Milton Keynes City Council

Climate and Environmental Action.

Topic Paper

July 2024
Regulation 18 Version

Contents

Purpose of this Topic Paper

1.1 **This topic paper is one of several produced by Milton Keynes City Council to set out how work on our new Local Plan, the MK City Plan 2050 (MKCP), has been developed. The paper covers how the environment and climate change have been considered when preparing the MKCP. It should be read alongside the other topic papers for a holistic view of our approach to the MKCP.**

1.2 In considering the environment and climate change, this topic paper covers the following:

- The real-world context and key drivers for change of this area of planning.
- Emerging position with the information on key evidence base work we are preparing to inform future policy development.
- Potential policy options and solutions proposed (best practice options review).
- Our next steps going forward.

1.3 To inform this Topic Paper and our emerging MKCP policies, we have commissioned industry-leading experts to help us establish a comprehensive and robust evidence base on a range of environmental issues. The outputs of these where available are discussed later in the paper.

Background

2.1 The purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development, and infrastructure in a sustainable manner. The MKCP must deliver this objective for Milton Keynes and in doing so ensure that we maximise opportunities to protect and enhance the environment and mitigate and adapt to climate change.

2.2 In response to concerns over climate change and needs for adaptation, we declared a Climate Emergency and adopted the **MK Sustainability Strategy 2019 - 2050** on 23 January 2019. The strategy notes that the climate change is real, and its detrimental impact is recognised. The ambition to become the 'Greenest City in the World' was set and elaborated on in the strategy in the form of a framework with key aims and priorities for action. The priorities are goals for Council teams to work towards, so carbon emissions are brought down to zero by 2050. Work to deliver the Sustainability Strategy is ongoing, with annual updates on the Sustainability Strategy Action Plan provided to Cabinet. The latest update was presented to Cabinet in February 2024, details of which are available on **our website**.

2.3 Our Council Plan 2022-2026 was approved on 19 June 2024. The plan explains our priorities and key objectives: for Milton Keynes to be a thriving city, a progressive city, and a sustainable city. It also gives details of the outcomes that we want to see by 2026, several of which relate to making Milton Keynes a leading sustainable city, supporting sustainable transport and mobility, and mitigating the impacts of climate change. The full list of outcomes under these headings is set out in Appendix A.

2.4 Furthermore, in 2021, we adopted the **Strategy for 2050** which has set out a vision for the future of Milton Keynes, alongside a long-term approach to spatial development. It aims for a steady population increase to around 410,000 people in the administrative area by 2050, as the best means of achieving Seven Big Ambitions. Particularly relevant for this topic are the following ambitions:

- Strengthen those qualities that make Milton Keynes special.
- Make Milton Keynes a leading green and cultural city, by global standards.
- Build safe communities that support health and wellbeing.
- Make it easier for everyone to travel on foot, by bike and with better public transport.
- Improving the connectivity of blue corridors across the borough and the wider Oxford-Cambridge area.
- Implementing strategic water and river management measures to mitigate flood events; utilise solutions like dry/wet ponds and balancing lakes to store excess rainwater, directing flood water away from residential areas.

2.5 The Strategy for 2050 is not a statutory planning document but it is an Annex to the Council Plan and sets out Milton Keynes City Council's vision for growth in Milton Keynes, building upon the growth strategy already set out within Plan:MK. The Strategy was informed by a suite of evidence studies and extensive stakeholder engagement. As such, it provides a strong foundation for developing the MKCP.

2.6 It is therefore the role of the MKCP to set out the planning policies and approaches that will help us to deliver development that meets the overarching vision of the Strategy.

2.7 The national and local policy context is set out in Appendix B.

2.8 An important way of integrating climate change mitigation, adaptation, and environmental objectives into the MKCP is the Sustainability Appraisal Framework (SA) that is being used to ensure the MKCP meets a variety of sustainability focused objectives relating to all the key themes of the MKCP. Alongside the topic papers, the SA helps to ensure the Plan reflects national legislation/policies.

