



Melton Climate Change Study

Document A: Context

Melton Borough Council

Final report

Prepared by LUC

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Abbreviations and glossary

Abbreviations

- **BANES:** Bath and North-East Somerset
- **BREEAM:** Building Research Establishment Environmental Assessment Method
- **CCC:** Climate Change Committee
- **CCS:** Carbon Capture and Storage
- **DLUHC:** Department for Levelling Up, Housing and Communities
- **EV:** Electric vehicle
- **FHS:** Future Homes Standard
- **FBS:** Future Buildings Standard
- **GBI:** Green and blue infrastructure, also referred to as GI
- **GLA:** Greater London Authority
- **HQM:** Home Quality Mark
- **LCA:** Life-cycle carbon assessments
- **LPA:** Local Planning Authority
- **LULUCF:** Land Use, Land Use Change and Forestry
- **MBC:** Melton Borough Council
- **PPG:** Planning Practice Guidance
- **RIBA:** Royal Institute of British Architects
- **SAP:** Standard Assessment Procedure
- **TCPA:** Town and Country Planning Association
- **TER:** Target Emissions Rate

Abbreviations and glossary

- **UKGBC:** UK Green Building Council
- **WLCA:** Whole Life Carbon Assessment
- **WMS:** Written Ministerial Statement

Glossary

- **Embodied carbon emissions:** carbon emissions generated during the construction of a building.
- **Operational carbon emissions:** carbon emissions generated during the ongoing operation of a building such as lighting, power, heating and ventilation.

Chapter 1

Introduction

1.1 Climate change is a real and present danger worldwide. Climate change in the UK will result in warmer and wetter winters, hotter and drier summers and more frequent and intense weather extremes, resulting in increased flooding and drought. These changes pose several significant threats to Melton borough with impacts on both the natural environment and local communities. These include negative impacts on biodiversity, agriculture and food security, infrastructure and economy, and public health and wellbeing. Melton borough's rural character, agricultural economy, and natural environment face particular climate impacts, creating an urgent need for proactive measures.

1.2 The need for Melton borough to tackle climate change effectively is also driven by broader national and global obligations. The UK government's legal commitment to achieving net-zero greenhouse gas emissions by no later than 2050 underlines the urgency of reducing emissions across various sectors. Local authorities, such as Melton Borough Council, are critical players in this effort, as they oversee key areas such as planning and housing, and have influence on transportation, waste management, and energy infrastructure. Their policies and decisions can directly influence carbon footprints, making them vital to meeting national climate goals.

1.3 In July 2019, Melton Borough Council (MBC) declared a Climate Emergency, committing to achieving net zero emissions for its own operations by 2030 and to promote sustainable development throughout the Borough, with the overall aim that the Borough will be net-zero by 2050. MBC is a signatory to Leicestershire Climate and Nature Pact 2023 and has published a Climate Strategy setting out commitments to reach net zero by 2050, to increase adaptation and build climate resilience. The Local Plan is identified as one of the key mechanisms for implementation of the strategy, once adopted. In September 2023 MBC undertook the required five year review of the adopted Melton Local Plan and agreed that it was appropriate to undertake a partial update to ensure that the effectiveness of the plan's policies are maintained and to reflect changes to national guidance.

1.4 Local authorities such as Melton borough have practical control over areas that directly impact carbon emissions. By taking actions such as promoting sustainable urban development, building EV charging infrastructure, and improving energy efficiency in housing, councils can lead meaningful change. Additionally, they are well-placed to engage with local communities, raising awareness and fostering behaviour change at the grassroots level. Tackling climate change locally, is an opportunity to create more sustainable, healthier, and resilient communities.

Purpose of the report

1.5 The principal focus of this study is to provide relevant and up-to-date evidence to underpin the review of the climate change related policies within the Local Plan. In accordance with para 31 of the NPPF, MBC is seeking adequate and proportionate evidence focused on supporting and justifying effective climate change related policies in the Local Plan that take into account relevant market signals. This study covers a range of areas relevant to climate action including buildings and built form, green infrastructure, sustainable transport, water and waste and renewable energy and provides recommendations to improve Melton borough's current climate policy.

1.6 Such policy recommendations will help to ensure all development in Melton borough is moving towards net zero in terms of operational emissions whilst also working to reduce embodied carbon resulting from construction. This study also aims to ensure that planning policies meet the requirements of Government policy, guidance and legislation and consider the wider regulatory framework.

1.7 In addition, this study considers measures to address emissions over the plan period (to 2036) and the plan's contribution to relevant national carbon reduction targets for 2030, 2035 and 2050. It takes into account how recommendations might change if the plan period was extended to 2041 and provides recommendations relevant to the longer term that could affect future plan revisions.

Report structure

1.8 The remainder of this document is structured as follows:

- Chapter 2: Context
 - Melton borough context and key issues
 - Policy review
- Chapter 3: Recommendations and conclusion
 - Summary of recommendations
 - Conclusion and next steps
- Appendix A: Policy review.

1.9 The technical chapters of the report are provided as separate documents for ease of access. These include

- Document B: Buildings and built form
 - Embodied carbon
 - Whole life carbon assessment
 - Built form and orientation
 - Building retention and retrofitting
- Document C: Green infrastructure and sustainable transport
 - Green infrastructure
 - Sustainable transport
- Document D: Water and waste
 - Water efficiency
 - Minimising waste
- Document E: Renewable energy

Chapter 1 Introduction

- Document F: Renewable and low carbon energy generation and storage and low carbon development evidence base.

Chapter 2

Context and key issues

2.1 This chapter sets the context for the development of climate change policy, outlining some of the key characteristics which influence climate change emissions and the need for adaptation in the borough.

2.2 It provides an overview of the current climate and future climate projections. Information is then provided on the emissions profile, providing information on the contribution of different sectors, and illustrating change over time. This is followed by discussion of mitigation measures relevant to each of these sectors.

Overview of Melton borough

2.3 Melton borough is a rural local government district covering 48,138ha in north-eastern Leicestershire, at the heart of the East Midlands. Key local characteristics are likely to affect the borough's journey to net-zero by 2050, including the rural character, population distribution, housing type, travel and transport options, land use and heritage.

2.4 According to the 2021 census data [[See reference 1](#)], the borough has a population of 51,752 and is expected to increase by a further 2,400 people by 2043. Population growth is an immediate driver of emissions as a result of increases in energy demand, water use, transport emissions, the use of resources, and the production and management of waste.

2.5 The 2021 census indicates that the population of Melton borough is ageing. The largest age brackets are those aged 50+, which comprise 46.9% of the population, while those aged 0-34 make up 35.8% of the population. As the population continues to grow and age there is also a predicted decrease in average household size, with significant growth in the number of single person and couple households expected. These factors are expected to increase domestic

overall energy demand per person, as well introducing increased additional demands for heating and daytime energy use. In addition, the rural nature of the Borough as well as the Borough's ageing population suggests an increase in the number of smaller households.

2.6 There are 22,597 households in the Borough with a large proportion of larger housing types such as detached homes [See reference 2]. Around half of the existing housing is located in Melton Mowbray, comprising mostly detached (41.4%), semi-detached (36.4%), and terraced (14.8%) houses. There are relatively high levels of under occupation, particularly in owner occupied housing, which makes up 73% of all homes. The Borough's housing stock is also older than average, with a higher than average proportion of homes built pre-1900, which are typically harder to insulate. Many rural homes are also not connected to the gas grid and fuel poverty levels are higher and deeper in the Borough's rural areas.

2.7 The current median energy efficiency band, based on the Energy Performance Certificates (EPCs), of existing buildings in Melton borough is 64 (band D) [See reference 3]. This also indicates the level of improvements needed to make the existing housing stock more energy efficient. The rural and sparsely populated nature alongside the makeup of the housing stock of Melton borough also suggests that the area may have a housing stock that will be more challenging to retrofit. The Borough also has 717 Listed Buildings and 45 Conservation Areas which can influence the ease of implementing energy efficiency and low-carbon heating measures.

2.8 The projected changes in climate in Melton borough indicate warmer and wetter winters and hotter and drier summers [See reference 4]. There is also a potential for an increase in the variability and intensity of extreme weather events as a result of climate change. As such, consideration needs to be made for adaptation to increased risks from climate change impacts, such as overheating, droughts, transport disruptions, flooding and extreme weather events.

2.9 The entire of Melton borough is classified as an area in serious water stress, according to the Environment Agency [See reference 5], indicating the need to consider an approach to water-efficient developments in the Borough.

2.10 Melton borough has a long history of flood events. The Strategic Flood Risk Assessment (see reference) considers current and future flood risks, taking into consideration climate change impacts. It identifies that parts of the Borough are at risk of flooding from fluvial, surface water, groundwater, sewer, reservoir inundation, and breaches from canals. It shows that the most significant sources of flood risk are surface water flooding (particularly around Bottesford and Melton Mowbray) and fluvial flooding (the primary fluvial flood risk in the Borough is along the River Eye, River Wreake, River Devon, and Gaddesby Brook) [See reference 6]. It is, however, important to ensure that buildings and spaces are resilient to future events such as flooding.

2.11 Achieving net-zero emissions from transport will be challenging as the Borough's population is dispersed across a wide geographic area. Cars are the primary mode of transport and there is a lack of active travel routes. Over half of the population in the Borough travels by car or van to work [See reference 7]. In contrast, only 12% of journeys to work are made via public transport or active travel. This is mainly walking with very few people using trains, buses or cycling to travel to their workplace.

2.12 About 60% of the residents in the Borough are economically active. The main industries of employment are wholesale and retail trade (15.6%), manufacturing (13%), human health and social care (11.8), and education (10%) [See reference 8].

2.13 Most of the land in the Borough is Grade 3 agricultural land, which is of good to moderate quality. Arable land accounts for about half of the area in the Borough. Agriculture is also a significant source of carbon emissions in the Borough, a sector which is challenging for decarbonisation, and needs to be balanced with further removals.

Climate Change Projections

Introduction

2.14 Climate change impacts include changing temperature and precipitation patterns, as well as rising sea levels. Weather events are becoming less predictable, reflecting climate instability and adding increased uncertainty to future planning. Extreme climatic events, such as heatwaves, floods, droughts, and wildfires are having wider effects on human health, ecosystems, and the global economy with varying levels of severity [\[See reference 9\]](#).

2.15 Strategic planning to adapt to the impacts of climate change and its associated uncertainties is equally critical as efforts to reduce carbon emissions. Key opportunities are actions which are win-win in both reducing emissions and adapting to climate change.

Overview of the current climate in Melton borough

Regional climate

2.16 According to the Local Authority Climate Service, the relative distance of the Midlands from the sea, the annual average temperature range is relatively large. Sharp winter frosts are common and very hot days may also occur in summer. Winter mean daily minimum temperatures are between 0°C and 2°C, whilst summer mean daily maximum temperatures can reach above 21°C in many areas.

2.17 Large-scale frost hollows may occur within river valleys in the western parts of the Midlands in winter. The lowest temperature recorded for England (-26.1°C) occurred in Newport (Shropshire) in 1982. Snow across the Midlands is variable,

from about 5 days of lying snow per year in the lower Severn Valley to over 20 days in upland areas.

2.18 Rates of rainfall across the Midlands are variable. Rainfall rates are highest at high altitudes and these areas can receive more than 1000 mm per year. The region is drier in the east with the South and East Midlands experiencing rainfall as low as 600 mm per year.

Current climate for Melton borough

2.19 To provide context specific to Melton borough, this report provides an overview of the current climatic conditions in Melton borough using 30-year climate averages, between 1991- 2020, using data from the nearest climate station at Sutton Bonington [See reference 10]. The mean summer temperature was 16.3°C while the average maximum and minimum summer temperatures were 21.1°C and 11.5°C, respectively. The mean winter temperature was 4.9°C, while the average maximum and minimum winter temperatures were 7.8°C and 2.0°C [See reference 11]. The observed change in annual temperatures between 1991 and 2020 is an increase of 0.2°C. Table 2.1 below presents a summary of climate averages in Melton borough showing the key climatic variables as well as other climatic variables.

Table 2.1: Summary of climate averages for Melton borough between 1991-2020

Key Variable	Summer	Winter
Maximum temperature (°C)	21.1	7.8
Minimum temperature (°C)	11.5	2.0
Mean temperature (°C)	16.3	4.9
Rainfall (mm)	60.0	50.0
Days of air frost (days)	0.0	9.0
Sunshine (hours)	175.8	58.5

Key Variable	Summer	Winter
Days of rainfall ≥ 1 mm (days)	9.2	10.7

2.20 Further information on the current climate in Melton borough can be obtained from the Local Authority Climate Service Climate Report for Melton borough [See reference 12].

Observed changes and impacts

2.21 Changes in annual mean temperature and rainfall amount from 1991-2020, relative to a 1961-1990 baseline period show that overall, average temperatures have risen in all areas across the UK, particularly in central and eastern England. Changes in average rainfall, are less pronounced, however the pattern behind the average is changes in seasonality and intensity, with drier summers.

2.22 The changes in temperature and rainfall have the potential to lead to:

- Increased risk to health from heat stress
- Increased energy demand for summer cooling
- Increased disruption to transport due to heat e.g. rail buckling
- Risk to water supplies from drought
- Increased risk to biodiversity (plants and animals)
- Increased risk of river and surface water flooding and associated risks to infrastructure.
- Increased disruption to urban drainage systems.

Climate change projections for Melton borough

2.23 The Met Office provides local authority-level climate change projections for a range of representative concentration pathways (RCPs) or emissions scenarios (RCP2.6, RCP4.5, RCP6.0, and RCP8.5) [See reference 13].

2.24 The RCPs present projections of how different concentrations of greenhouse gases (GHGs) in the atmosphere from human activities will impact on our climate. The four emissions scenarios range from high (RCP8.5) through to low (RCP2.6) emission scenarios; higher values represent greater effects from GHGs (“radiative forcing”).

2.25 In line with best practices such as IEMA’s guide to climate change adaptation and resilience and the Town and County Planning Association [See reference 14], it is appropriate to account for a worst-case scenario when assessing the risks from climate change. The Town and County Planning Association and Royal Town Planning Institute [See reference 15] recommend that a reasonable worst-case scenario should be drawn up from climate impact data, stating that “*local planning authorities should consider using ‘credible maximum climate change scenarios such as ‘High++’ when considering particularly vulnerable locations or sensitive development.*” It is also important to note that in 2021 the IPCC reported that “global surface temperature was already 1.09°C higher in 2011– 2020 than 1850–1900” [See reference 16] and in 2023 the UNEP reported that there is “no credible pathway to 1.5°C” [See reference 17].

2.26 The Local Authority Climate Service provides climate information for Local Authorities in the UK for key climatic variables through global warming levels (1.5°C, 2°C, 4°C) relative to the pre-industrial baseline (1850-1900) [See reference 18]. It should be noted that we have already reached +1.2°C.

2.27 Global warming levels differ from representative concentration pathways, representing climate change at the global scale, which then drives local changes. These projections are provided in terms of Global Warming Levels (GWLs), instead of RCPs to align with current methodologies adopted by the Climate Change Committee (CCC) for assessing climate risk [See reference 19]. The

independent guidance, adopted by the UK government for the Climate Change Risk Assessment (CCRA) [See reference 20] and the National Adaptation Programme 3 [See reference 21], is to prepare for a 2°C rise in global temperature, whilst assessing the risks for 4°C.

2.28 Table 2.2 and 2.3 show projected changes in climate in Melton borough for a number of Global Warming Levels (GWLs), relative to 1981-2000 [See reference 22]. In each case, there is a central projection (the median) and an uncertainty range (the lower and upper values are the 10th and 90th percentiles).

Table 2.2: Projected changes in climate in Melton borough relative to the pre-industrial baseline 1850-1900: Temperature

Variable	0.6°C GWL Baseline 1981-2000	1.5°C GWL Paris Agreement	2.0°C GWL	4.0°C GWL
Temperature	°C	°C change from baseline	°C change from baseline	°C change from baseline
Summer Maximum Temperature	29.1°C (28.8°C to 29.5°C)	+2.9°C (+1.3°C to +4.1°C)	+3.3°C (+2.3°C to 5.3°C)	+7.0°C (+6.4 to +8.8°C)
Summer Average Temperature	15.3°C (15.3°C to 15.3°C)	+1.4°C (+1.1°C to +2.0°C)	+2.1°C (+1.4°C to +2.7°C)	+4.2°C (+3.7°C to +5.1°C)
Winter Average Temperature	3.7°C (3.7°C to 3.7°C)	+1.0°C (+0.5°C to +1.3°C)	+1.3°C (+0.6°C to +1.6°C)	+2.7°C (+1.8°C to +3.3°C)
Winter Minimum Temperature	-8.5°C (-9.0°C to -7.9°C)	+2.5°C (+1.1°C to +3.2°C)	+2.9°C (+1.3°C to +4.1°C)	+4.6°C (+3.5°C to +6.2°C)
Annual Average Temperature	9.3°C (9.3°C to 9.3°C)	+1.1°C (+1.0°C to +1.3°C)	+1.7°C (+1.2°C to +1.8°C)	+3.4°C (+2.9°C to +3.9°C)

Table 2.3: Projected changes in climate in Melton borough relative to the pre-industrial baseline 1850-1900: Precipitation

Variable	0.6°C GWL Baseline 1981-2000	1.5°C GWL Paris Agreement	2.0°C GWL	4.0°C GWL
Precipitation	mm/day	% change from baseline	% change from baseline	% change from baseline
Summer Precipitation Rate	1.76mm/day (1.75mm/day to 1.77mm/day)	0% (-12% to +8%)	-5% (-22% to -2%)	-23% (-40% to -16%)
Winter Precipitation Rate	1.67mm/day (1.65mm/day to 1.68mm/day)	+4% (-6% to +18%)	+6% (0% to +17%)	+19% (+9% to +26%)

2.29 Note that the data represented in the 0.6°C GWL Baseline 1981-2000 and 1.0°C GWL Recent Past 2001-2020 are from model projections, when in the observed record the GWL that had been reached was 0.6°C and 1.0°C, respectively.

2.30 As Melton borough is not a coastal Local Authority, local sea level rise information is not considered, however, there may be indirect impacts such as to people and services that depend on vital infrastructure on the coast. This could include disruptions to shipping supply chains, impacts on goods and services produced in and around coastal areas, forced population movements, the redirection of resources to support coastal areas (e.g., flood defence schemes), and potential risks to energy security (e.g., energy infrastructure like nuclear power stations).

2.31 The above data, showing averages for summer and winter, only presents part of the picture. Evidence also suggests that extreme weather events are becoming more frequent and severe in the UK. Summers are becoming hotter and drier, leading to more frequent and intense heatwaves, winters are getting warmer and

wetter, resulting in heavy downpours, increasing the risk of flooding as a consequence [See reference 23].

2.32 The Local Authority Climate Service also provides information on other climate indicators such as:

- Summer days which indicate daily maximum temperature greater than 25°C;
- Hot summer days, when the daily maximum temperature is above 30°C;
- Extreme summer days, when the daily maximum temperature is above 35°C;
- Tropical nights, when daily minimum temperature is above 20°C;
- Frost days, when daily minimum temperature is below 0°C;
- Icing days, when daily maximum temperature is below 0°C;
- Growing degree days, when the daily mean temperature is above 5.5°C. This is often used as a base temperature for many temperate crops. Below this threshold, plant growth processes slow down significantly or halt altogether;
- Heating degree days, referring to daily mean temperature below 15.5°C. This is used as an indicator of energy demand for heating; and
- Cooling Degree Days, referring to daily mean temperature greater than 22°C. This is used as an indicator for the demand for cooling.

