subject matter. Sixty comments were made and the contents of these have been analysed to draw out the main messages that were conveyed. These have been collated thus:

1. Positivity – many comments were made highlighting that the moves the Council are making are welcomed and are a positive step
2. Urgency – there was a desire for the Council to act quickly and begin to address the climate related issues
3. Action – the need for the Council to take positive and sustained action was highlighted
4. Communication & Engagement - respondents stressed the need for on-going communications and engagement across communities to ensure that focus remains on this issue
5. Knowledge – the Council must take a lead on increasing the knowledge of residents in all climate related matters
6. Behaviour Change – this is a key requirement to ensure climate related targets are met
7. Recycling and Waste Minimisation – a number of contributors stressed this as a key action that should be encouraged
8. Renewables – this area was seen as one that would have a positive impact of reducing emissions across the District
9. Planning – a need for reforms to existing planning policies was expressed to ensure better build quality and greater protection for vulnerable communities
10. Transport – comments were made highlighting the need for improved, green public transport solutions

The Council also recently ran a budget engagement exercise and within this asked respondents to rank in order of importance, six climate related actions the Council could take. These findings have some synergy with the comments made within the climate survey:

Action	Result	Priority
Reduce waste through recycling and reuse initiatives	187 (26.9%)	1
Better use of land to mitigate climate change impact and nature loss	75 (10.8%)	5
Reduce emissions from transport and support more sustainable transport solutions	81 (11.6%)	4
Support the growth and use of renewable energy	160 (23%)	2

Ensure the most vulnerable to the effects of climate change e.g. flooding are protected	74 (10.6%)	6
Encourage energy efficiency in private-owned homes and new developments	119 (17.1%)	3

This brief analysis provides some key pointers for the Council as it progresses this agenda.

1. The Council must harness and use the current feeling of positivity
2. Leadership, communication and engagement must be evident and the Council should be seen as a provider of accurate information and knowledge to help residents and businesses make informed decisions
3. The Council must take a lead role in engineering behaviour change among residents and introduce and promote new recycling initiatives
4. Planning reform is regarded as necessary; hence the Council should lobby Government with other Councils
5. The promotion of renewable energy solutions should be supported by the Council
6. The age profile of respondents shows that significant attention needs to be paid to engage and communicate with younger age groups to elicit active participation

2. Analysis of Comments Contained Within the Climate Strategy Survey – Phase Two

Background: Survey ran from 24th November to 31st December 2020. Direct notification of its existence was issued to Parish and Town Councils and the Council's Citizen's Panel and social media was used to promote it, a press release was issued, Cllr Coulson promoted it in a radio interview and the Council's website pointed residents towards it.

1. A total of 294 responses were received from a mixture of Citizen Panel members, residents, Parish and Town Councils/Councillors and businesses; the breakdown being:

- Citizen Panel members: 237 (81.2%)
- Residents: 72 (24.7%)
- Parish/Town Councils: 16 (5.5%)
- WLDC Councillor: 1 (0.3%)
- Business: 1 (0.3%)

The age profile of participants was as follows (Citizen's Panel profile shown for comparison purposes):

Age	Numbers	Citizen's Panel data
Under 16	0 (0.0%)	-
16-25	3 (1.0%)	1.5%
26-35	10 (3.4%)	4.5%
36-45	26 (8.9%)	12.0%
46-55	25 (8.6%)	22.7%
56-65	72 (24.7%)	35.1%
66-75	111 (39%)	17.8%
76 or over	37 (12.7%)	5.6%
Prefer not to say	8 (2.7%)	0.7%

2. Respondents were asked whether they are concerned about the environment and the impact of climate change (table 2) and if so, what concerns them most (table 3).