2.9 An important part of drafting the SA has been an analysis of the social, economic, and environmental characteristics of Milton Keynes, which has helped us identify the primary issues and problems facing people in Milton Keynes from a land use planning and development perspective. Chapter 4 of this paper highlights how these climate and environment issues and problems play out in Milton Keynes.

MK City Plan 2050 Objectives

3.1 The MKCP contains a positive ambition and set of objectives to provide a focus to the plan and shape the spatial strategy and policies that will guide the growth of the city to 2050. It provides a framework for addressing climate change and other environmental, social, and economic priorities and a platform for local people to shape their surroundings.

3.2 We consulted on a draft set of objectives for the MKCP between 31 January and 16 March 2023. As noted in the Consultation Statement, most respondents supported the objectives. With respect to the draft objectives for the climate and environmental action theme, we received helpful suggestions that we also consider issues such as renewable energy and better energy efficiency standards, the importance of adaptability, and ensuring that work towards these objectives do not conflict with those for other objectives, such as transport.

3.3 Following this work, we have revised the objectives to the following:

1. New homes and buildings to be net zero carbon by 2030 and carbon negative by 2050.
2. New growth prioritises active travel and public transport to reduce carbon emissions.
3. Support the efficient use of resources as part of a circular economy.
4. Create space for nature and deliver significant gains in biodiversity.
5. Ensure that communities and nature can cope with and bounce back from negative climate impacts and environmental change.

3.4 The below sections explain what the evidence says about these issues.

Challenges and Drivers for Change

4.1 The emerging evidence base to support the MKCP has analysed a wide variety of social, economic, and environmental factors which influence how development should occur in Milton Keynes.

4.2 There are a range of issues and problems relating to the physical environment, climate change, and sustainable travel in Milton Keynes. These are all interconnected, and as the paper will show, link into, and influence the wider climate environment at the regional, national, and global scales. Action on these issues at a local level will improve the situation locally and contribute to reducing these climate change and environmental issues at the global scale.

4.3 At a high level, Figure 1 sets out the key matters considered within this topic paper and sets out a few of the tools and considerations that have informed the climate and environment focused evidence base studies.