2.33 These indicators provide further context for the impacts of climate change in Melton borough. Table 2.3 below presents a summary of the changes to the climate indicators under the different global warming levels [See reference 24].

Table 2.4: Local climate indicators (number of days the indicator is experienced)

Indicator	0.6°C GWL Baseline 1981-2000	1.5°C GWL Paris Agreement	2.0°C GWL	4.0°C GWL
Summer days	12 (11-12)	25 (22-30)	31 (26-36)	58 (52-74)
Hot summer days	1 (1-1)	4 (2 to 6)	5 (4-8)	17 (13-26)
Extreme summer days	0 (0-0)	0 (0-1)	0 (0-1)	3 (2 to 6)
Tropical nights	0 (0 to 0)	0 (0-0)	0 (0-0)	1 (0-1)
Frost days	57 (57-58)	42 34-48)	34 (29-47)	15 (12-26)
Icing days	3 (3-4)	1 (1-2)	1 (0-2)	0 (0-0)
Growing degree days	1,725 (1,722-1,727)	2,035 (1,971-2,104)	2,196 (2,073-2,270)	2,707 2,605-2,888)
Heating degree days	2,455 (2,453-2,457)	2,164 (2,131-2,205)	2,023 (1,989-2,171)	1,651 1,557-1,778)
Cooling degree days	23 (22-24)	48 (42-64)	60 (47-78)	142 (124-193)

2.34 The indicators in Table 2.3 show that greater GWL will have greater climate impacts. As global temperatures rise, we see a clear trend of increasing summer days and cooling degree days, while frost and icing days decline. The increase in growing degree days suggests that agricultural practices may need to adapt to longer growing seasons. The decrease in heating degree days coupled with an increase in cooling degree days highlights a shift in energy demands, with more reliance on cooling systems in hotter climates.

2.35 The impacts of greater GWLs are not always linear. In some cases, like Tropical nights and Extreme summer days, there is minimal impact until the 4.0°C GWL.

Summary of risks to Melton borough

2.36 The local climate projections and the context provided by the climate indicators highlight some of the potential risks to Melton borough from climate change.

Heat

2.37 Future climate projections suggest an increased risk of heat-related illnesses, hospital admissions, or death, for all residents, as a result of rising temperatures, and more frequent and intense heatwaves. The risks from warming temperatures, high daytime temperatures, and more frequent and intense heatwaves will also have health impacts for vulnerable people, in relation to Melton borough's ageing population.

2.38 High temperatures as well as more frequent and intense heatwaves also have the potential to impact the built environment in the Borough, increasing the potential disruption to and/or loss of local infrastructure and services, with potentially significant implications for economic activity, and societal equity. Examples include:

- increased risks of transport disruption from high temperatures, such as road melt and track buckling on railways;
- subsidence caused by drought;
- harm to health and wellbeing from high-temperature days and heatwaves; and
- risks to energy infrastructure such as sagging powerlines from high temperatures.

2.39 Household cooling demand is likely to increase in hotter summers as air conditioning uptake increases, and household heating demand is very likely to decrease due to warmer winters.

Water and flooding

2.40 Melton borough is already considered an area in serious water stress. More frequent and intense dry periods can threaten water supplies and high temperatures can increase water demand, with significant impacts on water resources. Water availability is critical to the agricultural, food and drink economy of the area.

2.41 Future climate projections indicate an increase in the risk of flooding, erosion, subsidence, and extreme weather events, leading to disruption or loss of local infrastructure and services, with potentially significant implications for economic activity, societal equity, health and wellbeing. Examples of impacts include:

- transport disruption from flooding events;
- disruption to telecommunications, ICT and energy networks, from low temperatures, high winds and lightning.
- impacts on building fabric from dampness brought on by flooding and intense rain;
- structural damage due to high winds;
- harm to health and wellbeing from flooding, storm, and heavy rainfall extreme weather events;
- impacts on public services and their buildings and infrastructure;
- impacts to water infrastructure, including pipelines and treatment plants, from increases in the frequency and intensity of surface water flooding; and
- economic impacts from repair costs.

Natural environment

2.42 The changing climate will also have impacts to the natural environment. There is considerable evidence regarding the current and potential future impacts of climate change on biodiversity [See reference 25]. However, assessing the balance of risks and benefits for species is challenging, as these changes will vary significantly depending on the species, broader land use changes, and their responses to climate change, including potential range shifts. The risk of local or more widespread extinctions is considerable, leading to a high assessment of both current and future risks across the UK. Additionally, an increase in pests, pathogens, and invasive non-native species is already anticipated due to warmer winters.

2.43 Changes in the future climate will also have impacts on agricultural productivity as a result of:

- An increase in growing seasons, suggesting changes in agricultural practices. Agricultural land is also an important contributor to the local landscape character, and therefore changes to agricultural land could directly affect it.
- More extreme weather, including extreme heat, flooding and drought, that can impact plant growth and animal welfare;
- A greater number of pests, pathogens and invasive non-native species, and;
- Wetter or drier conditions impacting soil health and as a result impact agricultural productivity.
- There could however be some opportunities for new or alternative species and longer growing seasons (if water is not a limiting factor).

2.44 The future impacts of climate change in the UK and overseas could pose risks to wider food safety, costs and security. Whilst many of the impacts described will be experienced by everyone, they will disproportionately affect the most disadvantaged, further increasing the social, economic and health inequities. For example dispersed rural communities [See reference 26] are recognised as

experiencing greater flood disadvantage. An aging population is also less resilient and able to adapt.

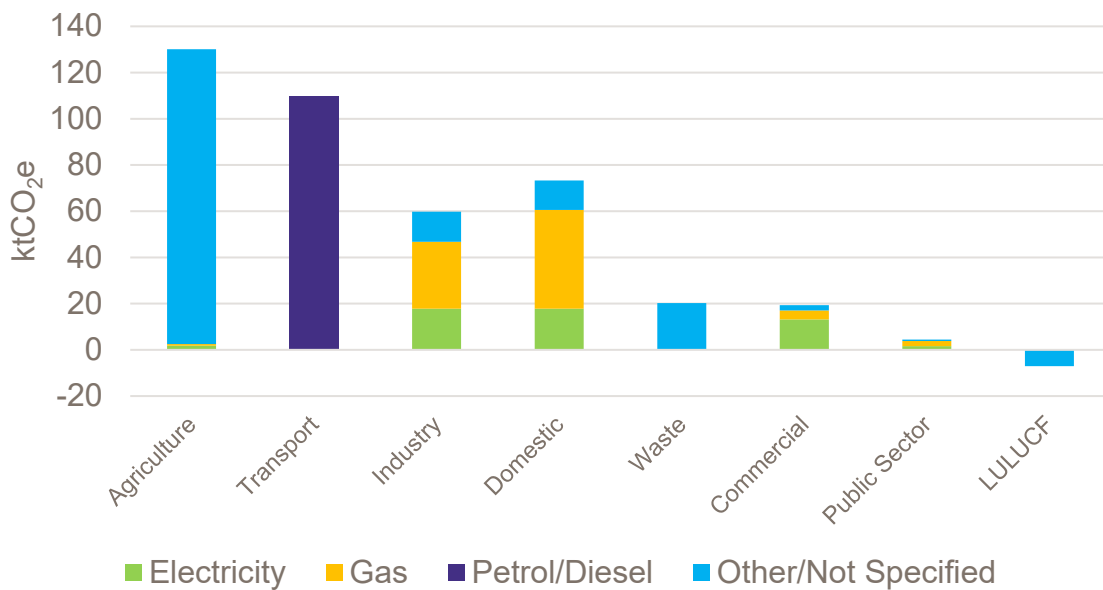
Emissions Profile

Baseline greenhouse gas (GHG) emissions

2.45 This section describes the current greenhouse gas (GHG) emissions baseline for Melton borough. It shows where the major sources of emissions are coming from and highlights the types of strategic changes that will be needed in order to decarbonise the Borough. This is followed by an overview of trends within the sectors.

2.46 GHG emissions for the entire Borough are published annually by DESNZ, two years in arrears [See reference 27]. A summary of emissions by sector and fuel type as of 2022 (the most recent year for which statistics are available at the time of writing) is shown in Figure 2.1 below and further details are provided in **Error! Reference source not found.**4.

Figure 2.1: GHG emissions in 2022 (ktCO₂e). Source: DESNZ



Note: LULUCF stands for ‘Land Use, Land Use Change and Forestry’.

Table 2.5: GHG emissions in 2022 (ktCO₂e). Source: DESNZ

Sector	Emissions (ktCO ₂ e)	% of total in 2022
Industry Electricity	17.8	4.3%
Industry Gas	29.0	7.1%
Industry 'Other'	13.0	3.2%
Industry Total	59.8	14.6%
Commercial Electricity	13.2	3.2%
Commercial Gas	3.9	1.0%
Commercial 'Other'	2.2	0.5%
Commercial Total	19.3	4.7%
Public Sector Electricity	1.6	0.4%

Sector	Emissions (ktCO ₂ e)	% of total in 2022
Public Sector Gas	2.2	0.5%
Public Sector 'Other'	0.6	0.2%
Public Sector Total	4.4	1.1%
Domestic Electricity	17.8	4.3%
Domestic Gas	42.7	10.4%
Domestic 'Other'	12.8	3.1%
Domestic Total	73.3	17.9%
Road Transport (A roads)	37.7	9.2%
Road Transport (Minor roads)	66.2	16.1%
Diesel Railways	3.8	0.9%
Transport 'Other'	2.1	0.5%
Transport Total	109.7	26.8%
Net Emissions: Forestry	-13.9	-3.4%
Net Emissions: Cropland mineral soils under LUC	19.9	4.9%
Net Emissions: Grassland mineral soils under LUC	-15.7	-3.8%
Net Emissions: Settlements	2.4	0.6%
Net Emissions: Other LULUCF	0.3	0.1%
LULUCF Net Emissions	-7.1	-1.7%
Agriculture Electricity	1.8	0.4%
Agriculture Gas	0.7	0.2%
Agriculture 'Other'	16.4	4.0%
Agriculture Livestock	76.1	18.6%
Agriculture Soils	35.2	8.6%

Sector	Emissions (ktCO ₂ e)	% of total in 2022
Agriculture Total	130.1	31.8%
Landfill	16.1	3.9%
Waste 'Other'	4.1	1.0%
Waste Total	20.2	4.9%
Grand Total	409.8	100.0%

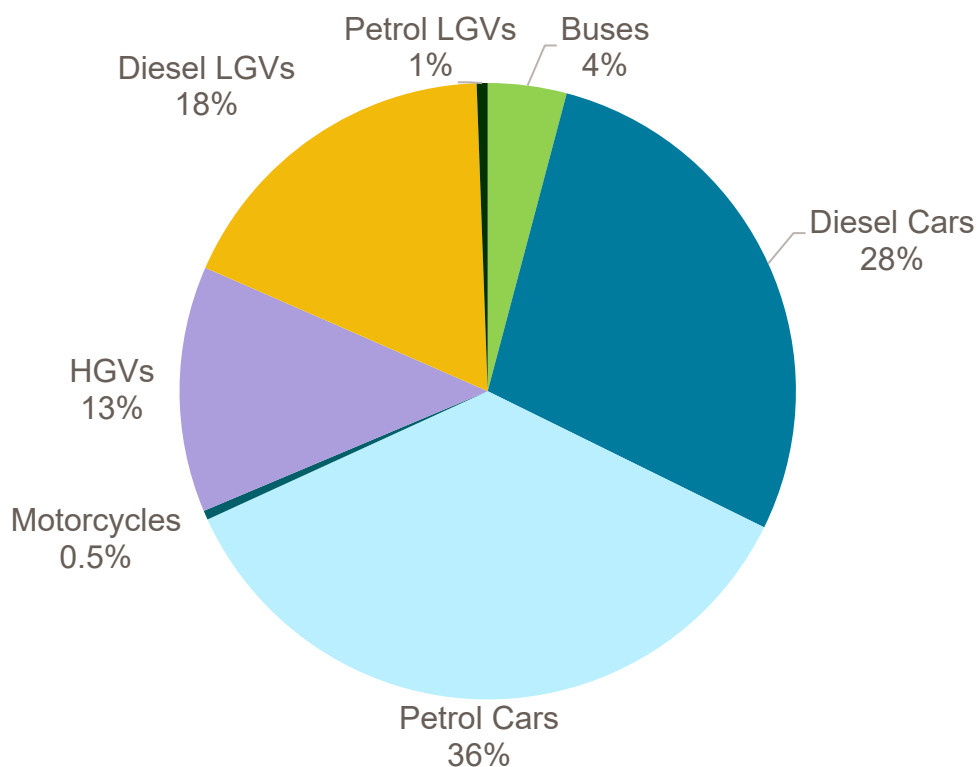
2.47 The sector that contributes to the highest emissions overall is agriculture, which represents around 32% of the total. Within this sector, the majority of emissions are associated with livestock manure and enteric fermentation (i.e. flatulence). The remainder are mostly associated with urea and fertiliser application and liming of agricultural soils, with a small contribution from fossil fuels used in agricultural processes and machinery. Agricultural greenhouse gas emissions arise from nitrous oxide, methane and carbon dioxide [See reference 28]. There are a number of limitations in agricultural emissions data collection, which adds to the complexity in understanding how well local farming practices are reflected in the data. Reducing agricultural emissions is more difficult than cutting CO₂, because they result from complex and imperfectly understood natural soil and animal microbial processes, a changing climate and the limitations of measurement. In every farming system, whether organic or conventional, a reliable supply of nitrogen is necessary for the growth of crops and pasture, and it is an unavoidable consequence of soil processes that a small amount of nitrogen in an agricultural system will be emitted as nitrous oxide. Likewise, methane is produced by bacteria as cattle and sheep break down the cellulose in their diet, producing milk and meat for human consumption

2.48 Transport is the next most significant source of emissions, accounting for around 27% of the total. Most of this is associated with road transport. The DESNZ GHG emissions statistics are disaggregated by road type, suggesting that emissions from minor roads are higher than those from A-roads (there are no motorways in the Borough, suggesting that transport emissions reflect local journeys). DESNZ also publishes separate statistics on road transport fuel consumption [See reference 29] which can be used to disaggregate these emissions by vehicle type. The figures illustrated in Figure 2.2 suggest that the

majority of road transport emissions (64%) in Melton borough are from petrol or diesel cars, with 18% from light goods vehicles (LGVs) and 13% from heavy goods vehicles (HGVs). Buses and motorcycles together make up less than 5% of the total emissions from road transport.

2.49 Local area transport emissions come from the way that people travel and how goods are transported within and through the Borough. They are one of the biggest single sources of local emissions and unlike emissions from local energy use, they have not fallen over time, but remained relatively constant. This is because although improved efficiency and some electric and hybrid vehicles have helped to lower emissions per vehicle these reductions have been offset by more vehicles and additional travel on local roads. This is in line with population growth and economic changes, including the rise of online deliveries.

Figure 2.2: Road transport emissions in Melton borough in 2022, split by vehicle type. Source: DESNZ



2.50 There are two railway lines which cross Melton borough. Melton Mowbray has a railway station on the Birmingham to Stansted Airport line, providing regular

access to Leicester. The Borough also has Bottesford station on the Nottingham to Skegness line, with a good connection to Grantham. They carry freight transport as well as passenger lines. Diesel train emissions contributed approximately 4% of transport emissions in Melton borough 2005-2022, based on DESNZ data [See reference 30].

2.51 Domestic emissions accounted for 17.9% of GHG emissions. Around two thirds of domestic emissions are associated with the provision of heat (e.g. space heating, hot water and cooking), and the remaining third is associated with electricity (e.g. lighting, ventilation other electronic appliances). Compared with some other local authorities, Melton borough has a relatively high proportion of buildings that are not connected to the gas grid which use other fuels such as oil to provide heating. In comparison **commercial emissions accounted for 4.7% of GHG emissions and public sector buildings account for around 1% of GHG emissions.**

2.52 Almost 15% of GHG emissions in Melton borough come from the industrial sector. A significant proportion of these emissions are associated with manufacturing, based in Melton Mowbray. The main sources of emissions are likely to be from energy use in processing and manufacturing plants, alongside any leakages of gases from refrigeration equipment.

2.53 Waste (including wastewater treatment) accounts for around 5% of GHG emissions in Melton borough (in 2022), the majority of which is due to landfill. MBC has previously identified [See reference 31] that there is a significant amount of food waste sent to landfill even though it is potentially suitable for home composting. Landfill emits methane when it decomposes in anaerobic conditions. As methane is a potent GHG, it has a disproportionately high impact on waste sector emissions. Although household recycling rates in Melton borough have decreased in since 2015, they remain above the average for England. However residual household waste is above the average for England (483kg per household, compared to 465kg) [See reference 32].

2.54 LULUCF currently acts as an overall carbon sink in Melton borough. The LULUCF sector consists of GHG emissions and removals (also known as carbon sequestration) occurring in forests, grassland, cropland, peatland and settlements.

Emissions from this sector come from activities like deforestation, ploughing grassland to create cropland, or draining peat bogs. *Removals* occur when CO₂ is captured from the atmosphere and stored in the form of biomass, soils and wood products. In Melton borough in 2022, more carbon was sequestered by forest land and grassland than was released by cropland. this had the effect of reducing total emissions by around 7 ktCO₂e.

2.55 Further information on the main advantages, limitations and caveats associated with the GHG emissions data presented above is presented in Appendix B. These issues include the time lag between the data and reporting, the inclusion of three greenhouse gases, in comparison to the national inventory six; the approach to data collection and the impact of Covid-19.