Table 2: Are you concerned about the environment and the impact of climate change?		Table 3: What concerns you most?	
Yes a lot	207 (70.9%)	Environment destruction	92 (32.5%)
Yes a little	71 (24.3%)	Extreme weather	71 (25.1%)
Not really	13 (4.5%)	Flooding	42 (14.8%)
Not at all	1 (0.3%)	Species extinction	39 (13.8%)
Don't know	0	Rising temperatures	28 (9.9%)
		Refugees	5 (1.8%)
		Disease	4 (1.4%)
		Don't know	2 (0.7%)

3. The survey asked if it is achievable for the Council to reduce its own carbon emissions to net zero by 2050 (table 4) and whether this target was ambitious enough (table 5).

Table 4: Is it achievable for the Council to reduce its own carbon emissions to net zero by 2050?		Table 5: Is this target ambitious enough?	
Yes	171 (58.8%)	Too ambitious	63 (22.3%)
No	49 (16.8%)	About right	148 (52.3%)
Don't know	71 (24.4%)	Not ambitious enough	72 (25.4%)

While a majority of responses indicate that the target is achievable, a significant proportion do not know and almost 17% feel that the Council will not be able to achieve a net zero position by 2050. Supplementary comments related to the achievability of the Council meeting its 20250 target, grouped around **cost concerns** ("Although willing I believe monetary obstacles will happen"); **behaviour change**

("You will not be able to control the behaviour of individuals and organisations in this regard") and **external influences** ("Too much is outside of local control").

4. Respondents were asked if it is achievable for the whole district of West Lindsey to be net zero carbon by 2050 (table 6) and whether this target was ambitious enough (table 7).

Table 6: Is it achievable for the whole district of West Lindsey to be net zero carbon by 2050?		Table 7: Is this target ambitious enough?	
Yes	149 (51.4%)	Too ambitious	73 (25.3%)
No	71 (24.5%)	About right	149 (51.6%)
Don't know	70 (24.1%)	Not ambitious enough	67 (23.2%)

Again, a majority of replies indicate that it is achievable for the District to achieve a net zero position by 2050, but just under half of all participants either do not know, or definitely feel that the target cannot be met. Supplementary comments focused on **finances** ("Unaffordable"); **behaviour/lifestyle change** ("Because net zero is quite complex and requires major lifestyle and business changes); the need for **collaboration** ("Will be difficult to bring industry/business on board without external policy levers or the threat of sanctions/fines"); **too many factors involved** ("Far too many objectives in the equation all which involves seismic shifts in how things are done now and how they will have to be done for zero carbon"); **current reliance on fossil fuels across the District**, ("West Lindsey is a very large area, it will be difficult to stop many of its inhabitants burning carbon carbon to heat homes. Homes in rural areas will still need to use carbon for heating and cooking. New laws would have to be introduced and modifications made to homes to stop carbon use, I don't see this happening.") and **general apathy** ("Not everyone is on board.").

5. In considering the draft Sustainability, Climate Change and the Environment Strategy, Table 8 shows that the main benefits that will accrue were deemed to be:

Slowing down climate change	208 (72.0%)
Improved mental health	62 (21.5%)
Improved low carbon transport options	186 (64.4%)
Reduced waste	204 (70.6%)
Improved physical health	93 (32.2%)
Saving money in the long run	92 (31.8%)
I don't think there are benefits	4 (1.4%)
Protection of natural habitats and species	188 (65.1%)
Help protect against flooding and extreme temperatures	204 (70.6%)

6. Attention was paid to actions contained in the draft strategy and those that households could or already have taken to reduce climate change. Table 8 illustrates the response:

Action	Greatest Impact	Already Done
Switching to renewable energy such as solar or wind power	197 (87.2%)	73 (32.3%)
Make sure your home has enough insulation	161 (60.3%)	190 (71.2%)
Limiting the amount of water you use	108 (54.0%)	145 (72.5%)
Driving less or driving an electric or low emissions car	166 (79.8%)	89 (42.8%)
Minimising single use plastic in packaging or products you buy	192 (76.8%)	115 (46.0%)
Recycling as much household waste as possible by taking part in all household recycling options available	161 (60.8%)	208 (78.5%)
Using public transport more often than you currently do	92 (81.4%)	35 (31.0%)
Reducing food miles by shopping local	110 (60.1%)	115 (62.8%)
Switch to an electric or hybrid family car	140 (91.5%)	29 (19.0%)
Growing your own food	89 (66.4%)	79 (59.0%)
Reduce Air Travel	135 (75.0%)	97 (53.9%)
Eating a more plant-based diet	80 (59.7%)	91 (67.9%)
Car sharing	72 (82.8%)	20 (23.0%)