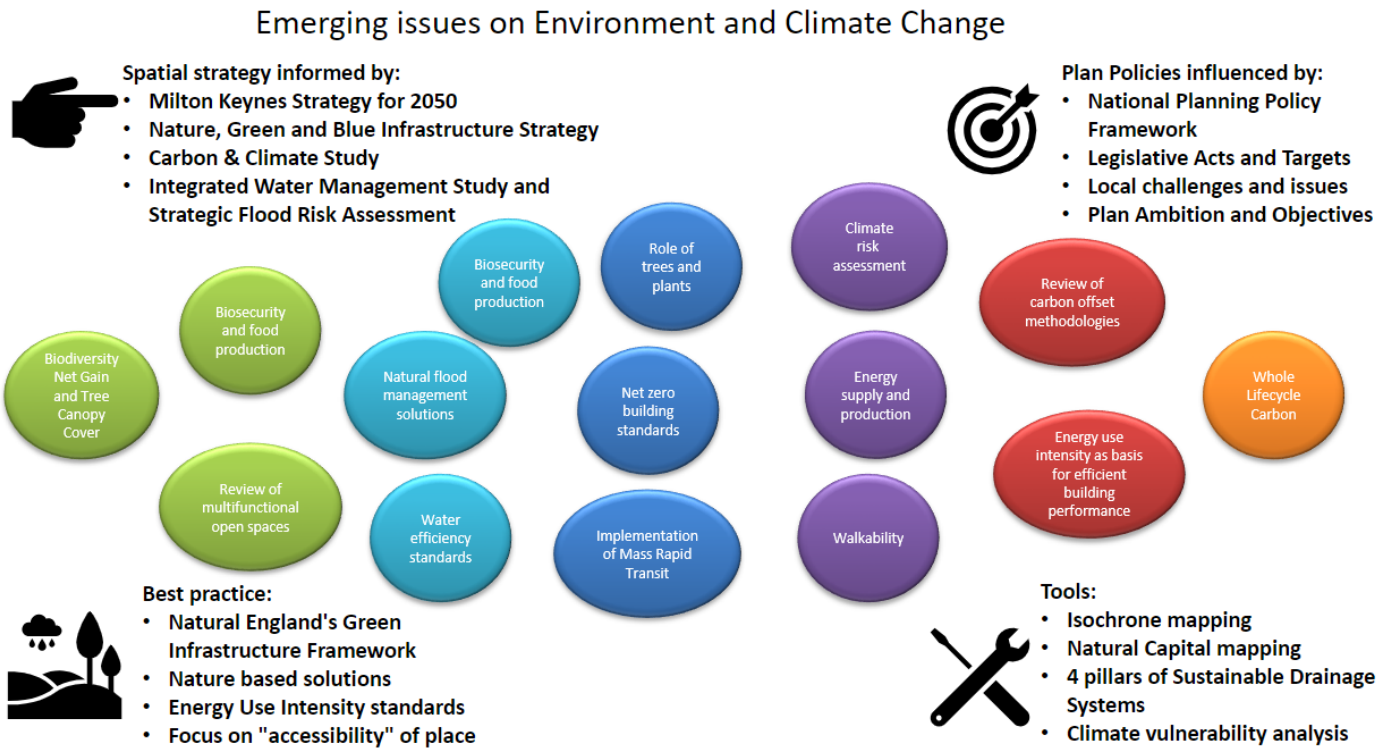


Figure 1: Emerging issues on Environment and Climate Change.

4.4 However, it is important to note that not all these issues are solely within the control/remit of the planning system and that many key stakeholders have influence in these areas which is covered by other legislation. For example, local water quality is, to a large extent, influenced by the activities of Anglian Water and the Environment Agency. However, to ensure the MKCP grasps the opportunities to help stop climate change and improve the environment, we should consider how the policies within it support these efforts.

Climate Change

4.5 The built environment and transport sectors continue to be large sources of greenhouse gas emissions (GHG)[1]. Milton Keynes area wide emissions in 2021[2] totalled 1,884 ktCO2e. 45% of these emissions came from domestic and commercial buildings; of this 45%, the majority of these (53%) comes from domestic buildings.

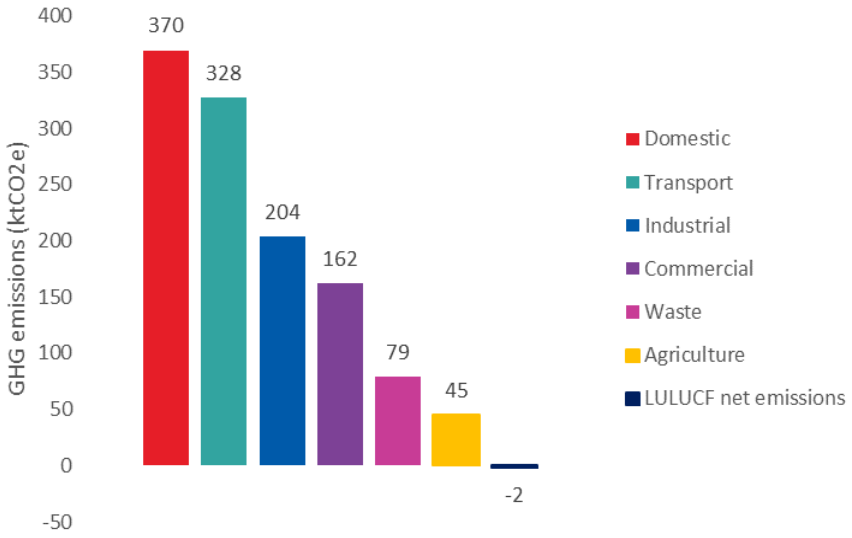


Figure 2: Milton Keynes' area wide GHG emissions breakdown by sector in 2021. LULUCF stands for Land Use, Land-Use Change and Forestry.