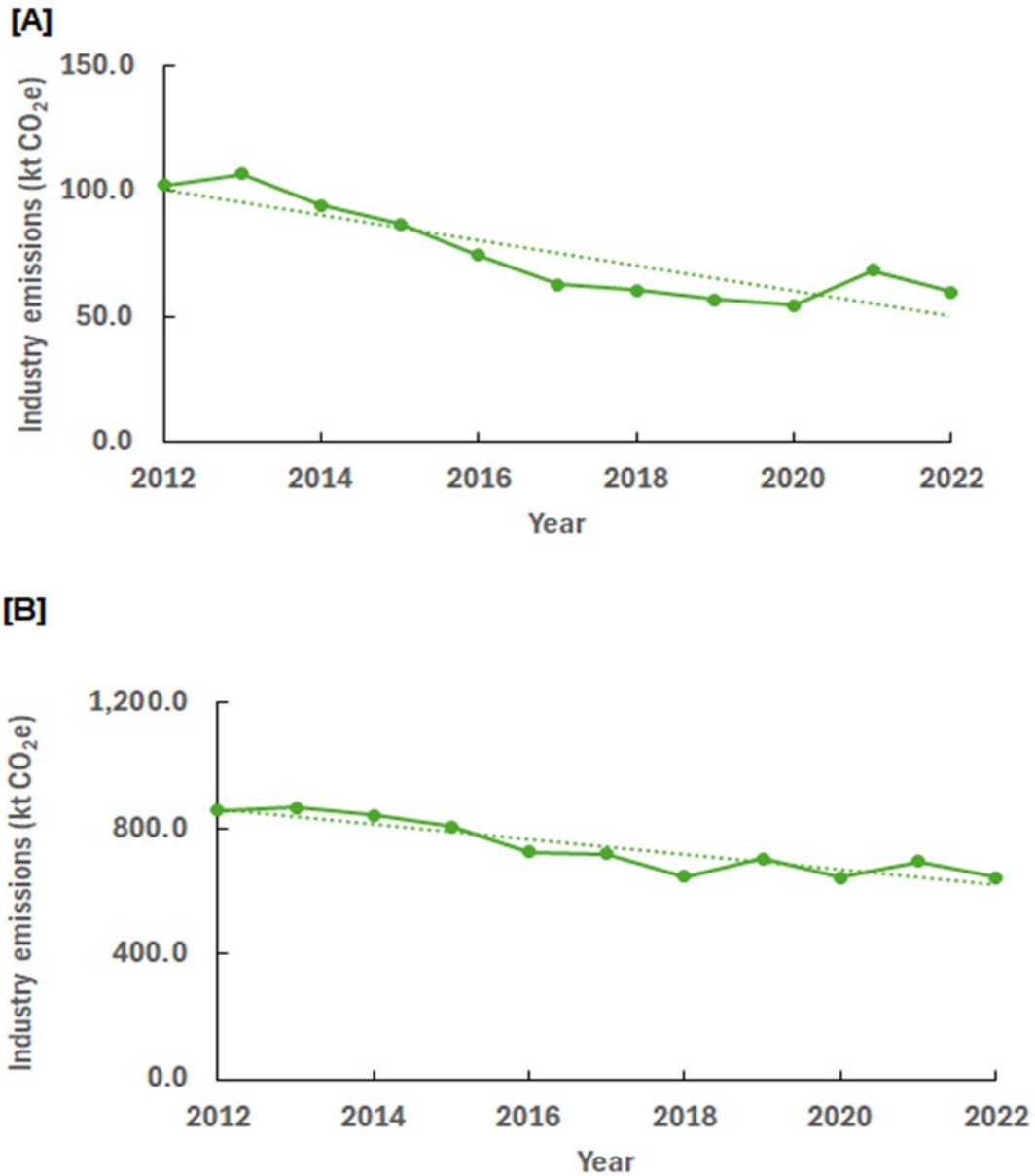
Trends in GHG emissions from sectors

2.56 This section provides an overview of trends in emissions from each sector for Melton borough and a comparison with Leicestershire as a whole.

Industry

2.57 The industry sector includes emissions from fuel combustion at industrial sites and in industrial machinery, emissions resulting from industrial processes and emissions of fluorinated gases from industrial uses such as in refrigeration systems. Industry emissions in Melton borough show a clear downward trend, mirroring the pattern in Leicestershire, largely due to a reduction in emissions from industry electricity. Both areas experienced a steep decline in emissions up to 2017, where emissions in Melton borough began to plateau while emissions in Leicestershire followed a fluctuating trend in the following years. Both areas experienced an increase in emissions in 2021 followed by a steep decline which can be attributed to an uptake in emissions following the Covid 19 restrictions.

Figure 2.3: Melton borough [A] and Leicestershire County [B] industry territorial greenhouse gas emission estimates

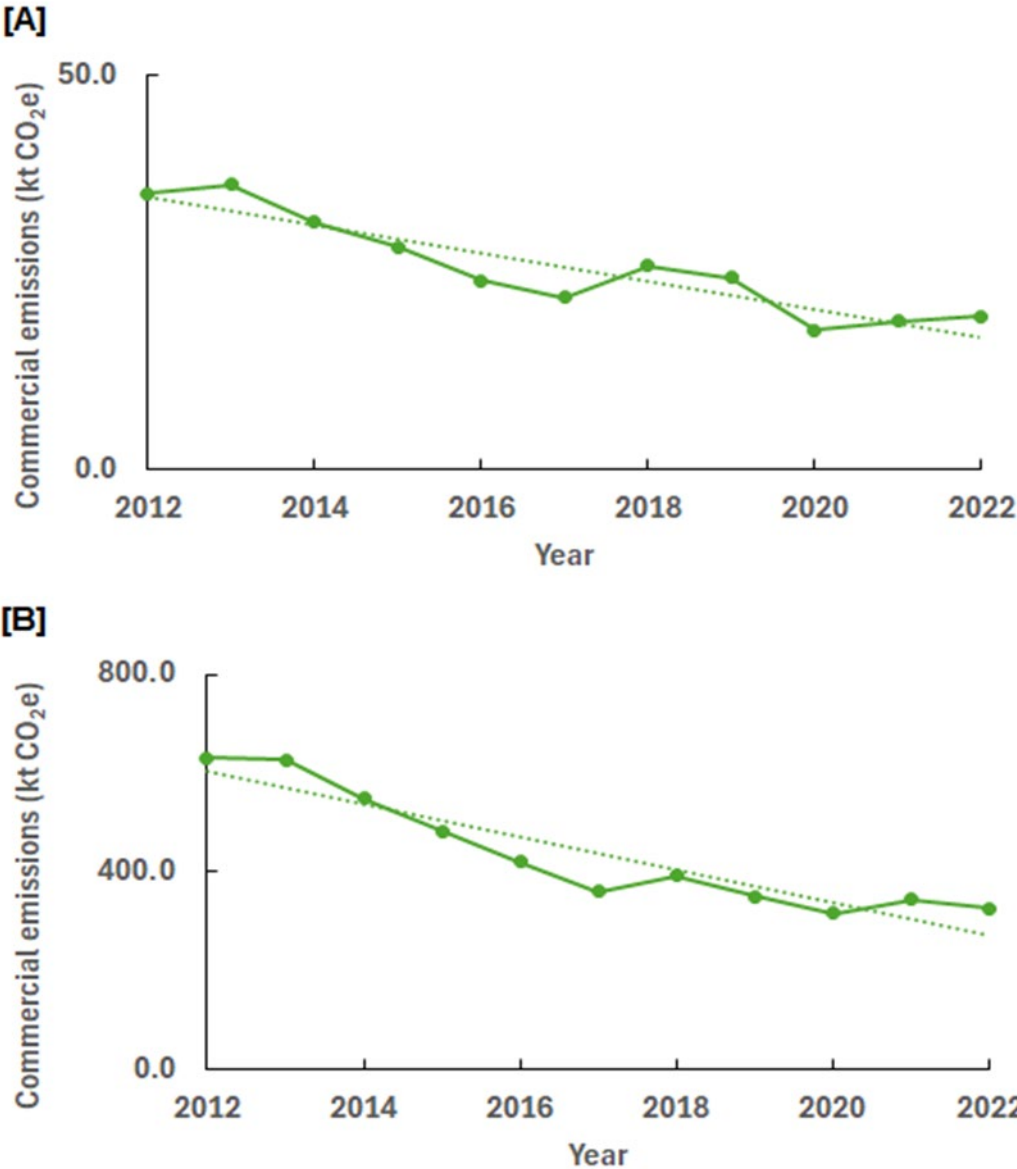


Commercial

2.58 Commercial emissions predominantly arise from the use of electricity and gas by businesses. The trend in Melton borough's Commercial sector shows a

consistent decrease, with slight increases in emissions during 2018 and 2019, followed by a sharp dip in 2020 most likely due to Covid-19 restrictions. Leicestershire's commercial emissions show a very similar pattern of fluctuation and overall decline.

Figure 2.4: Melton borough [A] and Leicestershire County [B] commercial territorial greenhouse gas emission estimates

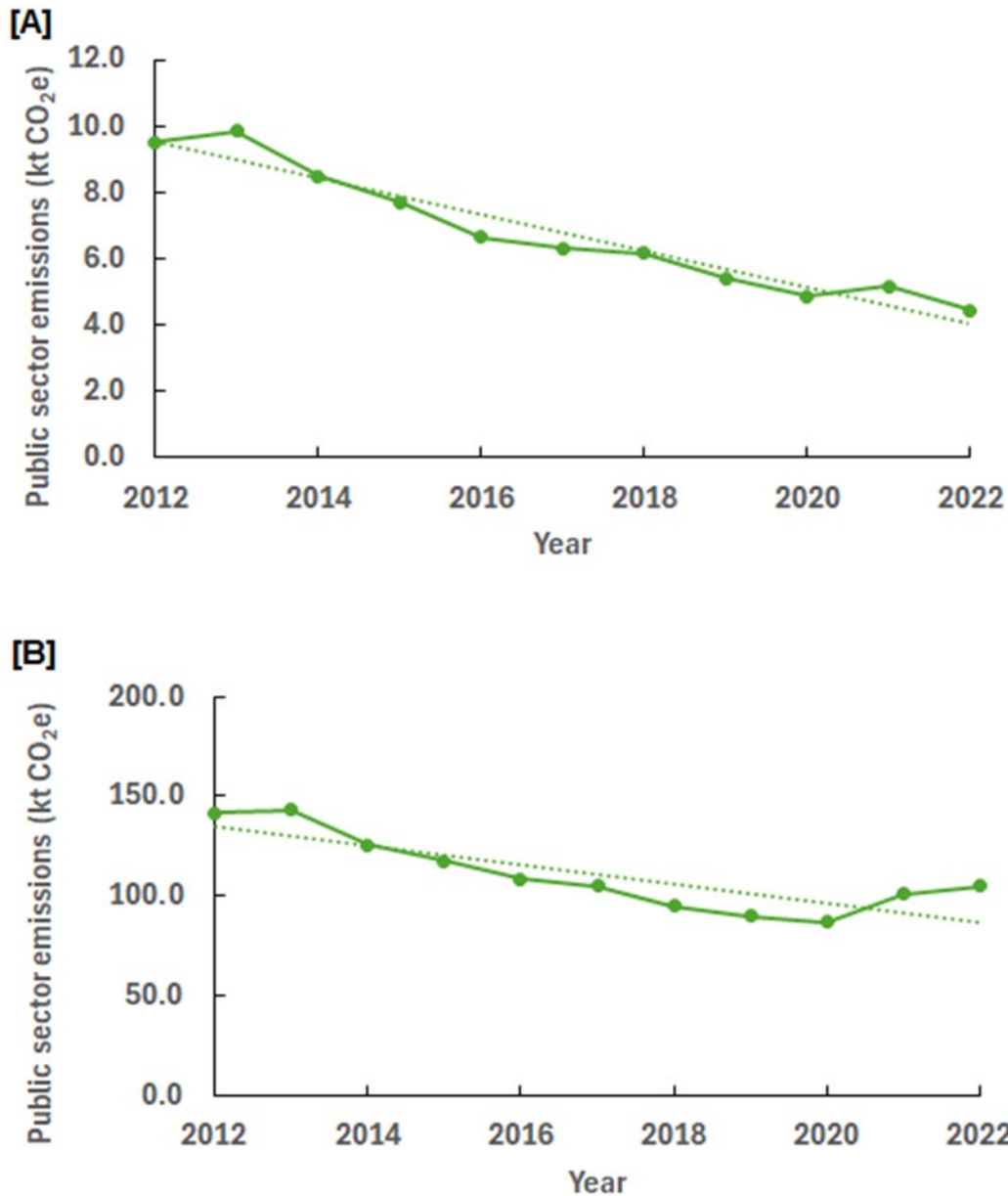


Public Sector

2.59 Public sector emissions typically encompass those from government buildings, public transportation, and other services provided by local authorities. This includes emissions from energy use in public facilities and vehicles. Melton borough does not include significant public sector resources, local emissions here will reflect local council offices, schools and the hospital.

2.60 Emissions from the public sector in Melton borough have steadily decreased, predominantly due to a fall in emissions from public sector gas consumption and a reduction in emissions resulting from electricity use in this sector. This is due to the national decrease in the use of coal for electricity generation and increased use of renewables. Leicestershire follows a similar trend, though with a less steep decline and a noticeable increase in 2021 and 2022. In contrast, Melton borough saw a brief increase after Covid in 2021 but managed to bring emissions down again in 2022.

Figure 2.5: Melton borough [A] and Leicestershire County [B] public sector territorial greenhouse gas emission estimates

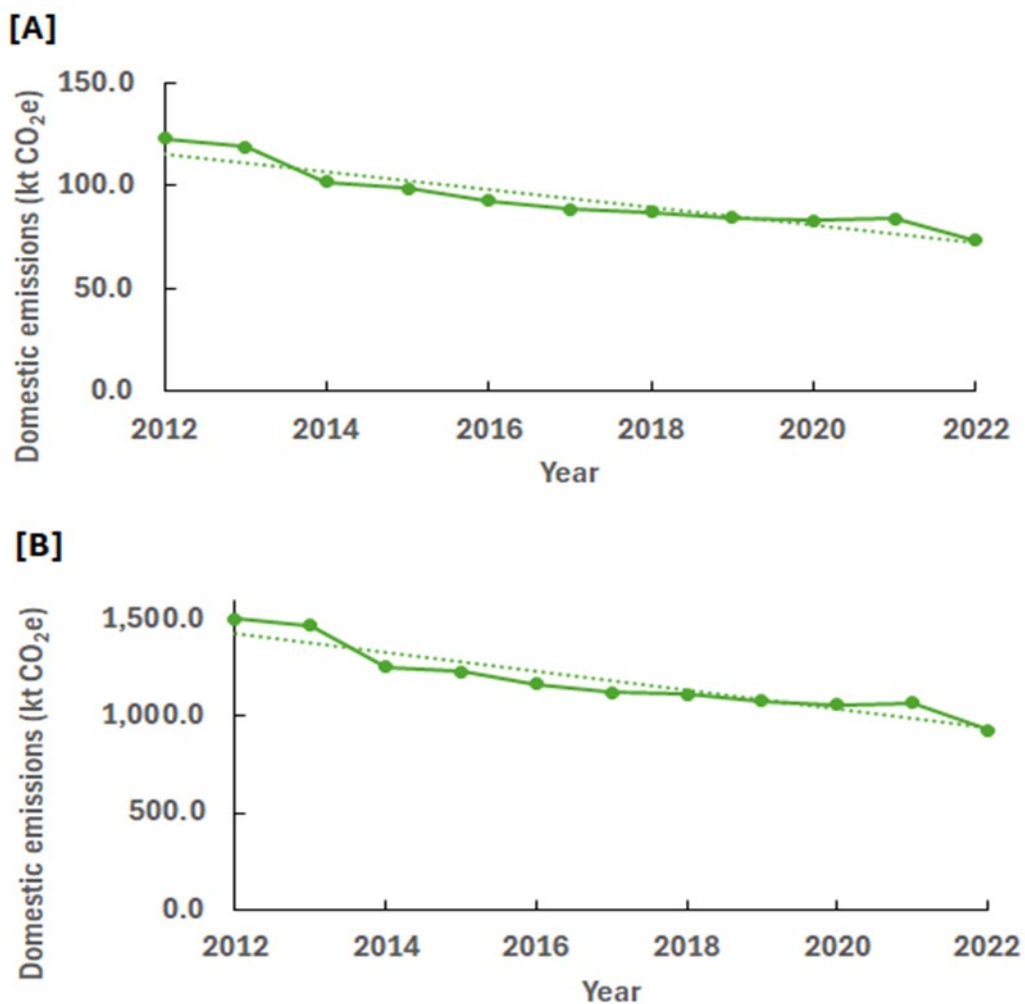


Domestic

2.61 Domestic emissions in Melton borough have shown a steady decline, similar to the trend in Leicestershire. The main driver of this decrease is likely to be the warmer temperatures resulting in less energy being used to heat homes. Higher

energy prices may also be a factor in reducing demand for fuels. Both areas show a slight rise around 2021, likely due to more people staying at home during the pandemic. To continue reducing emissions, it's crucial to improve energy efficiency, though currently, only a third of homes in Melton borough meet this standard. Retrofitting will be key, but the process is costly and complex, presenting challenges to residents.

Figure 2.6: Melton borough [A] and Leicestershire County [B] domestic sector territorial greenhouse gas emission estimates



Transport

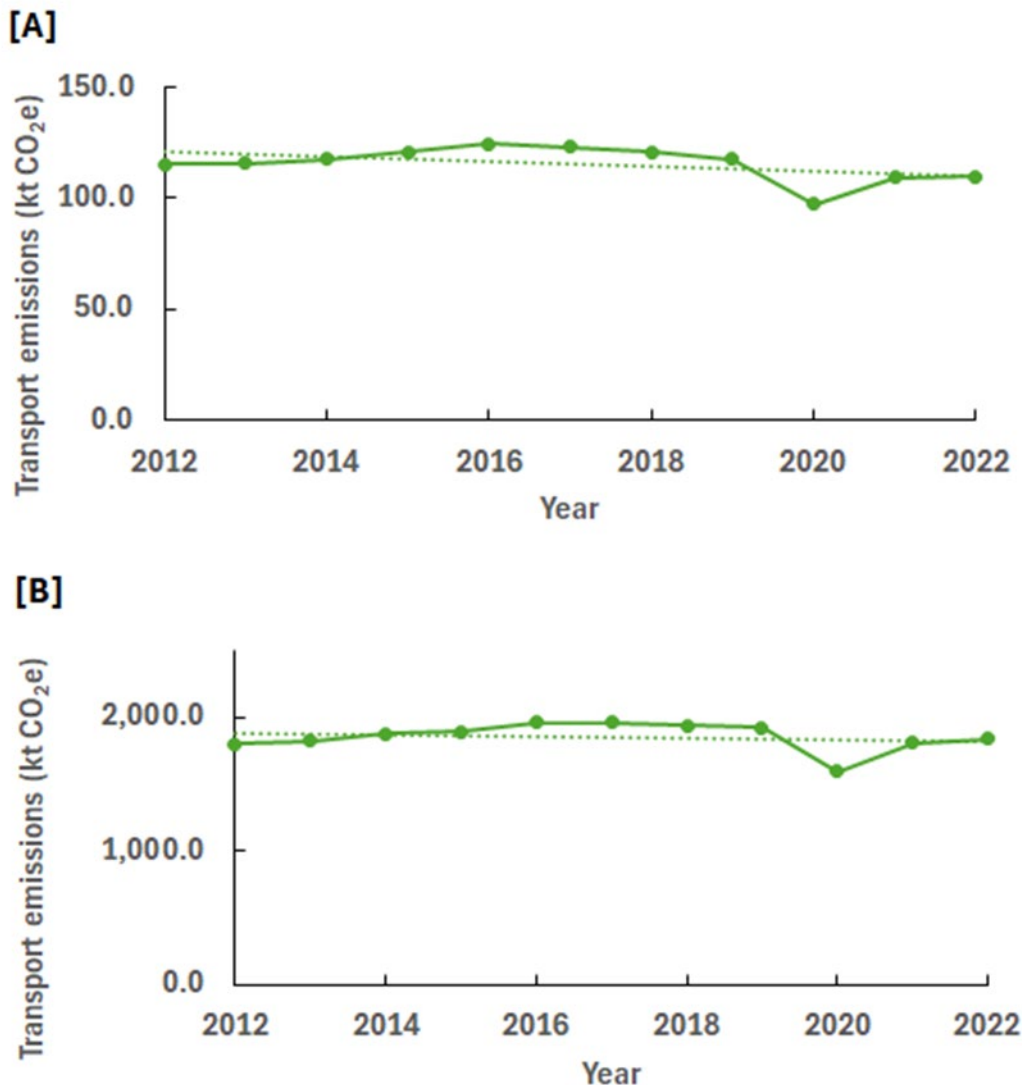
2.62 The domestic transport sector consists of emissions from road vehicles, domestic aviation and shipping (including military), fishing vessels, and railways. It does not include emissions from international aviation or shipping.

2.63 Transport emissions in Melton borough have remained fairly stable with minor fluctuations, including a dip in 2020 likely due to Covid. This trend is similar in Leicestershire, where transport remains a significant source of emissions with little change over time. Data from the Department of Transport [\[See reference 33\]](#) indicates that there has been an increase of over 5,500 vehicles registered in the borough, in the last 10 years. Around 60%, just over 3,300, were private cars and 26% were light goods vehicles (e.g., vans), with just over 1,400 additional vehicles. As such, vehicle growth is increasing at a faster rate than population growth.