These results show that a broad range of actions have been taken by residents already, with the most popular concerning energy/water related measures; recycling; lifestyle changes, such as reduced meat consumption; less driving; growing own produce and shopping locally. While this is encouraging, the questions to be asked are: how much further can households go? How to get more households/individuals on board? How to sell the co-benefits of lifestyle/behavioural changes?

7. To ensure that the Council's time and resources are focused on areas that will have the greatest impact as quickly as possible, the survey asked which of the potential actions in the draft strategy will have a big or small impact on reducing climate change and improving the environment in our district? Table 9:

Action	Big Impact	Smallest Impact	Don't Know
West Lindsey District Council leading by example and becoming net zero carbon	156 (54.9%)	109 (38.4%)	19 (6.7%)
More local information on carbon emission figures etc to help influence peoples' daily behaviour	113 (40.1%)	149 (52.8%)	20 (7.1%)
Retrofitting homes to become more energy efficient and tackling fuel poverty	218 (76.2%)	56 (19.6%)	12 (4.2%)
Supporting and promoting the development of low carbon travel and low emission vehicles	186 (66.0%)	79 (28.0%)	17 (6.0%)

Seeking additional powers and resources from Government to help tackle climate change	162 (58.5%)	84 (30.3%)	31 (11.2%)
Reducing waste and increasing reuse and recycling	232 (80.6%)	55 (19.1%)	1 (0.3%)
Planting trees	164 (71.0%)	58 (25.1%)	9 (3.9%)

From these responses, it is clear that action is expected on the part of the Council across all areas detailed in the survey; with emphasis placed on initiatives to further reduce waste and promote recycling; tackle energy efficiency and fuel poverty and planting trees. As the strategy action plan is developed, these notions should be appropriately reflected.

8. Existing awareness of the Council's commitment to tackling climate change was investigated (table 10) and respondents were also asked to gauge their levels of satisfaction with the actions the Council was taking to be a Green District (table 11).

Table 10: Prior to completing this questionnaire, how aware were you that West Lindsey District Council were developing a Sustainability, Climate Change and the Environment Strategy and had set a target of net-zero carbon emissions by 2050?		Table 11. Taking everything into account, how satisfied are you that West Lindsey is working to be a Green District?	
Aware	82 (28.3%)	Very satisfied	64 (22.0%)
Somewhat aware	116 (40.0%)	Fairly satisfied	152 (52.2%)
Not aware at all	92 (31.7%)	Neither satisfied nor dissatisfied	61 (21.0%)
		Fairly dissatisfied	11 (3.8%)
		Very dissatisfied	3 (1.0%)

Awareness of the Council's intentions was fairly high. Over 2/3rds of responses indicate that people are aware of the Council's work and the remaining 1/3 are now aware. Satisfaction levels are also high, with over 75% of respondents either very or fairly satisfied with the efforts the Council are making.

9. Summary

This latest survey complements an earlier survey undertaken during the summer of 2020. Between both, around 450 responses have been received. It is acknowledged that under different circumstances, more interactive engagement/awareness events would have been held. This will remain a focus once lockdown restrictions ease.

It is clear that the Council does have a mandate from residents and other stakeholders to take positive actions to address climate change. The size of the task however is also appreciated by those that have partaken in the surveys; resources; collaboration; behaviour change have all been cited as key enablers for success. The pace at which the Council is taking action is felt to be appropriate; however,

there is no room for complacency. The Council should act as quickly as possible and although this will present challenges, acting at a comfortable pace will not deliver the outcomes that are desired.

The issue of eliciting interest and participation among younger age groups remains a problem. This needs to be addressed in an effective manner going forward.