4.6 It is widely accepted that continued GHG emissions will drive further climate changes, resulting in more frequent damaging weather patterns, environmental degradation, and flood events. A core focus must therefore be **maximising opportunities to mitigate GHG emissions to stem climate change, while also adapting to its impact**. Figure 3 shows the scale of this challenge by comparing the projected effects of current Government policies on reducing carbon emissions across Milton Keynes, compared with science-based reduction targets set by the Tyndall Centre and Committee on Climate Change (CCC).

4.7 Carbon sequestration (the capture and storage of carbon dioxide) is one way in which we can reduce net GHG emissions, for example through retention of areas of natural and biodiversity rich habitats such as woodlands. The total annual carbon sequestration potential for Milton Keynes has been estimated as -44,991 tCO_2e[3]. Inclusion of planning policies which **protect areas of existing high potential to sequester carbon, and create areas and design practices (e.g., green roofs and walls) that would sequester carbon**, would increase this potential. Agricultural land typically has a poor sequestration potential, and development of some lower quality agricultural land may help to increase this potential by creating areas that store more

[1] https://www.gov.uk/government/collections/uk-local-authority-and-regional-greenhouse-gas-emissions-national-statistics

[2] (Emissions generated minus sequestered emissions)

[3] See Appendix C of this paper for a spatial breakdown of sequestration potential in Milton Keynes, as shown in the CCS.

carbon (e.g., small woodlands) where none exist currently. However, relative to the total net annual GHG emissions in Milton Keynes, it is recognised that sequestration is likely to play a small role in GHG emission reduction efforts.