2.64 Electric vehicles registered in the Borough have also increased from around 10 in 2024 to over 1000 in 2024, which only represents around 2.5% of all locally registered vehicles (the average for England is over 4%). The Borough also has poor EV infrastructure. In the second quarter of 2024, the number of publicly available electric vehicle charging devices at all speeds per 100,000 population in Melton was 22.9, which is significantly below the East Midland Local Authority mean of 61.2 [\[See reference 34\]](#).

2.65 Transport poses a major challenge for Melton borough, a sparsely populated rural area. Reducing emissions will require cutting travel demand, improving public transport, and encouraging walking and cycling, while also recognising the need for zero-emission vehicles and robust charging infrastructure. In addition population growth further increases total vehicle numbers. Longer term data will need to be analysed to understand behaviour changes following the pandemic.

Figure 2.7: Melton borough [A] and Leicestershire County [B] transport sector territorial greenhouse gas emission estimates



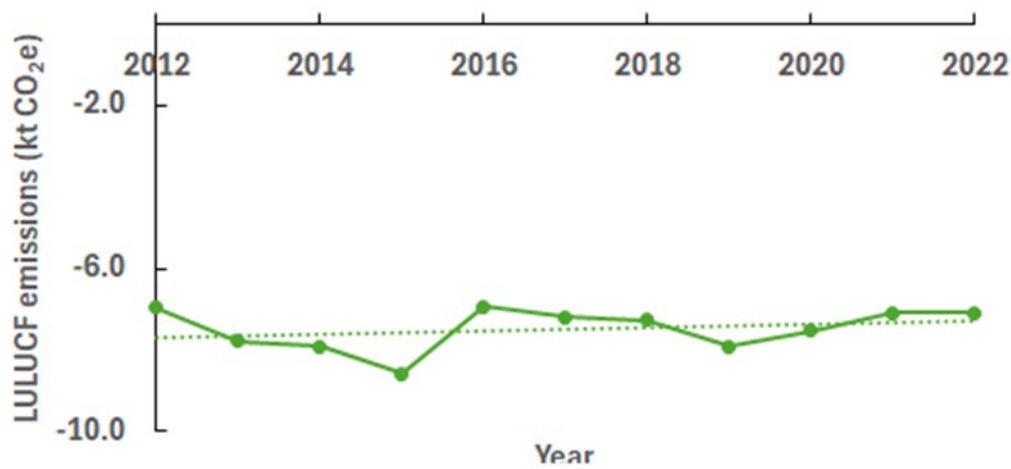
Land use, land use change and forestry (LULUCF)

2.66 The LULUCF sector consists of emissions and removals from forests, cropland, grassland, peatland, and settlements. These emissions in Melton borough show some minor fluctuations staying between -7 ktCO₂e and -9 ktCO₂e between 2012 and 2022 showing a stable trend over the years. This is similar to Leicestershire, where LULUCF has consistently contributed to carbon sequestration, though with some variability particularly in recent years where it

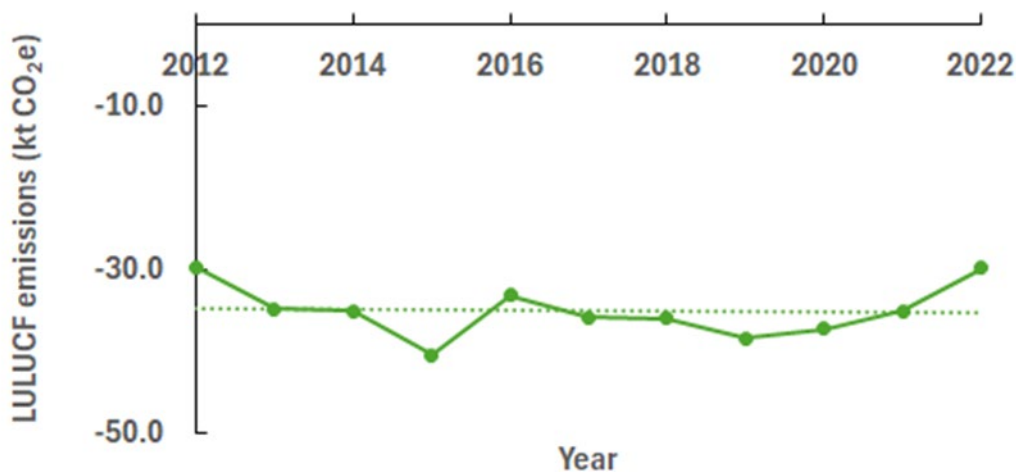
shows an upward trend. In rural areas like Melton borough, maintaining and enhancing green spaces, woodlands, and sustainable land-use practices are crucial for balancing emissions, as they play a significant role in carbon capture and mitigating overall emissions.

Figure 2.8: Melton borough [A] and Leicestershire County [B] LULUCF sector territorial greenhouse gas emission

[A]



[B]

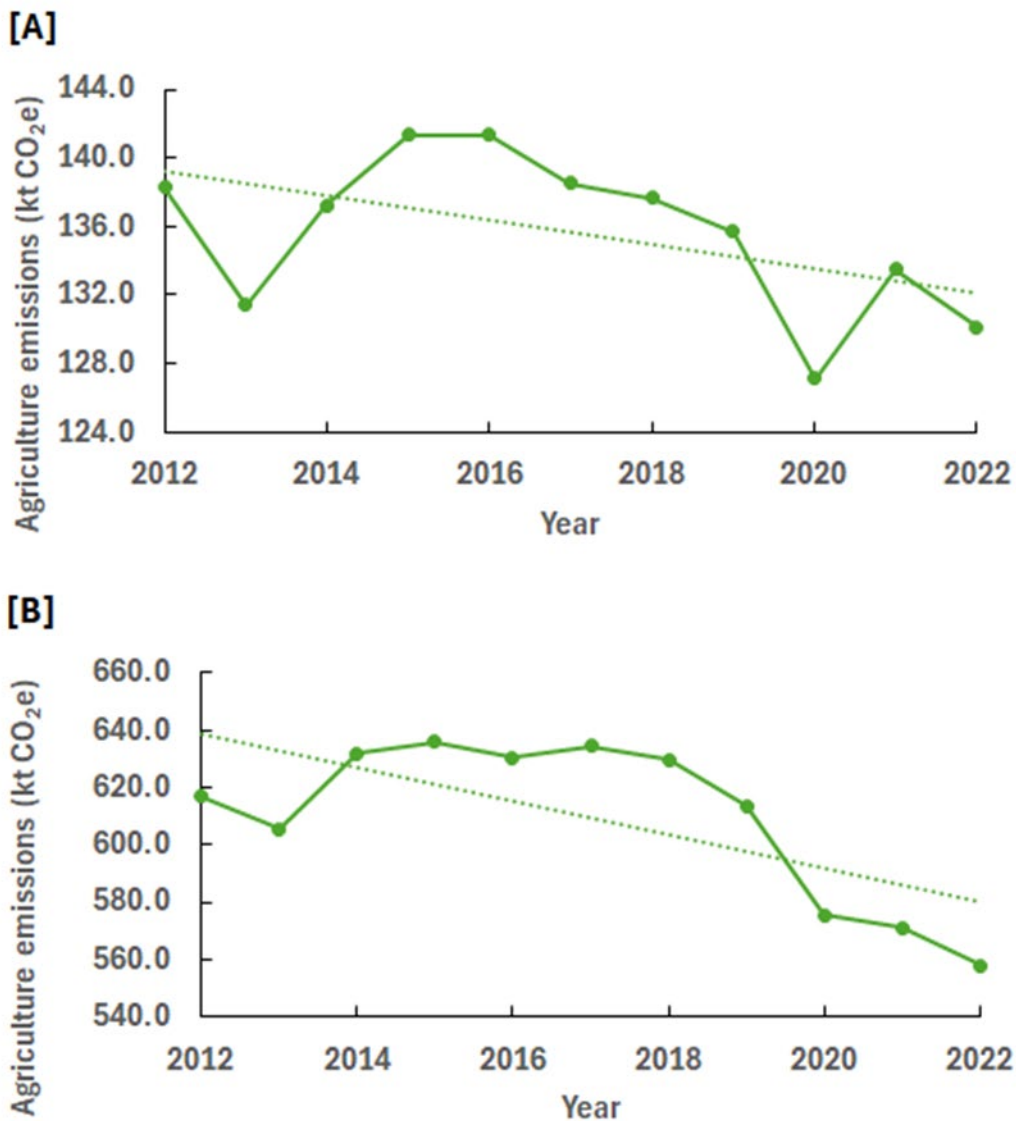


Agriculture

2.67 The agriculture sector consists of emissions from livestock, agricultural soils, stationary combustion sources and off-road machinery.

2.68 Agriculture is the largest source of greenhouse emissions in Melton borough, showing a downward trend since 2015, with a significant dip in 2020 likely due to the pandemic. Leicestershire follows a similar pattern, though with an even steeper reduction. As a rural area, Melton borough faces the challenge of balancing land use to maintain food production, protect nature, generate energy, and store carbon. However, agricultural emissions are hard to control locally, as they are driven by global markets, national policies, regulations, and consumer demand.

Figure 2.9: Melton borough [A] and Leicestershire County [B] agriculture sector territorial greenhouse gas emission

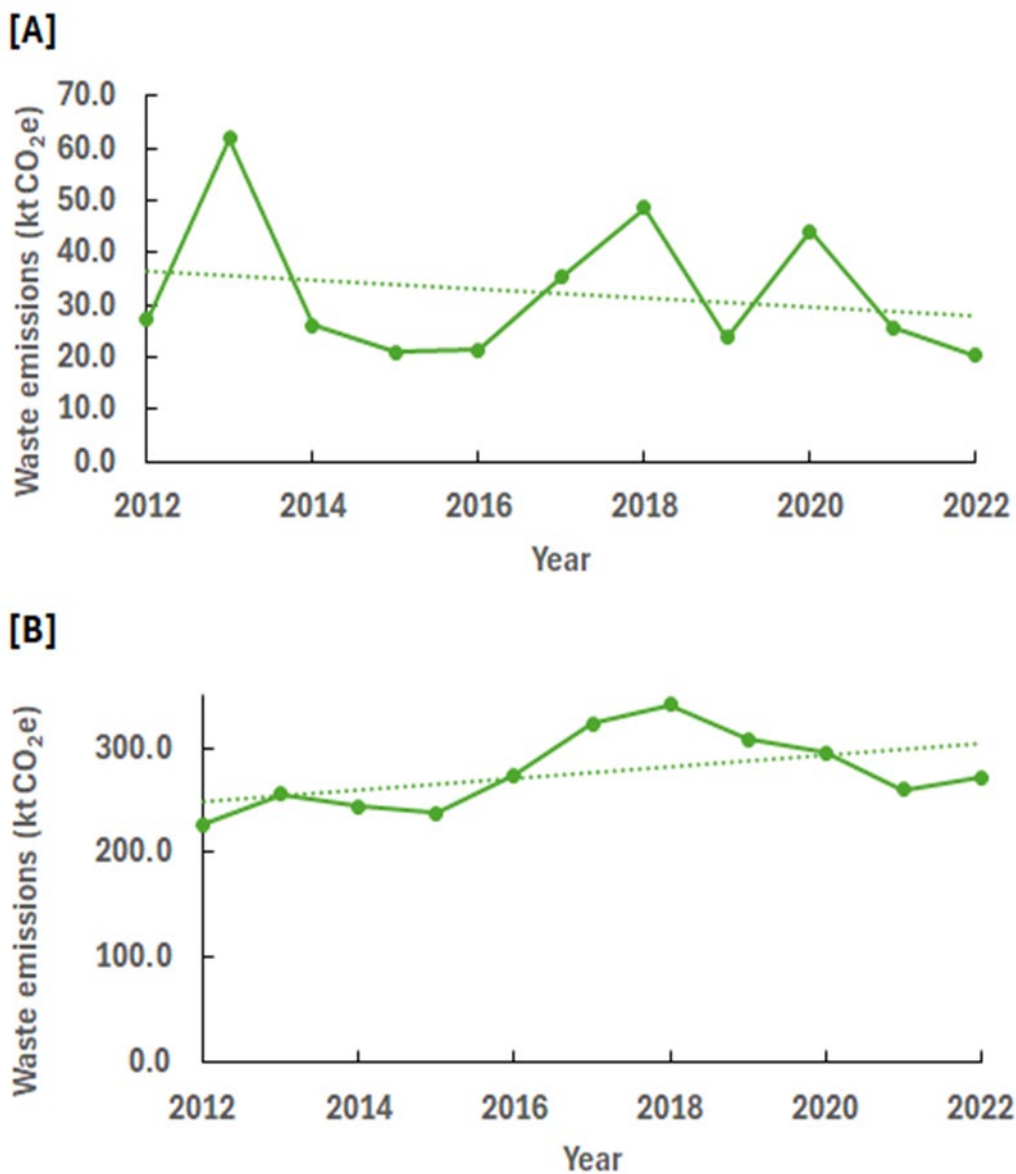


Waste

2.69 Waste emissions in Melton borough have fluctuated over the years, lacking a consistent pattern. In contrast, Leicestershire has shown a slight upward trend in waste emissions. A key step toward reducing emissions in Melton borough is to divert waste from landfill and move towards more sustainable waste management

practices, encouraging home composting, increasing recycling rates and promoting circular economy practices. Emissions from wastewater treatment, sewage sludge decomposition, composting and anaerobic digestion [See reference 35] are also reflected in this figure. Reducing water use contributes towards reducing these emissions (see Document D).

Figure 2.10: Melton borough [A] and Leicestershire County [B] waste sector territorial greenhouse gas emission



GHG mitigation measures

2.70 This section presents a high-level summary of the key changes that are likely to be needed in different sectors for the UK as a whole to reach net zero, based on advice reports from the Climate Change Committee [See reference 36]. Where relevant, this section also references other national and local policies and strategies, notably the UK Net Zero Strategy (2021) [See reference 37], and Powering Up Britain: The Net Zero Growth Plan (2023) [See reference 38]. The chapter then explores how emissions in Melton Borough would change if each sector followed the trajectory suggested by the CCC, highlighting key challenges for Melton borough. This will be used to inform the recommendations for how the Melton Local Plan can support the journey to a net zero future.

Agriculture

2.71 There is a limited role for the local plan to influence agricultural emissions. As explained in the Council's Climate Change Strategy, the fact that agricultural emissions are the largest source of emissions in Melton borough creates a unique challenge. Emissions from agriculture have remained largely unchanged nationally over recent years despite various initiatives aimed at reducing the sector's environmental impact. The CCC consider it a 'hard to reduce' sector, noting that, 'Based on current understanding and knowledge, it is not possible to reduce agricultural non-CO₂ emissions to zero due to the biological and chemical processes inherent in crop and livestock production.'

2.72 The CCC's sector summary on Agriculture describes the key changes that need to occur for the sector to reach net zero by 2050 [See reference 39]. Some GHG reductions can be achieved by efficiency measures that allow the same amount of food to be produced using less inputs (land, water, fertiliser, etc.). However, reducing non-CO₂ emissions will require a wider societal shift away from meat and dairy products, towards more plant-based diets. It will also require a whole-system approach to land use that balances the need for food production, housing, energy, and other economic/social uses with the need for carbon sequestration, biodiversity and environmental services. More localised strategies

to reduce emissions include regenerative agricultural practices such as no-till farming, cover cropping and agroforestry.

2.73 With these types of measures, the CCC anticipates that emissions from agriculture could decrease by around one third by 2050. The remaining emissions would need to be compensated for via a combination of carbon sequestration through measures such as tree planting, and greenhouse gas removal (GGR) technologies such as direct air carbon capture and storage (DACCS). The latter are not yet commercially available; as highlighted in the UK Net Zero Strategy. Further research and development will be necessary to bring costs down, and to build up the relevant skills, supply chains and infrastructure.

2.74 For these reasons, agriculture is a sector where it will be particularly difficult to achieve deep decarbonisation based on localised measures; they will need to be backed up by technological advances and changes in consumer behaviour at a national level. This means that, compared with other areas where agricultural emissions are lower, Melton borough would be expected to decarbonise more slowly. By 2050, a higher proportion (%) of baseline emissions would still remain, and would have to be balanced out with GGRs. Opportunities for the local plan to support the agricultural sector progress towards net zero include:

- Supporting farm production and income diversification as an important farm risk management strategy in less predictable climatic conditions. The local plan can be supportive of rural economic development to help achieve this. This can include to host or generate renewable energy (on large buildings and unproductive land,) diversification projects such as small scale tourist accommodation and accessing new markets in carbon offsetting by managing less productive land for carbon storage.
- Support the construction of new buildings, for better energy efficiency, emissions reductions, and resilience.
- Supports high speed reliable rural broadband and mobile network connections, to enable the farming sector to access these. There is a growing trend for digital technologies within farming to increase productivity and efficiencies, which can help reduce GHG emissions.
- Support the use of bio-based materials in construction, such as hemp fibre and sheep's wool insulation, that can lock up carbon and reduce building

emissions. Support new emerging materials that can be made from food production waste products.

Transport

2.75 The Road to Zero (2018) sets out the current UK strategy for decarbonising the transport sector [See reference 40]. It indicates that reducing emissions from transport will primarily involve (1) behavioural measures to reduce reliance on private vehicles in favour of walking, cycling and public transport (this is referred to as ‘modal shift’) and then (2) replacing all remaining vehicles with ones that use zero emission fuels such as renewable electricity, biofuel or green hydrogen. Investment in active travel, public transport and other supporting infrastructure will be a key prerequisite to achieving these changes.

2.76 Modal shift can be facilitated by planning neighbourhoods that include a broader mix of facilities like shops, GP surgeries, and schools, and making sure that the public realm is safe and attractive to pedestrians and cyclists. This includes not only the public realm in new developments, but also reshaping the existing public realm over time, to make sustainable travel safer and easier. Nonetheless, compared to more urban areas, behavioural changes are often more challenging in rural boroughs like Melton, where settlements are more dispersed and there is less reliable public transport. This is acknowledged in the National Planning Policy Framework (NPPF), paragraph 109. Therefore, in Melton borough, there is likely to be more reliance on reducing emissions by switching to electric vehicles (EVs).

2.77 Most types of vehicles are expected to be replaced with EVs. These are already available for cars, vans and buses. These vehicles account for the majority of emissions from road transport in Melton borough. However, EVs reduce tailpipe emissions, however, they contribute to air pollution, congestion and present risk to road users as for petrol and diesel vehicles. In addition, the environmental impact of their embodied carbon and raw materials are further considerations.

2.78 Around 13% of road transport emissions (4% of total emissions in the Borough) are from heavy goods vehicles (HGVs). According to the CCC, these are

harder to decarbonise because their weight and patterns of use make it difficult to incorporate batteries of sufficient range without taking up too much space in the vehicle. Those vehicles could potentially run on biofuels or green hydrogen, although currently there are supply chain and other infrastructure constraints that would need to be overcome before they become widely available [See reference 41]. Otherwise, in 2050, some residual emissions from HGVs would still be expected to occur.

2.79 Emissions reduction needs to be set within the context of the urban and rural differences within Melton borough. In Melton Mowbray there is greatest scope for modal shift, due to the levels of public transport and local services. There are four rural centres which have some service provision and facilities and more limited public transport. Beyond this, there are 66 rural settlements with major car dependency. These variations mean that the policy solutions to reduce GHG emissions need to reflect the local context. For example, the shift to EVs will be more prominent in the rural areas. The need to travel can also be reduced through enhanced digital connectivity, supporting access to services, training and employment. Electrification of the rail network will also support emissions reductions over time, supported by increased renewable energy generation.