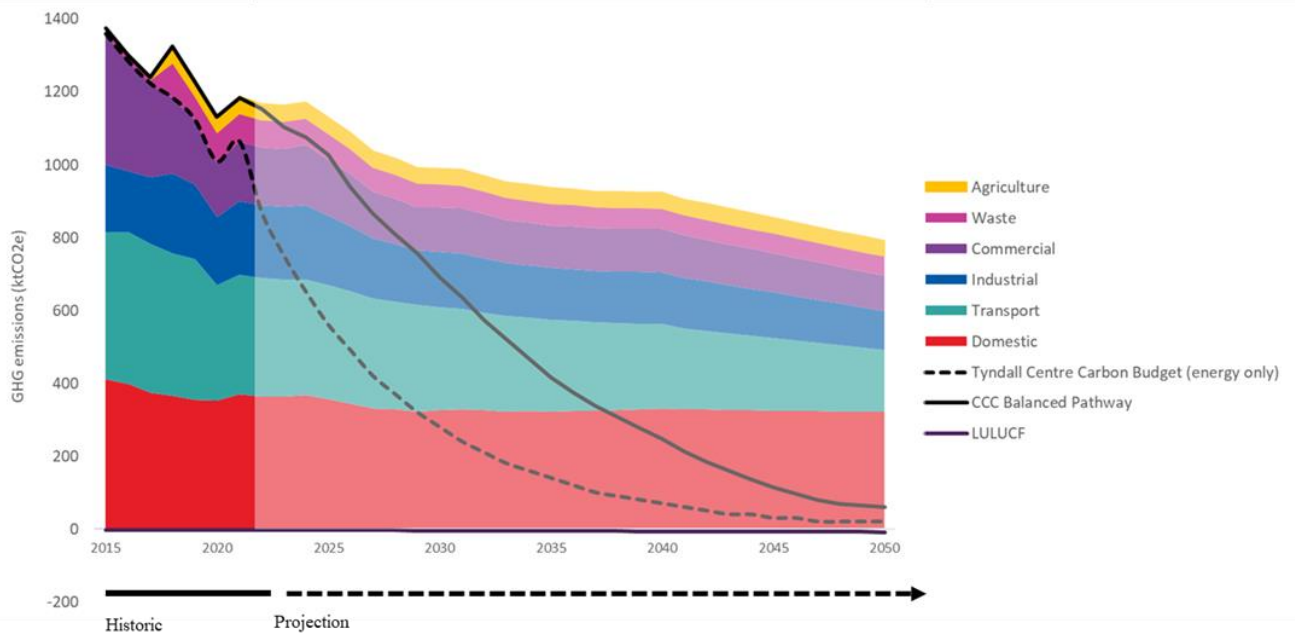


Figure 3: Milton Keynes area-wide emissions pathways to 2050 under business as usual, CCC (Committee on Climate Change), and Tyndall Centre scenarios.

4.8 An integral part of the Carbon & Climate Study (CCS) has been to model the likely impact on carbon emissions[4] of siting new housing and employment development in different types of locations, to inform a more sustainable spatial development strategy. Figure 4 shows the high-level outputs of the carbon model, which indicates that development within the existing urban area would result in fewer emissions than urban extensions, followed by new settlements, and lastly more dispersed rural development. While this evidence indicates an ideal scenario would be all new

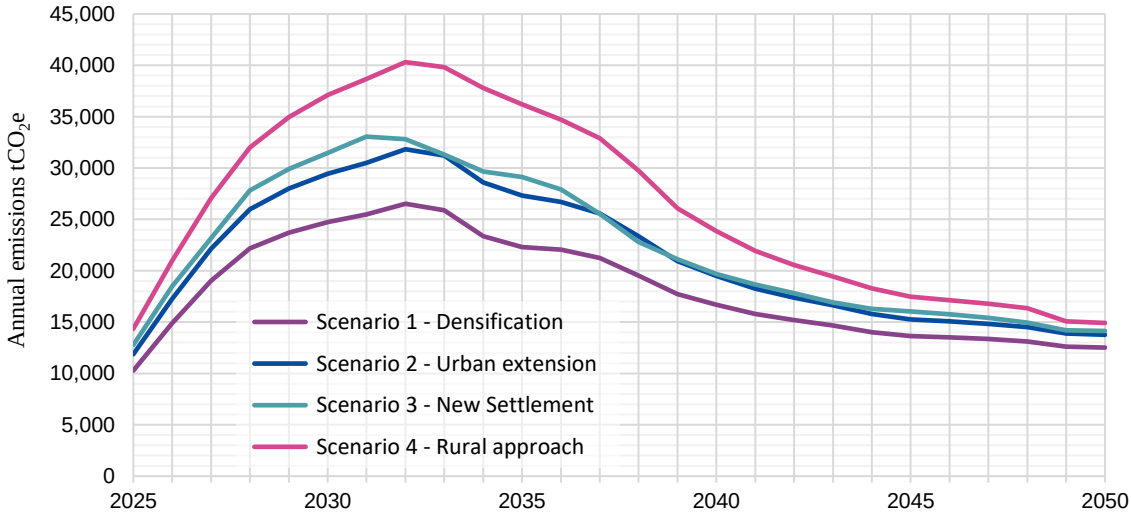


Figure 4: Annual total absolute emissions from the spatial typology options.

[4] Including emissions from buildings, transport, waste management.

development being located within the existing urban area of Milton Keynes, given the constraints on development and amount of available land within the urban area, it is more appropriate that **future development should be spread across a range of location types, albeit following a spatial strategy which prioritises development in locations which result in fewer carbon emissions**. The potential to deliver significant growth within Central Milton Keynes would align with this approach, as would locating development in locations that would support greater use of public transport and the planned Mass Rapid Transit system (see paragraph 4.40 for more details on this).

4.9 A range of climate hazards (such as flooding, extreme heat, water scarcity/drought, and wind) are expected to impact people, buildings, the natural environment, businesses, and infrastructure in Milton Keynes. However, it is projected that the level of risks from different hazards will vary, and new development in particular locations may exacerbate certain hazards. The risks posed by all sources of flooding, extreme heat, and water scarcity/drought are expected to increase in future and to range from high to very high across the plan period, whereas the risk from wind would range from medium to high risk, wind speeds are expected to remain consistent relative to today. The likely impacts of climate change on human health are well documented by the UK Health and Security Agency[5]. Therefore, **future development needs to be designed to avoid, for instance by not building in flood risk areas, and/or be resilient to climate hazards, for instance by constructing buildings to the highest quality standards, thereby reducing their vulnerability to extreme weather**.

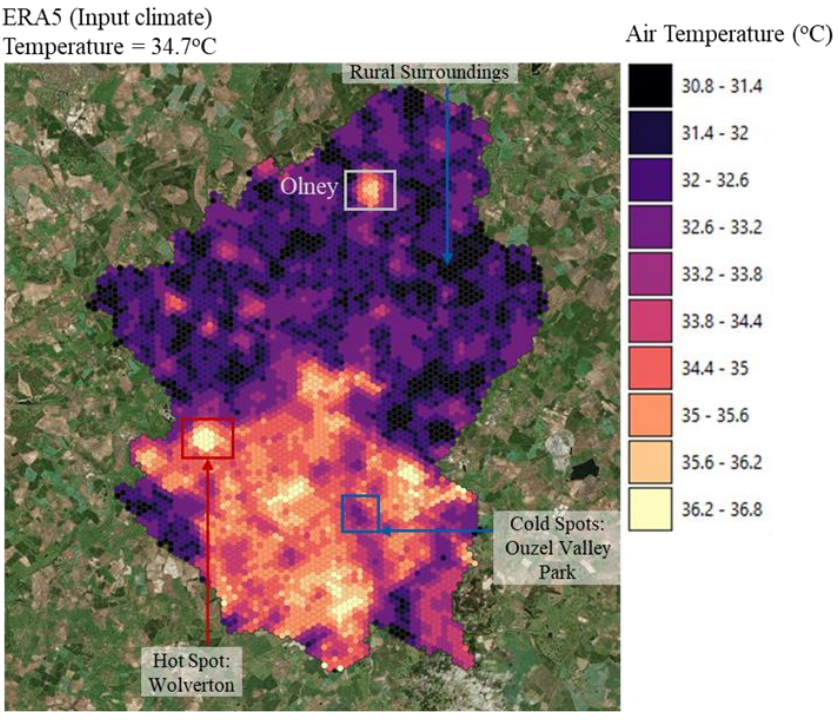


Figure 6: Urban heat island map – peak daytime urban heat island intensity hour from England's hottest day on record (19th July 2022). Data produced using UHeat, an Arup urban heat island model.

[5] Climate change: health effects in the UK - GOV.UK (www.gov.uk)

4.10 Notably, overheating risk is a challenge in Milton Keynes. Figure 6 shows that parts of the city are less susceptible to the urban heat island effect, but some areas form "hot spots" which retain heat during periods of hot weather both during the day and at nighttime. These tend to be older areas of Milton Keynes which have less green and blue infrastructure alongside buildings, such as Wolverton, Olney, and Bletchley, but also includes parts of CMK.

4.11 The whole Anglian Water region is designated as being under serious water stress (when demand is close to exceeding or exceeds supply). We will work with developers and other stakeholders, such as the Environment Agency and Anglian Water, to future proof homes and new developments by incorporating solutions such as rainwater harvesting and efficiency measures which will conserve wholesome water resources. In line with this, we propose, as a minimum, a 100l/p/d target within policy, with an expectation that larger strategic development should achieve an 80 l/p/d target. MKCC will continue working with Anglian Water on the impact of different water efficiency targets on water demand in Ruthamford Central Water Resource Zone (WRZ), and the potential to achieve water neutrality.