Domestic, commercial and public sector buildings

2.80 The Heat and Buildings Strategy (2021) set out how the Government plans to address emissions from domestic and non-domestic buildings, particularly those associated with space heating and hot water, which are usually supplied with fossil fuels and comprise the majority of building-related emissions [See reference 42]. Similar to transport, the strategic changes needed to decarbonise this sector are: (1) reducing demand for energy and (2) switching away from the use of fossil fuels in favour of renewable energy sources. Energy use in domestic, commercial and public sector buildings is influenced by different factors, however a number of issues are cross cutting.

2.81 For buildings, what this means is large-scale uptake of retrofitting measures that improve the efficiency of the building fabric (such as walls, roofs, and windows) and services (such as lighting, heating, ventilation, appliances, and air conditioning systems). This will not reduce emissions to zero, but is an important

enabling measure, necessary to keep occupants' energy bills down, ensure that homes are warm and comfortable. This helps to address fuel poverty, which is identified as an important consideration in the Government's Net Zero Strategy and the Melton borough Housing Strategy, and Climate Change Strategy. It will also help to minimise demands on the electricity grid, reducing the need for energy imports, infrastructure upgrades, and thus contribute towards the security and resilience of the UK's electricity supply, as noted in Powering Up Britain.

2.82 Next, 100% of fossil fuel heating systems will need to be replaced with a zero-emission alternative. This can include heating powered using renewable electricity. The CCC anticipates that heat pumps are likely to be the preferred option, and these are expected to become the default option in new buildings following the adoption of the Future Homes and Buildings Standards, but there are other options available, including but not limited to low carbon district heat networks and direct electric heating [See reference 43], [See reference 44]. Over time, due to continuing uptake of renewables, the emissions from grid electricity will decrease; the Government's intention is for grid electricity to be net zero by the mid-2030s if not sooner [See reference 45]. Powering Up Britain (published in 2023) states that this will occur by 2035. The new government aims to achieve this by 2030, but at the time of writing this has not been formally adopted into policy. At that point, emissions from energy use in buildings would be largely mitigated.

2.83 The UK Biomass Strategy [See reference 46] recognises that biomass has a role in decarbonising certain properties, such as off gas grid homes that are not readily suitable for heat pumps, and where appropriate mitigations can be set in place to minimise air quality impacts. Due to the rural character of Melton borough biomass, may play a larger role in addressing this need. Biogas produced from animal derived wastes can also be upgraded to biomethane, and contribute to decarbonising the gas network. Direct liquified petroleum gas alternatives replacements may also play a role.

Industry

2.84 Options for reducing industrial emissions will be different for each industry and business; there is no 'one size fits all' technology. Broadly speaking, however, the CCC indicates that the first step will be to make improvements in energy

efficiency where possible, including upgrades to equipment and heat recovery and re-distribution, before switching to renewable sources of energy [See reference 47]. Melton borough has a relatively high proportion of food and drink manufacturers, which the CCC identifies as being among the largest electricity-using industrial sectors. This suggests that the Borough may need to plan ahead for additional renewable capacity to meet the demands of this sector [See reference 48]. In addition industry is also a significant water users, further impacting on the water stressed status of the Borough.

2.85 Given the prevalence of food and drink manufacturers in the Borough, there could also be opportunities for local industry to support decarbonisation in other sectors. For example, biodegradable waste can be converted to biogas which can generate heat and power, and potentially be used in vehicle propulsion. This is identified as a key option for reducing GHG emissions in the Leicestershire Resources and Waste Strategy 2022-2050 [See reference 49]. Waste heat from industrial sites can also potentially be used as part of a communal or district heat network.

2.86 Further research would be needed to identify strategies to reduce industrial process emissions and fugitive emissions (such as those from refrigeration systems); that is outside the scope of the present study. The local authority can work with industry to support actions to achieve decarbonisation.

Waste

2.87 In addition to higher recycling rates, which are already included in MBC's Climate Change Strategy, some of the key measures suggested by the CCC are: reducing food waste; preventing biodegradable waste from being sent to landfill; using anaerobic digestion plants to convert waste into biogas; increasing landfill gas capture; minimising the amount of waste sent to incineration; and fitting carbon capture and storage technologies onto energy from waste plants [See reference 50]. Several of these actions are outside of the Borough, and relevant to Leicestershire County Council as the waste disposal authority.

2.88 As highlighted within the Resources and Waste Strategy for England (2018), this will require a combination of individual and collective behaviour changes, technological changes, plus a wider economic shift to promote the reuse of materials. This is a 'circular economy' – which will need to be supported through practical measures and awareness raising [See reference 51]. Some specific (although relatively small-scale) examples of the latter include ensuring that recycling and composting bins are available for all households, along with recycling bins in public areas such as the town centre.

2.89 After adopting measures to reduce waste, increase recycling and composting, and divert waste from landfill, there will still be some residual emissions from waste management. Therefore, like agriculture, this is a sector that will likely rely on greenhouse gas removals to reach net zero by 2050, according to the UK Net Zero Strategy.

Land Use, Land Use Change and Forestry (LULUCF)

2.90 Woodland covered approximately 13% of the UK's land area in 2023 according to Forest Research [See reference 52]. The CCC suggests that forest cover should increase from 13% to at least 17%-19% by 2050. For context, this is the equivalent of an area two-thirds of the size of Melton borough being converted to woodland each year. Melton borough has a low level of woodland cover, below 5% [See reference 53]. This is similar to many of the surrounding local authorities in the East Midlands and reflecting the agricultural importance of the area.

2.91 The CCC has identified that increasing carbon sequestration through land use is a key part of the journey to net zero. To maintain and increase the carbon removals in this sector, existing green spaces need to be protected and further opportunities to increase these areas should be sought. This is reflected in the Net Zero Strategy, which included an ambition to treble the rate of woodland creation rates in England.

2.92 It should be noted that these spaces should be sustainably managed to ensure that they remain a carbon sink in the long term, as disturbances (e.g. fires, or disease-causing vegetation to die and decompose) can release carbon back into the atmosphere.

2.93 Aside from creating new woodland, there are ways of increasing the rate of carbon sequestration which do not require changes in land use, although these have a smaller impact on GHG emissions [See reference 54], [See reference 55]. Examples include, but are not limited to:

- Integrating trees into grassland or cropland (these are referred to as silvoarable and silvopastoral systems, respectively). This brings additional benefits such as shading and cooling for livestock.
- Minimising soil disturbance during tree planting and forest management
- Increasing the length, width and height of hedgerows
- Adopting low- or no-till farming practices

2.94 These actions can also bring significant wider benefits which increase climate resilience and support biodiversity. It is outside the scope of this study to quantify the scale of GHG reductions from LULUCF that can be achieved within Melton borough specifically. However, the CCC's sector summary on agriculture and LULUCF (cited previously) suggests that these sectors, which are currently a net source of emissions, would need to become a significant carbon sink by 2050 for the UK as a whole to meet its net zero target. As explained previously, any shortfall would need to be made up for with greenhouse gas removals. Integrating green infrastructure into the built environment also brings wider benefits (see Document C).

Other considerations

Energy

2.95 As society shifts towards electric vehicles and heating systems, the corresponding increased demand on the grid will require a massive increase in

renewable energy. As of Q1 2024, the UK had a capacity of 57 GW; the CCC predicts a need for around 200GW capacity from offshore and onshore wind, solar and other renewable sources by 2050 [See reference 56]. This will require a step change in the deployment of renewable technologies, low carbon back-up capacity and significant reinforcements to grid electricity infrastructure [See reference 57].

2.96 All local authorities will need to play their part in helping to decarbonise the UK's energy system. Some technologies, such as solar panels, can be located on existing built assets such as homes, businesses, and above car parks. However, this will not be enough to meet future electricity demands, meaning that large-scale wind and solar farms will also be necessary [See reference 58]. Further information is provided in Document E which reflects on the policy framework of NPPF and the support for local energy generation.

2.97 There are important questions to consider when dealing with potentially conflicting land uses and the impacts of solar farms, wind turbines and pylons. Benefits and potential impacts of wind energy include visual impacts, shadow flicker and noise [See reference 59]. The NPPF and National Planning Practice Guidance make it clear that conflicting land uses, and the potential environmental, visual and amenity impacts, need to be carefully managed [See reference 60]. As the CCC points out, both wind and solar farms can – with careful design and planning – be co-located with cropland or grazing land to help make the best use of available space [See reference 61].

2.98 Importantly, the local impacts of renewable developments need to be weighed up against the local, regional and global impacts of climate change itself, which will also have a major impact on landscapes, agricultural production and food security [See reference 62].

Consumption-based emissions

2.99 This report focuses on territorial emissions, which are those that occur within the Borough boundary. There are, however, wider emissions associated with products that are used in the Borough but produced and imported from elsewhere. These are known as consumption-based emissions and they are not insignificant:

as of 2021, including them in the national GHG inventory would increase the nation's carbon footprint by around two thirds [See reference 63], [See reference 64].

2.100 Those emissions are outside the scope of this study, but individuals, households and businesses within the Borough can still play a wider role in reducing them, through the choices that they make as consumers. For example, while shifting to EVs will reduce 'tailpipe emissions' from vehicles, if everyone bought an EV this would place a significant strain on global resources which are needed to produce batteries and other parts [See reference 65]. In the case of buildings, it is now widely acknowledged that the embodied carbon of the materials, not operational energy use, usually accounts for the majority of GHG emissions across a building's whole life-cycle [See reference 66]. This is why, reducing the demand for energy and materials, and reducing the amount of waste that is produced, is always considered a first step before relying on technological solutions. Furthermore actions which reduce emissions within the Borough can contribute to emissions reductions elsewhere. For example, increased home working or modal shift will reduce petrol or diesel vehicle journeys and emissions across other local authority areas. Local emission data show emissions on a 'where they arise' basis. So, the emissions from the production of local good and services, including local food production and manufacturing, are counted within the Borough's overall emissions, even if they are then consumed elsewhere. However, overall, the majority of the goods and services consumed locally are likely originate from outside the Borough, and their emissions will be accounted for within other local authority areas, or other countries, and they can be a significant proportion of a household's overall emissions. Wider awareness of the impacts of what we buy and consume is a key part of tackling these emissions.

A pathway towards net zero

2.101 Table 2.5 below summarises key sources of emissions in Melton borough and highlights the strategic changes that need to occur to reach net zero, as described in the previous sections.

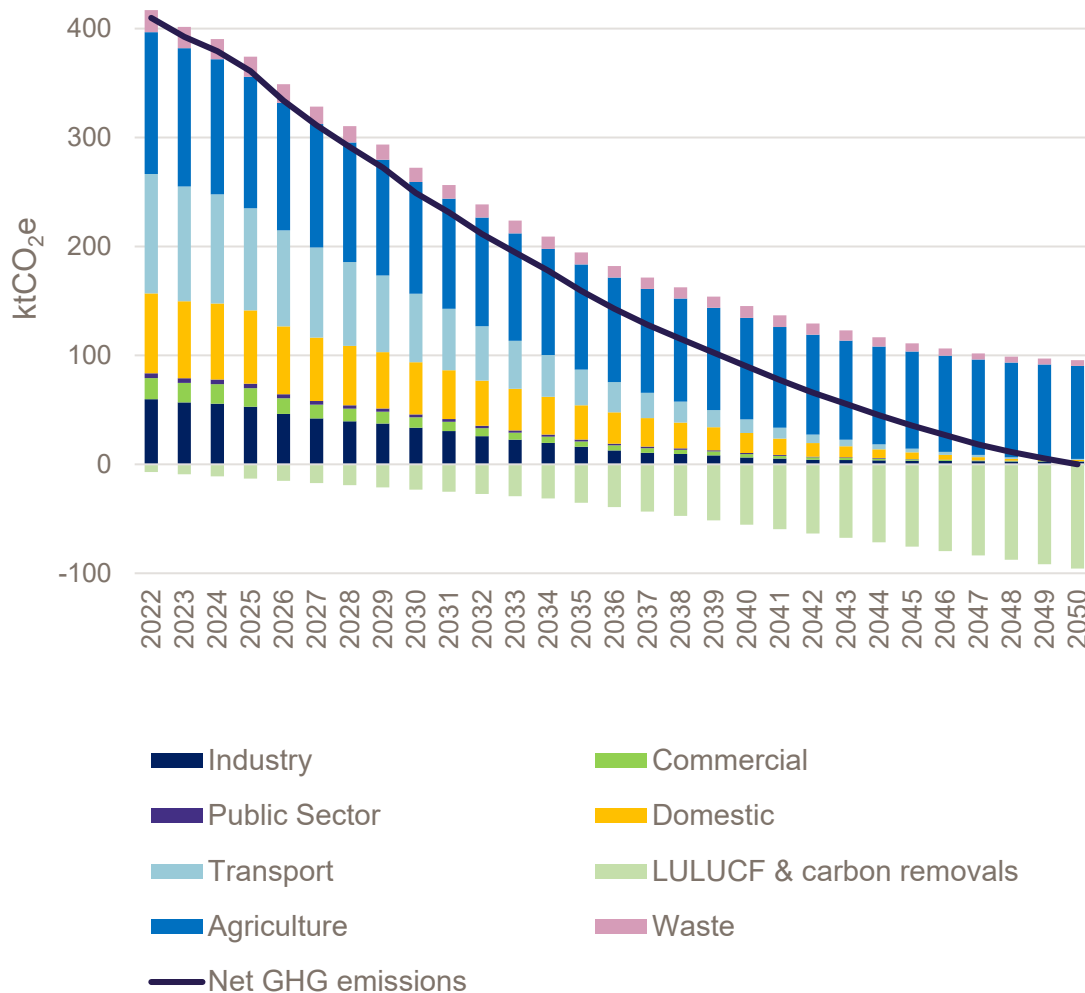
Table 2.6: Summary of emissions in Melton borough and mitigation actions required

Sector	Current emissions sources/sinks	Climate action required
<p>Agriculture 32% of emissions in Melton borough</p>	<p>Livestock manure and flatulence, urea and fertiliser application and liming of soils.</p>	<p>Large scale shift in land use, farming practices and dietary changes.</p>
<p>Transport 27% of emissions in Melton borough</p>	<p>Road transport, in particular petrol and diesel cars on minor roads. Rail transport such as diesel trains travelling through the Borough.</p>	<p>Reduce the need to travel. Behavioural changes towards active travel and public transport. Switching vehicles to zero emission fuels.</p>
<p>Domestic 18% of emissions in Melton borough</p>	<p>Mostly from fuel combustion for space heating, hot water and cooking, alongside electricity use.</p>	<p>Fossil fuel heating must be replaced with zero emission alternatives, and demand must reduce (for example retrofitting insulation).</p>
<p>Commercial 5% of emissions in Melton borough</p>	<p>Mostly from fuel combustion for space heating, alongside electricity use.</p>	<p>Fossil fuel heating must be replaced with zero emission alternatives, and demand must reduce (for example retrofitting insulation).</p>
<p>Public sector 1% of emissions in Melton borough</p>	<p>Mostly from fuel combustion for space heating, hot water and cooking, alongside electricity use.</p>	<p>Public investment Fossil fuel heating must be replaced with zero emission alternatives, and demand must reduce (for example retrofitting insulation).</p>
<p>Industry 15% of emissions in Melton borough</p>	<p>Primarily through energy consumption for food and drink and other manufacturing</p>	<p>Energy efficiency measures along with the switch to zero emission energy sources.</p>
<p>Waste 6% of emissions in Melton</p>	<p>Residential waste is the main contributor. Wastewater treatment</p>	<p>Increase recycling and composting, and reduce waste sent to landfill. Reduce water use.</p>

Sector	Current emissions sources/sinks	Climate action required
LULUCF Net carbon removals	Carbon is sequestered in woodland and grassland and released by cropland. Conversion of land to settlement	Green spaces must be protected and enhanced, which will bring many co-benefits.
All sectors	Energy use	Work to achieve a net zero energy system, including large- and small-scale renewables, supported by appropriate infrastructure.
All sectors	Consumption emissions and embodied carbon	Prevent waste, reduce demand for resources, promote reuse and work towards a more circular economy.

2.102 Figure 2.11 uses Melton borough’s GHG emissions baseline as a starting point, and then applies the CCC’s GHG reduction trajectories on a sector-by-sector basis, to show how emissions in Melton borough might change if the above measures were adopted in line with the CCC’s recommendations [See reference 67].

Figure 2.11: Illustrative future GHG emissions in Melton borough, based on the Balanced Pathway in the CCC 6th Carbon Budget



2.103 This analysis shows that, in a best-case scenario where buildings and transport have largely decarbonised by 2050, emissions in that year are likely to be dominated by agriculture, with some additional emission from waste management. These would need to be mitigated through nature-based solutions (LULUCF) and other GHG removals.

2.104 The GHG emission pathway shown above will be extremely challenging to achieve, even if there were no additional factors that would increase emissions. In reality, trends such as economic growth and new housing could push emissions higher if not managed carefully.

2.105 Although many of these trends are outside of MBC's remit, as a local planning authority the Council can play a key role in ensuring that future development in the area is sustainable.

Key Issues Relating to Climate Change

2.106 Although it is only one lever of influence out of the many that will be needed to decarbonise Melton borough, the Local Plan can, in principle, contribute towards reducing many wider sources of GHG emissions. This is required by the NPPF (notably paragraph 153) and is a core recommendation of guidance issued by the TCPA and RTPI [[See reference 68](#)].

The role of the Local Plan in reducing GHG emissions

2.107 To date, most of the attention on GHG mitigation in local plans has focused on the energy performance of new developments. This is an important issue to address, insofar as any increase in emissions will make it harder to reach net zero. However, in order to reduce total GHG emissions, the Local Plan needs to go beyond simply setting operational energy performance targets for new buildings.

2.108 Drawing on the discussion in the previous chapters, the table below sets out some of the key issues and potential responses that MBC could adopt as part of its Local Plan review. Where required, MBC will need to conduct relevant additional research into local acceptability and viability.

2.109 Examples of how the Local Plan can contribute towards reducing GHG emissions are given below.

Challenge: Reduce emissions from existing buildings (new development is addressed separately, below), (see also Document B).

Potential responses:

- Provide guidance on what energy efficiency measures are acceptable. Additionally, seek to expand the list of what is acceptable by loosening or removing restrictions where possible, to make it easier to install energy efficiency measures and building-mounted renewables, including in conservation areas and listed buildings (provided that this would not harm features that are integral to their listed status).
- For works that require planning permission, require energy efficiency upgrades to be undertaken alongside other works. Also require extensions and conversions to demonstrate that the works will not result in any net increase in energy use – so, for example, a new extension would have to be highly energy efficient and/or meet all of its residual energy demands with on-site renewables.
- Give more weight to climate change and energy efficiency measures when determining applications.

Rationale:

- Existing buildings comprise a significant portion of current emissions, and the Local Plan needs to use all available levers to promote decarbonisation in this sector.

Challenge: Promote a step-change in uptake of large-scale renewables (See Document E and F)

Potential responses:

- Provide a framework to clearly set out how to balance the benefits of large-scale renewables against the potential impacts

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- Consider issuing Local Development Orders or expanding Permitted Development Rights to allow schemes to progress more easily (for solutions like installing PV canopies over car parking spaces or on the roofs of industrial buildings).
- Promote renewable energy schemes that deliver tangible community and nature benefits, Support community led renewable development

Rationale:

- These actions are critical to support decarbonisation of the electricity grid, and enable the phase-out of fossil fuels. Without this, the shift to electrification of buildings and transport will not deliver the necessary GHG reductions for the Borough (and the country as a whole) to meet its targets.