4.12 **Future growth of the city must be in the areas with the lowest risk of flooding and not cause flooding to occur elsewhere.** There are several types of flood risk present in Milton Keynes: fluvial, surface water, groundwater, sewer, canals, and reservoirs. Flooding can vary depending on geology (the types of materials the ground is made up of, e.g., sand, clay, and different rocks), proximity to watercourses, and topography (how hilly/flat an area is). Climate change is likely to increase the intensity and frequency of flooding events, as well as alterations to functional floodplain extents, and must be considered in future planning. Integrated water management in new developments will be key to this approach, for instance through provision of blue infrastructure and sustainable drainage systems (SuDS) which mimic natural drainage, to prevent flooding.

4.13 Surface water flooding, as impacted by climate change (see Figure 7), has the potential to adversely affect people in Milton Keynes and will need to be considered by all developments.

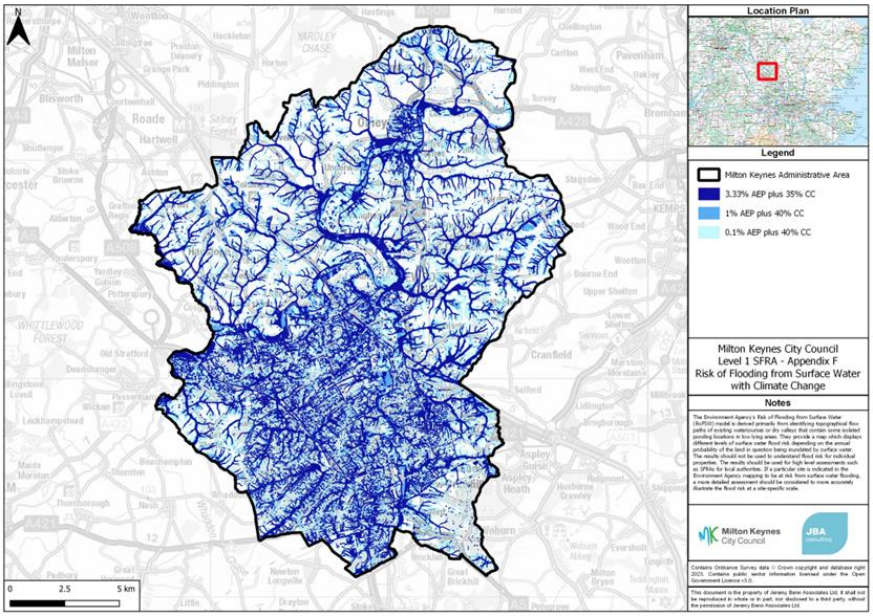


Figure 7: Risk of flooding from surface water with climate change map. Source Strategic Flood Risk Assessment.

4.14 Historically, we have sought to set Local Plan energy efficiency requirements for new developments which go beyond Building Regulations standards. **Subject to robust viability evidence, we intend to again set a policy requirement which goes beyond Building Regulations and would reduce regulated building emissions to zero**.

4.15 The approach to setting local energy efficiency standards set out by Government[6] stipulates that any additional requirement beyond building regulations is expressed as a percentage uplift of a dwelling's carbon emissions, calculated using Government's approved methodology. However, trying to achieve net zero emissions from new buildings using an emissions-based approach has several shortcomings[7][8]. Therefore, we propose to introduce an energy use-based policy. This approach would ensure effective reductions in GHG emissions, lower energy demand and consumption, and therefore result in lower utility bills, higher thermal comfort, and better air quality for occupants. However, considering the risk that these standards may not pass the Local Plan Examination, we are preparing additional evidence to support an emissions-based approach as a fallback position. These will also be subject to robust viability evidence, and we intend to present these within the Regulation 19 version of the MKCP.

4.16 One area that planning policy and building regulations have historically not addressed is the amount of embodied carbon within new developments, which includes emissions associated with materials and construction processes. Not considering embodied carbon means that measuring the carbon intensity of new buildings based solely on energy use/efficiency will not enable us to achieve net zero by 2050, as

[6] Written statements - Written questions, answers and statements - UK Parliament
[7] See CCS.
[8] Delivering Net Zero - Main Report (levittbernstein.co.uk)

required by the Climate Change Act 2008. Therefore, **we have considered how policy can introduce an embodied carbon standard**.