Challenge: Reduce demand for private transport (see Document C)

Potential responses:

- Support demand reduction through measures such as improving digital connectivity
- Develop a long-term strategy for reshaping the built environment over time, so that the public realm prioritises active travel and public transport, and so that the mix and density of uses enables people to access facilities within an easy walking/cycling radius if they choose to do so. This is sometimes referred to as the 20-minute neighbourhood concept.

Rationale:

- Even though individual development proposals may not have an impact on demand for private transport, over time they can have a beneficial cumulative impact if considered carefully as part of a strategy to reduce reliance on cars.

Challenge: Facilitate the shift to EVs and low emission vehicles (see Document C)

Potential responses:

- Continue to engage with stakeholders to ensure that there is adequate charging infrastructure within the Borough.
- Consider the need for planning policy to ensure appropriate EV chargepoint infrastructure, for development that does not have a requirement under building regulations and in locations where specific provision is supported within any local EV chargepoint strategy or transport plan.

Rationale:

- This would make it easier for people to choose low-emission vehicles.

Challenge: Protecting and increasing sequestration (see Document C)

Potential responses:

- Ensure that site selection, master planning and landscape design all contribute to safeguarding existing green infrastructure and identify additional land that can be used to increase carbon sequestration.
- Biodiversity Net Gain – to support climate mitigation through restoration and protection of nature
- Incorporating Local Nature Recovery Strategies, to maximise co-benefits for nature

Rationale:

- Given the challenge of reducing existing sources of emissions, it is all the more important not to lose existing carbon sinks.

- This has a wide variety of co-benefits on biodiversity, air, water and soil quality, human health and amenity.

Challenge: Contributing to reductions in material and resource use, minimising waste and working towards a circular economy (See Document D)

Potential responses:

- Strongly discourage ‘demolish and rebuild’ schemes and put the onus on the applicant to show that it is justified, since it contributes to embodied carbon emissions from demolition and new construction.
- Require a pre-demolition audit to be undertaken to identify opportunities for material reclamation.
- Ask applicants to submit a circular economy statement that sets out how the building will implement principles of lean design, resource efficiency, adaptability and design for deconstruction, including potential alternative uses at end of life?

Rationale:

- Construction, demolition and excavation waste together account for three-fifths of all waste produced in the UK.
- ‘Demolish and rebuild’ schemes incur additional embodied carbon, increase demand for new materials, and generate a significant amount of waste. This can be avoided through better design practices and by prioritising refurbishment.

Challenge: Mitigating emissions from new development (see Document B)

Potential responses:

- New developments should be designed have low embodied carbon and operate with net zero emissions from the outset, rather than simply being 'net zero ready'.
- Require applicants to undertake whole life-cycle carbon assessments.
- To the greatest extent possible, choose site locations that have access to good public transport links.
- Require large-scale developments to deliver a density and mix of uses to make it easier for people to access shops, schools etc. by walking or public transport.
- Work to reduce the performance gap by adopting requirements for post-occupancy evaluations and engaging with the Building Control team to identify ways that better quality control can be carried out.

Rationale:

- New developments tend to increase local emissions, which is contrary to the aim of decreasing emissions. These measures will help to mitigate that increase.
- The Planning and Energy Act 2008 allows Local Authorities to set higher efficiency standards in new buildings beyond the requirements of the building regulations **[See reference 69]**.
- Ensuring that developments are net zero from the outset avoids the need for future retrofits.

2.110 Finally, while the above points address climate change mitigation, it is also important to recognise that the climate has already changed, and because there is a time lag between GHGs being emitted to the atmosphere and the planet heating up, a certain amount of additional global warming is already 'locked in'. Therefore, it is important for MBC to consider ways that both new developments and the

existing built environment can adapt to climate change – and be more resilient to its effects. This is explored in the individual topic Documents B, C and D in relation to buildings, green infrastructure and water use.

What impact could this have on GHG emissions?

2.111 The impacts of the above measures have not been assessed as part of this study. These are best understood as *enabling* measures that will facilitate the wider transition to a zero-carbon economy.

2.112 However, MBC may seek to encourage developers to adopt best practice on issues such as energy efficiency and embodied carbon, even though those targets will not be mandatory. The following sections describe some of the potential benefits that such measures can deliver.

2.113 Key to achieving these potential benefits is the need to firstly reduce energy demand, to ensure that energy demand is matched to renewable or low carbon energy supply. A local area energy plan (LAEP) is currently being developed through the Leicestershire CAN (Collaborate to Accelerate Net Zero) project [[See reference 70](#)] which will set out costs, changes in energy use and emissions and the time periods to achieve these. The detail will be important in informing future action.

New domestic buildings

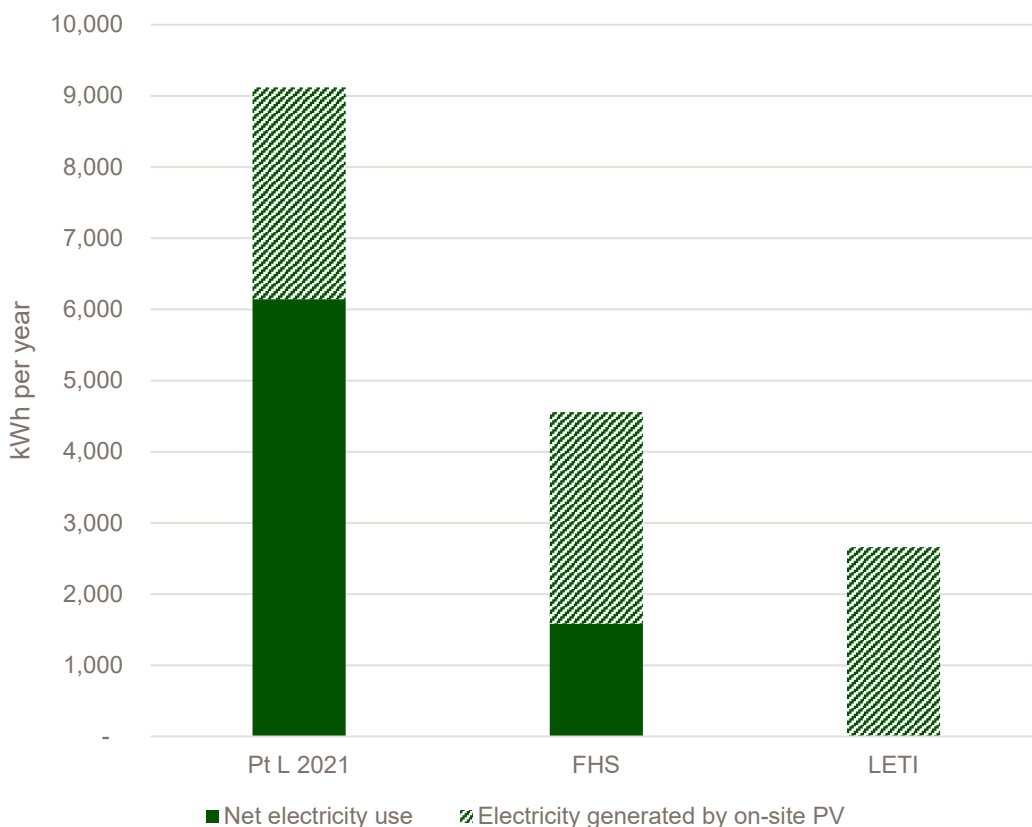
2.114 The current Building Regulations Part L introduced in 2021 (with amendments in 2023) is expected to be updated. The previous conservative Government announced its intention that a Future Homes Standard (FHS) and Future Buildings Standard (FBS) would be implemented from 2025 onwards, with a 12-month transitional period, although the timing is not yet confirmed

2.115 For domestic buildings, the FHS is expected to reduce energy use, bills and operational emissions considerably compared with the current standards. However, it is not yet known to what degree this is expected to be as the previous

government consulted on two different potential standards options which are not yet confirmed. However, further improvements could be made if the buildings were constructed in line with industry best practice and with relevant third-party accredited schemes such as with homes built to the Passivhaus standard.

2.116 Figure 2.12 shows the difference in electricity use for a typical 76 m² semi-detached new build home, under Part L 2021, the FHS option 1 and the Low Energy Transformation Initiative (LETI) standard, the latter having been endorsed by the RIBA, CIBSE, UK Green Building Council and various other industry groups [See reference 71].

Figure 2.12: Comparison of electricity use in a typical home built to different energy performance standards



2.117 The building built to Option 1, considered for the Future Homes and Buildings Standards 2023 consultation [See reference 72], would use around 4,000-5,000 kWh of electricity per year, of which around 2,500-3,000 kWh could

be generated with on-site PV. Option 1 is considered the most cost-effective option to maximise carbon savings, balanced against reducing energy bills for households. However, this comes with additional upfront costs for developers and may affect overall housing supply. By comparison, a house constructed to the LETI standard would use around 2,500-3,000 kWh per year, and the PV array would be sized to meet 100% of this energy requirement [See reference 73]. The LETI standard would therefore achieve net zero operational GHG emissions. The annual emissions savings would depend on the carbon intensity of grid electricity (measured in kgCO₂e/kWh), but as a rough estimate, based on 2024 values, switching from the FHS to the LETI standard would save around 0.3-0.35 tCO₂e per dwelling per year [See reference 74]. The operational GHG emissions savings would decrease over time as the electricity grid decarbonises. However, the energy bill savings would remain relatively constant, and could potentially save occupants hundreds of pounds each year. Data from the House Builders Federation [See reference 75] suggests the average new build energy bill could be more than £165 a month cheaper, for residential properties.

2.118 Meeting a net zero standard such as the LETI standard incurs higher capital costs for developers. However, there is evidence that buyers are willing to pay a premium for energy efficient homes, with estimates ranging from anywhere up to 10-20% [See reference 76]. The mechanisms explored for achieving the aim of the Future Home and Building Standards include:

- Fabric efficiency (albeit minimum building fabric standards are not improved beyond 2021 minimum standards)
- Low-carbon heating (for example air source heat pumps, which can run on renewable energy, instead of systems that rely on fossil fuels, such as gas boilers)
- Solar PV
- Additional measures such as mechanical ventilation and wastewater heat recovery.

2.119 This approach aligns with best practice and local policy to follow the energy hierarchy and to reduce energy demand first. The same 76 m² semi-detached home built to typical practice would be expected to result in upfront embodied carbon emissions of around 30-35 tCO₂e, compared with 20-25 tCO₂e if it was

constructed according to LETI best practice targets [See reference 77]. The embodied carbon of buildings varies widely, but this suggests that reductions of around 30-40% are possible. As a rough assumption, if each house constructed in Melton borough could reduce embodied carbon by around 10 tCO_{2e}. By 2036 new housing built across the remaining local plan period (2026-2036; based on assumed delivery of 320 dwellings per annum) would be expected to save around an annual and ongoing 32,000 tCO_{2e}.

New non-domestic buildings

2.120 Energy use and GHG emissions of non-domestic buildings vary widely due to differences in their size and the type of activities being carried out within them. As a rough indication, current typical practice for new offices and schools would result in the buildings using around 130 kWh/m² per year, while RIBA 2030 good practice standards would use 55-60 kWh/m² per year [See reference 78]. This represents a reduction of more than 50%, offering significant energy bill savings.

2.121 The Future Buildings Standards will set more ambitious requirements for energy efficiency and heating for new non-domestic buildings. They aim to ensure that new homes and buildings constructed from 2025 produce between 75% and 80% less CO_{2e} compared to those built under the Building Regulations Part L 2013.

2.122 There is evidence that highly efficient buildings and/or those with sustainability certifications such as BREEAM can attract sale and rental premiums [See reference 79]. Prospective occupiers may be willing to pay more for 'green' buildings, both due to the energy bill savings and the reputational benefits of prioritising sustainability.

2.123 For achieving BREEAM 'excellent' payback periods of five years or less are identified, although the payback period for investment in energy efficiency options is sensitive to the energy price [See reference 80]. In addition business users are increasingly looking at their own operational emissions and sustainability plans. As part of this, they are expected to increasingly seek low energy costs and low emissions buildings that align with their wider corporate sustainability goals.

Demolition and refurbishment

2.124 The perception is that building new will radically reduce carbon emissions in operation compared to an existing building. However, those savings can only be achieved in the future and even if operational emissions are radically reduced, constructing a new building has carbon emissions from the extraction of raw materials, transport and construction. As stated above, as the electricity supply continues to decarbonise, operational emission savings will continue to fall, which limits the ability of new buildings to offer significant carbon savings over their lifetimes.

2.125 The building frame and substructure in a typical residential building are estimated to contribute to 24% and 19.6% of the embodied carbon respectively [See reference 81]. Comparing the emissions from new build to refurbishment that retains the sub-structure and structure of an existing building, the same research illustrates that refurbishment provides lower whole life CO₂ emissions than new build.

2.126 For example, typical emissions from demolishing a single home are usually around 1-3 tCO_{2e} [See reference 82]. The embodied carbon of a new-build home varies but can be around 30-35 tCO_{2e} if it was constructed according to LETI best practice targets [See reference 83]. The majority of these emissions can be avoided if the property is refurbished instead of being demolished and rebuilt. The GHG emissions savings will therefore depend on what works are carried out but could be in the region of a few dozen tCO_{2e} per dwelling. Even if the building is replaced with a more energy efficient one, it is possible to avoid the embodied carbon associated with building a new structure. A case study example of the retrofit of 14 semi-detached 1950s homes calculated that the lifetime emissions from demolition and rebuilding would be 6% more than retrofit. The lifetime emissions savings would be 9% less from demolition and rebuilding than retrofit [See reference 84]. A similar principle applies to non-residential buildings, and because they tend to be larger, the emissions associated with demolition and rebuilding are likely to be higher.

2.127 However, it is not necessarily always the case that, in carbon terms, an existing building refurbishment will be able to perform as well as a new

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development on a whole life carbon basis, depending on site specific circumstances. The embodied carbon should be a key factor in decision making and local planning policy can incentivise prioritising refurbishment over 'demolish and rebuild' schemes. These can help to mitigate GHG emissions, both by reducing the amount of waste that is generated, and by reducing demand for new construction materials. In addition, there are viability issues to consider, which are explored in Document B.

Chapter 3

Recommendations and conclusion

3.1 This chapter summarises the recommendations from each of the topic chapters (Documents B-E).

Document B: Buildings and Built Form

3.2 Document B outlines evidence-based policy options and recommendations for setting requirements for new development in Melton borough, taking account of targets to reach net zero by no later than 2050. The recommendations are presented in four sections.

Low carbon buildings – operational emissions

3.3 Three approaches which MBC could take to secure net zero development were considered; requiring development to reduce emissions relative to Building Regulations; setting targets using third-party accreditation schemes; or using best practice standards. No definitive recommendation is provided, instead it is advised that MBC consider each option further using the analysis of each option provided and the resource implications.

3.4 When assessing the options, it is recommended that MBC considers these options carefully relative to a 'do nothing' approach of relying on the introduction of the Future Homes Standard and Future Building Standard and the decarbonisation of the national grid. This latter approach could contribute to achieving net zero by 2050 (assuming new buildings are built to be genuinely zero carbon in operation once the grid is decarbonised and the latter is achieved before 2050) but it would miss the opportunity to reduce emissions further in the years before grid decarbonisation is delivered. Adopting this approach would also negate the

opportunity to secure co-benefits of early action such as reduced fuel bills and fuel poverty and reduced pressure on the electricity grid.

3.5 MBC should also consider introducing policy wording that prohibits fossil fuel heating. This could be included in the local plan even if net zero requirements were not introduced.

3.6 MBC is advised keep a close watching brief on ongoing legal proceedings relating to the written ministerial statement and national planning policy reforms related to climate change policy.

Low carbon buildings – embodied carbon

3.7 Two policy options were considered: requiring a whole-life carbon assessment and setting targets for embodied carbon emissions.

3.8 It is not recommended that MBC institutes quantitative embodied carbon targets. Implementation of this policy would require that Council officers assess development applications against specified targets. This would require specific skilled resourcing on the part of MBC (unlike whole life carbon assessments (WLCA) which can be assessed by a third-party assessor and accreditor, paid for by the developer). In addition, the highlighted targets have only recently been developed and the evidence on the costs and technical feasibility of meeting them is still relatively limited.

3.9 It is recommended that MBC institute requirements for major developments (such as 150 homes or more and 1,000 m² or more for non-residential developments) to calculate whole-life carbon emissions through a nationally recognised Whole Life Carbon Assessment and demonstrate actions to reduce life-cycle carbon emissions.

Sustainable building design

3.10 Options to enhance policies EN8 and EN9 to promote the sustainable design of buildings were considered with the following recommendations drawn:

3.11 The Local Plan should at a minimum maintain the considerations for design and layout as currently set out in Policy EN9 for major developments within the Local Plan. It is considered, however, that further guidance is required to strengthen this policy.

3.12 The main strategic climate change policy of the local plan (EN8) should set out the overarching need for all proposals to embed the Energy Hierarchy within the design of buildings by prioritising fabric first and passive design responses including optimising orientation, form, windows, shading and landscaping in order to minimise energy demand for heating, lighting, ventilation and cooling.

3.13 The supporting text for Policy EN9 should include wording to support mechanical ventilation with heat recovery (MVHR) systems in line with the guidance provided within the highlighted best practice guidance, as well as consideration for cross ventilation measures in design.

3.14 Building form, orientation window proportions, and ventilation, are primarily design-led considerations, which need to be considered at an early stage in the design process in line with the preferred 'core thread' approach MBC has proposed to address climate change across the whole plan. As part of the proposed Local Plan Update, MBC also proposes to review Policy D1 – Raising the Standard of Design, which is proposed to be made a 'strategic' policy. As such, it is recommended that the design policy (D1) is strengthened, with a requirement to consider passive design measures such as form and orientation to maximise natural light, secure wintertime solar gains, and prevent the risk of summer overheating.

3.15 The supporting text to D1 should then also be amended to provide guidance on the importance of these considerations and how they should be considered. The most practical way this should be demonstrated by applicants is likely to be

through either the Design and Access Statement or any required sustainability statement, depending on the type and scale of the development. These principles should be a consideration for all types of development, not just major developments, however, it is recommended that any requirements are proportional to the scale and complexity of the development proposal. There should also be appropriate references in the supporting text on the need to balance these considerations against the overall need to achieve well-designed places that work well in their context; to recognise that there can be complementary or competing design influences, that need to be balanced, including local character and the surrounding existing build form.

3.16 It is recommended that any future Supplementary Plans (SP) that provide design guidance should include similar considerations as well. Future SPs may provide opportunities to provide more detailed guidance, however, any specific standards MBC supports should be based on established good practice guidance. Outside planning requirements there may be opportunities to encourage behavioural change by explaining why the factors in this chapter are important, promoting them in terms of helping to mitigate and adapt to climate change as well as their associated well-being or energy cost-saving benefits.

3.17 The design policies of Neighbourhood Plans are material considerations for planning applications and there are several such plans across the Borough. Neighbourhood Plans when developed or refreshed should be encouraged to also consider providing design guidance that reflects factors including orientation and form that can help to provide energy-efficient buildings that work well within their specific local context,

3.18 It is recommended that the supporting text to the housing policies of the Local Plan (relating to the supported housing types and sizes) is amended to explicitly recognise how these policies can also help to reduce energy demand and emissions, how wider measures to increase the provision of smaller sized homes can help to reduce under-occupation and support for the delivery of more joined together house types that could offer benefits from being more affordable as well requiring less operational and embedded energy. This consideration should be made subject to viability and to ensure that an inefficient form factor is not used to prevent the delivery of bungalows to meet identified local housing needs.

Refurbishment and change of use of buildings

3.19 Two policy options were considered; the development of guidance to encourage energy efficient retrofitting of existing buildings to reduce operation emissions and the prioritisation of the retention and retrofit over demolition and rebuild to reduce emissions. The following recommendations have been drawn:

3.20 MBC should make guidance on energy-efficient retrofitting readily available, either by signposting existing guidance or providing further guidance than is provided in the Design for Development SPD through any forthcoming SP or 'Local Guidance' document. This should be signposted to for all relevant planning enquires and form a standard part of preapplication advice service, to enable consideration of retrofitting measures at an early stage of the design process. The guidance should promote the wider benefits of retrofitting measure, particularly energy bill savings and payback periods, as these may as or more motivating factors than tackling emissions and energy demand alone.

3.21 For significant impact, policies or guidance supporting retrofit should be combined with policy support to avoid unnecessary demolition of buildings in Melton borough. The development of guidance is not expected to be capital and resource intensive for MBC, however, encouraging the retention of buildings over demolition and construction has specific cost implications for developers.

3.22 MBC should consider developing a policy requiring developers to demonstrate it is not practicable to meet user needs by retaining and improving an existing building prior to pursuing demolition and redevelopment.

Document C: Green Infrastructure and Sustainable Transport

3.23 This document outlines evidence-based policy options and recommendations for setting requirements and providing additional for new development in Melton

borough in relation to green and blue infrastructure (GBI) and sustainable transport.

Green and blue infrastructure

3.24 This section assessed four policy options to enhance of the use of GBI in delivering climate change mitigation and adaptation benefits in the Borough, the following recommendations were made:

3.25 Firstly, there is a need for the Local Plan to ensure a clear recognition of the linkages between GBI and climate change mitigation and adaptation. One of the best ways to ensure this is for any strategic Climate Change policy to contain direct reference to the Local Plan's strategic GBI policy and vice versa.

3.26 The strategic GBI policy should require the retention and provision of trees in new development, including a requirement for all new streets to be tree lined, where this does not affect the local landscape or historic character. This will align with NPPF and recognise the carbon sequestration benefits from trees and their effects on reducing urban heating and reducing surface water flood risk,

3.27 MBC should undertake further research to establish the benefits of adopting a tree canopy cover standard for major development. This should consider analysis of existing canopy cover in the Borough and how this would align with emerging local nature recovery priorities. Upcoming guidance from Natural England on the adoption of the GBI standards will provide further direction on the analysis required.

3.28 MBC should incorporate a requirement that green roofs and walls are integrated into new development where it is feasible to do so and this does not affect local historic character. This will support adaptation to the urban heat island effect, alongside biodiversity, surface water and wellbeing benefits. It is recommended that this policy is stronger regarding areas which experience greater overheating risk such as in the centre of Melton Mowbray. MBC should undertake further analysis to identify the exact target areas for this policy.

3.29 MBC's Design of Development SPD (or any other future design guidance) could also be updated to differentiate between types of green roof and express preference for intensive or biodiverse extensive to maximise the multi-functional benefits of these roofs, especially for biodiversity and surface water management.

3.30 MBC should undertake further research into the adoption of an urban greening factor. This research should follow the NE guidance on establishing locations for implementation and target scores. This can be supplemented with an analysis of recent planning applications to test potential impacts on viability.

3.31 Finally, it should be noted that this study cannot make local context considerations to the level of the GBI Strategy, so all recommendations in this study should be considered again once this has been published to ensure that they are in line with the best available evidence.

Sustainable transport

3.32 This section assessed six policy options to increase sustainable transport and travel in Melton Borough which would reduce GHG emissions and deliver wider benefits for air quality, health and wellbeing and placemaking. The following recommendations were made:

- Continue to allocate most large-scale development to sustainable locations – the existing spatial strategy ensures that future housing development is focused primarily around Melton Mowbray, with accessible and walkable distances to services, facilities and employment.
- Seek to create 20-minute neighbourhoods, particularly as part of large-scale new developments, where people can meet many of their needs within a short distance from home and maximise combined trips.
- Secure better conditions for walking and cycling within new developments and beyond, including by embedding the sustainable travel hierarchy in policy and setting clear design requirements to create convenient, attractive, safe and green routes (taking climate changes projections into account) combined with high quality cycle storage. Inclusive design and walking routes to schools should be prioritised.

- Ensure new development contributes to improvements to public transport provision and access (buses and trains, potentially including more demand-responsive buses), including frequency, accessibility, convenience and interchange facilities. The latter could include provision of cycle storage (where this is lacking) to support multi-model journeys (e.g. bike-bus or bike-rail).
- Support the roll out of electric vehicles through ramping up the provision of EV charging infrastructure (noting the existing low level of such provision) as part of most types of new development and major renovation. This could include setting requirements that go beyond those in Building Regulation Part S or fill gaps in those requirements.
- Ensure new development supports car clubs, particularly EV car clubs, where there is sufficient demand.

3.33 When considering these recommendations MBC's attention is drawn to the importance of recognising that implementing many of these policy options would be about getting the design of developments right from an early stage. The scale of development will also be important to consider when taking forward a particular policy recommendation.

3.34 There are also notable interconnections with wider policies have also been highlighted, such as the need to support improvements to broadband connectivity in rural areas to, amongst other things, enable more home working - and thus reduce the need to commute by private vehicle.

3.35 In considering these recommendations it is also important to note that progress on tackling GHG emissions from the transport sector will ultimately be dependent on action that goes much wider than the local plan. Ongoing close working with Leicestershire County Council will be critical given that they are the local highways authority responsible for leading on a range of transport plans and strategies across the county that heavily influence what happens in Melton Borough. Collaborative working with wider partners and stakeholders across the region - including transport infrastructure providers and operators and neighbouring councils - will also be important to support coordinated delivery of wider connectivity and seamless sustainable travel opportunities beyond the

Borough and county (transport users do not consider travel in terms of administrative boundaries).

Document D: Water and Waste

3.36 This document explores policy options for improving the water efficiency of new development in the Borough and policy options which require the reduction of construction waste and the use of sustainable materials.

Water efficiency

3.37 This section explored policy options to reduce flooding, increase the water efficiency in new and existing development; and ensure that new development is designed to be more resilience to higher rainfall, more frequent and severe storms, and drought. The following recommendations are made.

3.38 MBC has provided a proposed new draft policy EN9a specifically covering water efficient development. The proposed policy already includes a requirement for all new residential development to achieve as a minimum the optional building regulations standard of 110 l/p/d, and this is recommended, as it is supported by the evidence set out above. The evidence also provides several reasons why a policy requiring the more ambitious water efficiency standard (80-85 l/p/d) is unlikely to be viable, or very effective, in Melton's Local Plan update (given the higher cost to achieve this standard and overall scope of the partial update).

3.39 Given the importance of increasing water efficiency in existing homes and buildings, the second criterion of the proposed policy EN9a Water Efficient Development is also supported, as it encourages water efficient measures to be included in refurbishment of existing dwellings. As is set out in the Document B, it is also recommended that Melton Borough Council should:

- Make guidance on energy and water efficient retrofitting readily available, either by signposting existing guidance or by creating a 'Local Guidance' document.

3.40 The third criterion of the proposed policy EN9a relates to improving water efficiency of non-residential development, which is also recommended. However, as currently drafted, it only requires demonstration of compliance with BREEAM Very Good water efficiency standard (WAT01) (or equivalent). However, based on the evidence above, in particular that the overall cost increases are likely to be less than 5% for meeting the Excellent water efficiency standard, it is recommended that the requirement should be more ambitious, increasing to at least Excellent BREEAM rating.

3.41 The fourth criterion seeks to incorporate more water collection and reuse systems within development, through the provision of water butts for all new dwellings with a garden, but also through rainwater and greywater harvesting systems to be included in the proposed plans for major residential and non-residential development. The provision of water butts to all new dwellings is supported as it could be delivered at a low cost (and potentially in conjunction with Severn Trent Water). However, rainwater and greywater harvesting systems are quite complicated and as discussed above, can be very costly to integrate into the design and installation of new buildings, especially greywater recycling. It is therefore considered that this requirement may not be viable and difficult for MBC to achieve.

3.42 It is recommended instead, that MBC retain the water resource assessment required for major developments in the paragraph at the end of the proposed policy, as this would place the onus on the developer to flexibly decide how they will achieve water efficiency in the least costly and most efficient manner. This is preferable to specifying mechanisms for developers to use more specific mechanisms, like greywater and rainwater mechanical systems, which may be inappropriate or even excessive for certain developments. The water resource assessment should be required for major residential developments as well and could refer to high water uses like swimming pools.

3.43 To inform any future review of the Local Plan, it is recommended that MBC commissions a Water Cycle Study, which should help to identify joined up and cost-effective solutions that are resilient to climate change for the lifetime of the development (as required by the NPPF). Water Cycle Studies tend to consult the Environment Agency, Water Companies, the County Council and Natural England during development of the study and to gain support for the findings.

Waste management

3.44 This section explored options to integrate the waste hierarchy and circular economy principles into policy and to encourage the use of sustainable construction materials. The following recommendations were made.

3.45 It is recommended that MBC integrates the waste hierarchy and principles of the circular economy into Local Plan policy. The principles should be laid out in the introductory text to the policy.

3.46 MBC should update policy EN9 to require all new development to provide evidence of how they been designed to reduce construction waste (in line with the waste management hierarchy) within a sustainability statement.

3.47 MBC should consider incorporating a requirement for major development to provide a circular economy strategy or statement within their planning application which sets out how they have followed circular economy principles to reduce waste and prioritise the use of sustainable materials.

3.48 To support the strengthening of policy EN9, MBC should incorporate any updated or future design guidance to include further guidance on waste management, how to integrate the principles of the waste hierarchy and circular economy and prioritise the use of sustainable materials in construction. The SPD could also provide an example template for the sustainability statement and/or circular economy strategy/statement if required in the updated policy.

Document E: Renewable Energy

3.49 Document E sets out how Local Plan policy could be improved to further support the deployment of renewable energy in the Borough. Document E identified options to support onsite and stand-alone renewable and low carbon energy generation and options to support community-led renewable and low carbon energy schemes. The following recommendations were made.

Supporting onsite and stand-alone renewable and low carbon energy generation

3.50 The Local Plans current renewable energy policy EN10 lists 18 factors that will or may be considered when considering development proposals for renewable and low carbon energy generation. These are considered to be broadly appropriate. However, the Council may also want to consider the following:

3.51 Not all of the factors are relevant to all types of renewables technology nor to all types/scales of renewable energy development. The policy and its supporting text should make this clear. Although not essential, the policy could also be restructured and expanded to highlight factors likely to be of particular importance for the technologies with the greatest technical potential such as ground-mounted solar PV and wind turbines.

3.52 In addition the Council could consider adding text that directs developers to identify opportunities to deliver additional environmental benefits beyond climate change mitigation by designing and managing renewable energy development sites to deliver multiple forms of ecosystems services, for example Solar Energy UK's Natural Capital Best Practice Guide [[See reference 85](#)].

- Factor 2: Consider deleting the word 'surrounding' to make clear that the effects of development on landscape, townscape and heritage assets within site boundaries must also be considered.
- Factor 6: It is unclear why ancient woodland and veteran trees have been singled out; consider referring instead to 'irreplaceable habitats' for consistency with the terminology in footnote 7 and paragraph 186(c) of the NPPF.
- Factor 10: Consider referring to the 'best and most versatile agricultural land' rather than 'high quality agricultural land' for consistency with the terminology in the NPPF.
- Factor 13: These factors are likely to be covered by health and safety regulations; consider confirming this and deleting from the policy.

3.53 It is recommended that factors 15, 16 and 18 relating to wind energy development should be amended or replaced as follows:

- Factor 15: It is recommended that the policy's decommissioning requirements are not limited to wind energy developments since other types of renewable infrastructure, notably ground-mounted solar PV are also relatively temporary in nature and can take up a large land area. The policy could, for example, state that decommissioning arrangements will be secured by condition where appropriate to the nature of the proposed scheme. Further advice and links to policy examples are provided in chapter 5 of Document F.
- Factors 16 and 18: Factors 16 and 18 are out of date as they reflect restrictions that were removed from the NPPF in July 2024 (see above). They should be reframed to reflect the need for community engagement and involvement in the scheme design..

3.54 Factor 17 and the accompanying landscape sensitivity table restrict wind energy development to scales of development and to locations where sensitivity to this development is low or low-moderate. This is unduly restrictive in light of national policy objectives on achieving net zero and doubling onshore wind development by 2030 and the local climate change mitigation objectives outlined above. Although relevant at the current time, it is recommended that the Landscape Sensitivity study (2014) should be updated to support the next review of the local plan. The text in Factor 17 should be amended to refer to the current landscape sensitivity study, so that reference to the 2014 study is not outdated.

3.55 Instead, we recommend the following policy approach which is more positive and which covers both of the technologies shown by the renewable energy assessment (wind energy and ground-mounted solar PV) to provide most of the existing and future potential renewable energy generation capacity in the Borough.

3.56 The Local Plan identifies the areas of the Borough that are suitable in principle for wind energy development and for ground-mounted solar PV in the policies map, in line with the approach suggested in the NPPF (and required in the proposed changes to the NPPF).

3.57 The renewable energy policy states that wind energy and ground-mounted solar PV developments are more likely to be supported in the areas identified as suitable in principle but that proposals outside of these areas will also be considered where the suitability of the area is clearly justified.

3.58 Supporting text to the renewables policy explains that the location of a proposal for wind energy or ground-mounted solar PV within a 'suitable area', as identified in the policies map, does not preclude the need for a site-specific investigation of the proposed site in relation the criteria set out in the renewables policy. It should also explain that the Renewable Energy Assessment study deliberately drew areas of technical potential widely to avoid excluding areas that site-specific investigation might find to be suitable for development.

3.59 The assessment of technical potential includes agricultural land grades 1 and 2 as a constraint in line with the scope of the partial local plan update. Further site specific study would be required to identify grade 3a agricultural land, as a full-coverage national dataset is not available. There is a future need to undertake further study to create opportunity maps which combine the technical potential, updated landscape sensitivity and additional information on grade 3a agricultural land. The need to undertake a revised assessment should be included in the supporting text, which should require the use of the most up to date available renewables opportunity assessment for the Borough.

Supporting community-led renewable and low carbon energy schemes

3.60 Community-led schemes are distinct from developer-led ones that include some community benefits. Such developments would normally be conceived by and/or promoted from the community within which the renewable development will be undertaken, delivering economic, social and/or environmental benefits to the community. Neighbourhood plans provide a particular opportunity to define detailed local site allocation policies for renewable and low carbon technologies that are community-led.

3.61 It is recommended that the Local Plan broaden its support for community renewable schemes by stating that the Council would actively support community renewable energy schemes which are led by or meet the needs of local communities.

Document F: Renewable Energy Assessment

3.62 This document provides the supporting technical information to the recommendations for renewable energy in the Borough as presented in Document E.

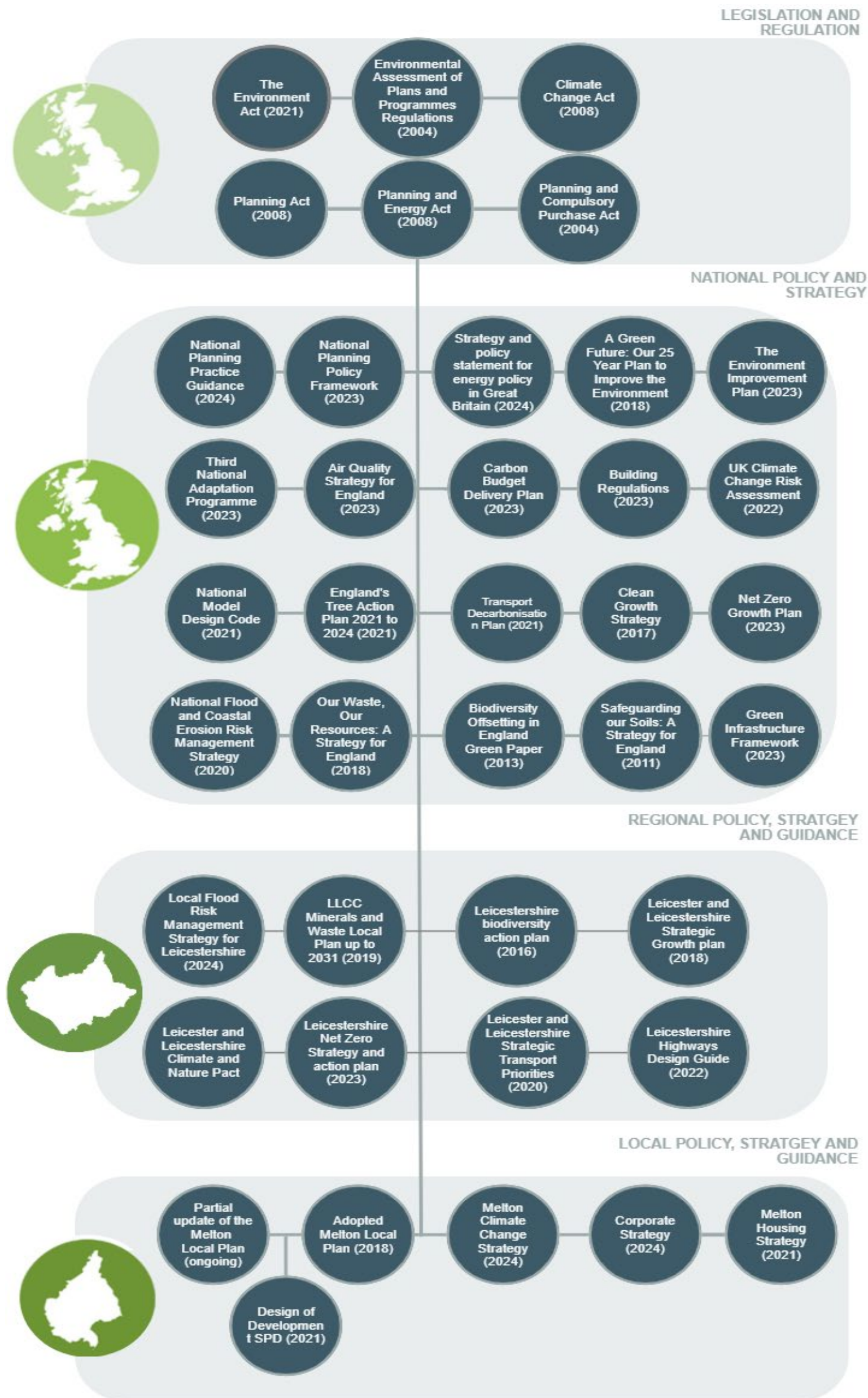
Appendix A

Legislation, Policy and Targets

A.1 This chapter presents climate change targets, legislation and policy relevant to this study at a high level, helping to situate the study within legislative and policy requirements at a national, county and local level. This high-level presentation is supplemented with more detailed, topic specific policy context within each of the detailed topic documents and chapters.

A.2 The national, county level and local level legislation, regulation, policy, strategy and guidance considered in the study is shown on Figure A.1.

Figure A.1: Key National, County and Local Legislation, Policy and Strategy



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Climate change targets

A.3 The following are the key targets for addressing climate change set at the international, national and local level:

- Paris Agreement 2015: Legally binding international treaty on climate change. Limit global warming to well below 2°C, preferably to 1.5°C, compared to pre-industrial levels.
- Climate Change Act 2008: Commitment to Net Zero by 2050. 78% reduction on carbon emissions by 2035.
- Environment Act 2021: Aims to improve air and water quality, reduce waste/increase recycling, improve biodiversity (referred to as Biodiversity Net Gain) and tackle waste crime.
- Melton Borough Council Commitment to Net Zero by no later than 2050 (2019).

Legislation

A.4 The Planning and Compulsory Purchase Act (2004) (PCPA) [See [reference 86](#)] sets out the structure of the local planning framework for England, including the duty on plan-makers to mitigate and adapt to climate change. LPAs must make positive and proactive policies and decisions which contribute to the mitigation of, and adaptation to, climate change. The effects of policies and decisions must also make measurable, ongoing reductions in carbon emissions and should be reported in a Council's annual monitoring reports. This legislation is supported by national planning policy and guidance set out below.

- “Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change” [Section 19(1A)].

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- “Every local planning authority must prepare reports containing such information as is prescribed as to...the extent to which the policies set out in the local development documents are being achieved.” [Section 35(2)]

A.5 This means that Local Plans must consider how policies can deliver on these requirements, including having regard to the objectives and trajectories for reducing emissions set out within the Climate Change Act (2008).

A.6 The Environmental Assessment of Plans and Programmes Regulations 2004 [See reference 87] implement Directive 2001/42/EC of the European Parliament and Council on the assessment of effects of certain plans and programmes on the environment at an early stage of the programme or plan development.

A.7 The Climate Change Act (2008) [See reference 88] sets out the UK’s framework for tackling and responding to climate change. It requires the UK Government to reduce greenhouse gas emissions by at least 100% of 1990 levels (net zero) by 2050. It also requires Government to assess the risks and opportunities from climate change for the UK and to set out a plan for adaptation. As part of the duties set out in the CC Act 2008, the Government must set carbon budgets for five-year periods considering advice from the Climate Change Committee. The latest, Sixth Carbon Budget (reference), sets a target of a 78% reduction in emissions by 2035. The timescales for this target is in line with Melton borough’s adopted Local Plan period which currently runs until 2036.

A.8 Section 182 of the **Planning Act (2008)** [See reference 89] places a legal duty on LPAs to ensure that their development plan documents include policies which ensure that development and land use contributes to climate change mitigation and adaptation.

A.9 The Environment Act (2021) [See reference 90] sets out plans to protect and improve the natural environment in the UK. It enforces urgent and meaningful action to combat the environmental and climate crisis we are facing. This includes:

- Changes to environmental governance

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- Reducing waste and better use of resources
- Improving air quality
- Managing water sustainably
- Restoring natural habitats and increasing biodiversity
- Regulating chemicals
- Delivering environmental enhancement at the local level.

A.10 The above changes will be driven by new legally binding environmental targets, and enforced by a new, independent Office for Environmental Protection (OEP) which will hold government and public bodies to account on their environmental obligations.

A.11 Building regulations (last updated 2024) [\[See reference 91\]](#) set technical standards for building work, including aspects of environmental performance. Associated approved documents with relevance to climate change are listed below. The requirements they set out are discussed in further detail in the topic specific chapters.

- Ventilation: Approved Document F
- Sanitation, hot water safety and water efficiency: Approved Document G
- Drainage and waste disposal: Approved Document H
- Combustion appliances and fuel storage systems: Approved Document J
- Conservation of fuel and power: approved document L
- Overheating: approved document O
- Infrastructure for charging electric vehicles: approved document S

National Policy, Strategies and Guidance

A.12 The National Planning Policy Framework (NPPF) (last updated in December 2023) sets out the environmental, social and economic planning policies for England [See reference 92]. Central to the NPPF policies is a presumption in favour of sustainable development. It also states that development should be planned for positively and individual proposals should be approved wherever possible. One of the overarching objectives that underpins the NPPF is set out in paragraph 8(c): *“an environmental objective – to contribute to protecting and enhancing our natural, built and historic environment including ...mitigating and adapting to climate change, including moving to a low carbon economy.”*

A.13 Chapter 14 of the NPPF (Meeting the challenge of climate change, flooding and coastal change), sets out that the planning system should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change. It should help to shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure.

A.14 Paragraph 158 sets out that plans should take a proactive approach to mitigating and adapting to climate change.

A.15 Paragraph 159 states new development should be planned for in ways that can help to reduce greenhouse gas emissions, such as through its location, orientation and design.

A.16 Paragraph 161 sets out that LPAs should support community-led initiatives for renewable and low carbon energy, including developments outside areas identified in Local Plans or other strategic policies that are being taken forward through neighbourhood planning.

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A.17 The new Labour Government recently consulted on changes to the NPPF [See reference 93]. If the proposed changes are taken forward there will be more support for clean energy and the environment, including through support for onshore wind and renewables.

A.18 The online **National Planning Practice Guidance (2019) (NPPG)** on climate change [See reference 94] provides further interpretation of national planning policy for the benefit of LPAs and planning practitioners. It strongly asserts the importance of climate change within the planning system and the need for adequate policies if Local Plans are to be found sound.

“Addressing climate change is one of the core land use planning principles which the National Planning Policy Framework expects to underpin both plan-making and decision-taking. To be found sound, Local Plans will need to reflect this principle and enable the delivery of sustainable development in accordance with the policies in the National Planning Policy Framework. These include the requirements for local authorities to adopt proactive strategies to mitigate and adapt to climate change in line with the provisions and objectives of the Climate Change Act 2008, and co-operate to deliver strategic priorities which include climate change.”

A.19 Beyond national planning policy there are numerous other relevant National Policies, Strategies and Guidance which are included in the topic specific chapters. These include:

- Strategy and Policy Statement for Energy Policy in Great Britain (2024) [See reference 95]
- A Green Future: Our 25 Year Plan to Improve the Environment (2018) [See reference 96]
- The Environment Improvement Plan (2023) [See reference 97]
- Third National Adaptation Programme (2023) [See reference 98]
- Air Quality Strategy for England (2023) [See reference 99]

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- Carbon Budget Delivery Plan (2023) [\[See reference 100\]](#)
- UK Climate Change Risk Assessment (2022) [\[See reference 101\]](#)
- National Model Design Code (2021) [\[See reference 102\]](#)
- England's Tree Action Plan 2021 to 2024 (2021) [\[See reference 103\]](#)
- Transport Decarbonisation Plan (2021) [\[See reference 104\]](#)
- Clean Growth Strategy (2017) [\[See reference 105\]](#)
- Powering Up Britain: Net Zero Growth Plan (2023) [\[See reference 106\]](#)
- National Flood and Coastal Erosion Risk Management Strategy (2020) [\[See reference 107\]](#)
- Our Waste, Our Resources: A Strategy for England (2018) [\[See reference 108\]](#)
- Biodiversity Offsetting in England Green Paper (2013) [\[See reference 109\]](#)
- Safeguarding our Soils: A Strategy for England (2011) [\[See reference 110\]](#)
- Natural England Green Infrastructure Framework (GIF) (2023) [\[See reference 111\]](#)

County level policy and strategy

A.20 Melton borough is in a two tier Council area meaning that responsibility for different services is split between upper tier Leicestershire County Council (LCC) and MBC which is a lower tier district Council within Leicestershire.

A.21 With particular relevance to climate change, LCC's responsibilities include waste and mineral planning and is the highways authority. MBC's responsibilities include domestic waste collection, environmental health, housing and planning.

A.22 The following policies and strategies have been developed by LCC and apply to Melton borough.

A.23 The Leicestershire Climate and Nature Pact (2023) (based on the principles of the Glasgow Climate Pact) was developed by the County Council to bring together local people and organisations of Leicestershire to work together to help tackle the climate and nature emergencies, Melton Borough Council is a signatory to this pact.

A.24 The Leicestershire Net Zero Strategy and action plan (2023) sets out a long-term vision and approach for achieving net zero carbon in Leicestershire by 2045. The Action Plan addresses the steps to be taken over the next five years to set the county on the path to net zero. The plan is split into cross cutting enabling actions, five emissions reductions themes (Decarbonising Transport, Green Economy, Net Zero Buildings and Infrastructure, Climate Friendly Communities, and Nature and Land Use as Carbon Stores) and a governance and reporting framework [\[See reference 112\]](#).

A.25 The Leicester and Leicestershire Strategic Growth Plan (2018) is the overarching plan which sets out the aspirations for delivering growth (housing, economic, infrastructure) in Leicester and Leicestershire until 2050. It calculates the housing, and employment needs and sets out the current settlement pattern, economic growth areas, road and rail networks and environmental and historic assets of the area. It sets out their overall approach and spatial strategy for delivering growth [\[See reference 113\]](#).

A.26 The Leicestershire Highway Design Guide (LHDG) (2022) deals with highways and transportation infrastructure for new developments in areas for which Leicestershire County Council is the highway authority. The document references initiatives that continue to emerge as a result of the publication of research reports 'Paving the Way' and 'Better Streets, Better Places'; the Guidance on Transport Assessments; and Local policies and strategies, including the Local Transport Plan [\[See reference 114\]](#).

A.27 The Leicester and Leicestershire Strategic Transport Priorities (LLSTP) (2020) highlights where the two authorities will work together to deliver common transport aims and objectives. This document provides an agreed framework which will seek to prepare the network for future advances in technology and

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changing travel and mobility patterns and deliver change in transport and development. Five Strategic Transport Themes have been developed (travel between cities, travel around Leicestershire, travel around Leicester, travel around county and urban areas and resilient transport network), which cover the interconnected transportation issues that arise. The themes summarise the transport aims, challenges and priorities for the City and County and where the two LTAs can work together to ensure coordination and added value to transport schemes [See reference 115].

A.28 Leicestershire County Council is responsible for minerals and waste planning in the administrative area of Leicestershire. The **Minerals and Waste Local Plan (2019)** includes a spatial vision, spatial strategy, strategic objectives, and core policies which set out the key principles to guide the future working of minerals and the form of waste management development in the County of Leicestershire over the period to the end of 2031. The Development Management Policies set out the criteria against which planning applications for minerals and waste development will be considered. A monitoring framework is included to examine the efficacy and effects of the policies. The Local Plan addresses the need to provide protection to the environment and the amenity of local residents, whilst ensuring a steady supply of minerals and the provision of waste management facilities in accordance with Government policy and society's needs. It aims to maximise the use of alternative materials in order to reduce the reliance on primary-won minerals, and to significantly increase levels of reuse and recovery of waste and move away from landfill as a means of disposal, having regard to sustainability objectives. It also provides controls relating to the beneficial reinstatement of land following mineral working and landfill operations [See reference 116].

A.29 The emerging **Local Nature recovery strategy for Leicestershire, Leicester and Rutland** is due for publication in July 2025. Local Nature Recovery Strategies (LNRSs) are a new mandatory system of strategies under the Environment Act (2021), ensuring that opportunities to recover nature are joined-up. The LNRS will go further than other policies already at play in Leicestershire, Leicester and Rutland by bringing together landscape scale, multifaceted approaches focused on preserving, conserving and enhancing nature and meeting other environmental objectives such as climate change, flood mitigation and

improved air and water quality. Currently, a draft LNRS has been developed and waiting to be approved by supporting authorities and shared with neighbouring responsible authorities with the aim to be published in July 2025 [See reference 117].

A.30 The Leicestershire CAN (Collaborate to Accelerate Net Zero) [See reference 118] is a £2.56m Demonstrator project dedicated to accelerating Leicestershire's journey to net zero emissions being led by LCC funded by Innovate UK, as part of their Net Zero Living Programme. It is focussed on a whole-systems approach to decarbonisation and breaking down non-technical barriers to the delivery of net zero. The aim is to create a sustainable environment for coordinated and impactful net zero delivery across Leicestershire. It aims to achieve this through 4 interconnected work packages.

- Governance: Developing and piloting models for effective governance to enable cross-sector collaboration, stream-lined decision making and driving forward impactful net zero interventions.
- Decarbonisation: Delivery of an innovative Local Area Energy Plan (LAEP) for Leicester and Leicestershire, to provide an open-source and dynamic digital tool for stakeholders to identify and understand required solutions to help reduce carbon emissions.
- Community energy: Building up community energy capacity across Leicestershire, supporting a network of new community energy organisations to accelerate the delivery of locally driven low carbon projects.
- Advisory Service: Development of a digital repository and service to provide a suite of resources, information and support for stakeholders, ensuring they have the necessary tools and knowledge to contribute to the delivery of net zero in Leicestershire.

Sub-regional Strategic Planning

A.31 Melton borough also sits within a wider sub-regional area, based on its functional housing and economic market area. The sub-region covers the administrative areas of Leicester City and all the district local authorities' areas

within Leicestershire. There is significant partnership working at this level across many strategic issues that relate to climate change. This includes a Strategic Growth Plan and a Strategic Transport Priorities document for the area. This strategic sub-regional work assists with local planning requirements on the duty to cooperate. The sub-region was formally the area for the local area economic partnership and there is also a strong history of working together on economic plans and projects. There is also a strong history of Leicester and Leicestershire working with Rutland County Council at a wider sub regional level, this includes on the emerging Local Nature Recovery Strategy.

Melton Borough Council policy and strategy

A.32 The Melton Local Plan (2011-2036) [See reference 119] was adopted in October 2018. The spatial strategy sets out that to achieve sustainable development the planning system has ‘An environmental role – contributing to protecting and enhancing our natural, built and historic environment’.

A.33 The following objectives from the Local Plan are considered most relevant to targeting net zero and climate adaptation:

- Objective 21: Reduce pollution.
- Objective 22: Protect and manage the use of natural resources and mitigate activities that cause their loss or degradation.
- Objective 23: Prepare for, limit, and adapt to climate change and promote low carbon development.
- Objective 24: Minimise the use of energy and promote forms of renewable energy generation in appropriate locations.
- Objective 25: Ensure that the reuse and recycling of waste is maximised.

A.34 The Melton Local Plan contains a strategic climate change policy (Policy EN8 – Climate Change) which sets out that all new development proposals will be

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required to demonstrate how the need to mitigate and adapt to climate change has been considered (subject to viability) in relation to 6 of the plans wider policies;

- **Sustainable design and construction** (in accordance with Policy EN9 – ensuring energy efficient and low carbon development).
- **Provision of green infrastructure** (in accordance with Policy EN3 – the Melton Green Infrastructure Network)
- **Provision of renewable and/or low carbon energy production** (in accordance with Policy EN10 – energy generation from renewable sources)
- **Flood risk** (in accordance with Policy EN11 – minimizing the risk of flooding and policy EN12 – sustainable urban drainage systems)
- **Providing opportunities for sustainable modes of transport** (in accordance with Policy IN1 – delivering infrastructure to support new development)

A.35 Further detail about this policy and the other related policies are provided in the topic specific chapters.

A.36 On 28 September 2023 MBC's Cabinet considered the outcomes of the 5-year review of the Melton Local Plan and agreed to the preparation of a partial update to the adopted Local Plan. The partial update does not propose to extend the plan period beyond 2036 or amend the main development strategy policy of the adopted plan (SS2 - Development Strategy). The review of the Local Plan did set out a need to update its approach to climate change to reflect legislative, regulatory, technological and policy changes since the Local Plan's adoption in 2018 [\[See reference 120\]](#).

A.37 **The Design of Development Supplementary Planning Document (Design SPD) (2022)** [\[See reference 121\]](#) sits alongside the Melton Local Plan 2011-2036, providing additional guidance to encourage the delivery of a higher standard of design in the Borough. The SPD covers a range of technical design issues such as parking and waste, but also sets out guidance to improve environmental standards e.g. addressing climate change and providing biodiversity enhancement.

A.38 The Climate Change Strategy for Melton Borough (2024 – 2036) [See [reference 122](#)] outlines the vision to “create a resilient, biodiverse, fair and more sustainable future for everyone in Melton borough”. The strategy seeks to provide a framework for the whole community, not just the Council, to reduce local greenhouse gas emissions and adapt to the Borough’s changing climate. It sets out a range of key actions to adapt to and tackle climate change which align with local people’s aspirations and will contribute to achieving net zero by no later than 2050. It also highlights the wider benefits to local people that can come from climate action.

A.39 The strategy sets out six key principles which underpin the strategy:

- **Work together** and collaborate and develop partnerships at all scales, with local people, businesses, organisations and wider partners.
- **Empower the local community** to make sustainable choices. Communication, education and behavioural changes will be fundamental in nurturing this.
- **Be fair for everyone** and recognise that across society people do not all have the same ability to take action and that the impacts of climate change will not affect everyone in the same ways. No one should be unfairly burdened those who need it most should be supported.
- **Recognise and secure the wider benefits** that can come from climate action, to improve our health and wellbeing, reduce our energy costs, provide new green job opportunities and help to protect and restore nature. MBC needs to recognise that these benefits, particularly cost savings, may be the main reason that many people are willing to make changes to how they currently do things.
- **Accelerate where possible.** Melton wants to achieve net zero as soon as possible, but to do this we need to secure significant levels of additional funding and see a much stronger approach and policies from the Government, backed with real support to tackle our most challenging issues. We also need a local workforce with the right skills, alongside increased supply chain and manufacturing capacities, to be able to practically achieve our vision faster.

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- **Adopt a focus on avoiding and reducing.** MBC should focus actions on what can be done to avoid and reduce emissions, waste and resource use before actions are considered such as carbon offsetting or recycling. Actions should also not be promoted that only move emissions from the borough to other places

A.40 The strategy focuses on actions which can be implemented quickly, where there is the greatest influence at a local level and on actions can have wider positive impacts on local people's lives. These actions are set out in the strategy across five key delivery themes;

- Transport and travel
- Homes, buildings and the built environment
- Natural environment and farming
- Local economy
- Waste and the use of resources.

A.41 The climate change strategy sets out the local plan as a key tool to help address climate change at a local level and it highlights strong local community feedback for local planning policies and decision making to support sustainable low carbon development.

A.42 Melton Borough Council's Corporate Strategy 2024 – 2036 [See reference 123] sets out the overarching aims and objectives of Melton Borough Council to help inform policies, plans and services that they deliver. 'Vision '36' identifies eight aspirations for what Melton will have by 2036. Alongside, a 4-year Corporate Delivery Plan (2024- 2028) sets out the specific objectives and actions to support the delivery of the long-term vision.

A.43 Melton Borough Council's Housing Strategy (2021 – 2026) was produced through consultation with the local community and key partner organisations. It sets Melton borough's ambitions to ensure good quality homes, to deliver housing growth and to provide support and advice to help people live well in their homes. It provides a strategic overview of local housing issues and sets out how they will be

addressed. The housing strategy provides a strategic overview of local housing issues and sets out the actions required to address them. It includes an overarching objective for sustainable homes, which recognises the challenge to successfully decarbonise all homes in the Borough to achieve net zero by 2050. The strategy prioritises support for improvements to the worst performing homes and for vulnerable and fuel poor households. It also strongly supports sustainable new housing development and effective local planning policies.

Neighbourhood planning

A.44 Melton borough contains 26 rural parish council's, 14 of these now have Made Neighbourhood Plans [\[See reference 124\]](#) which form part of the local development framework alongside the Local Plan and are material considerations for new development proposals.

A.45 Neighbourhood plans are legally required to contribute to sustainable development. They are not required but can include policies relating to climate change. For example, they can choose to set out areas suitable for different types of renewable energy development that carry community support. They can provide a valuable role in setting out local design criteria, to ensure retrofitting and new development is both low carbon and fits well into the local context.

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