4.17 **The decarbonisation of energy is central to efforts to mitigate climate change**. The CCS carried out an assessment of the most appropriate locations that large scale solar and wind developments could be located within the borough, based on a land use constraints analysis. Figures 8 and 9 highlight the results of this work for solar PV. Policy can therefore show opportunity areas for solar PV development to come forward, and to support other means of low carbon and renewable energy generation such as local heat and energy networks. However, a challenge to delivery of additional renewable energy generation is delays to providing grid connections for new projects, and associated infrastructure such as new and/or upgraded sub-stations. We will therefore need to support such works when they come forward, subject to minimising any potential harms to an acceptable level.

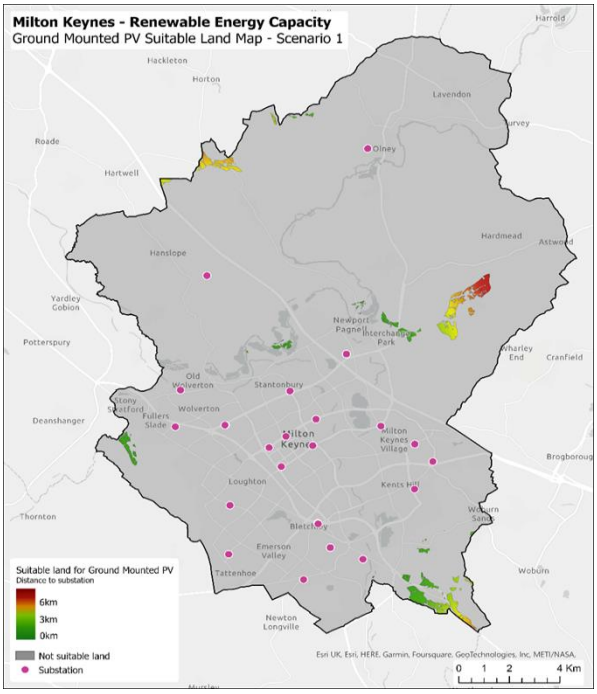


Figure 8: Ground-mounted solar PV potential suitable land, excluding flood map zones from rivers, surface water and Agricultural Land Classification (ALC) Grade 3.

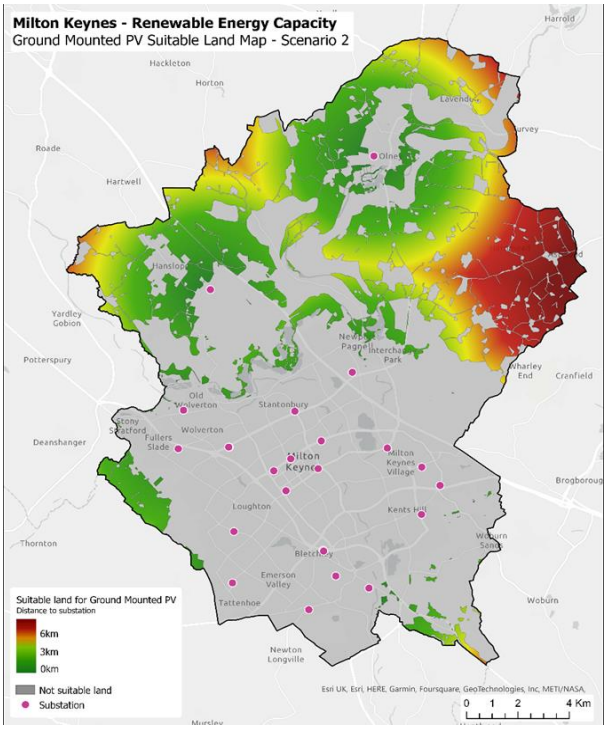


Figure 9: Ground-mounted solar PV potential suitable land, including flood map zones from rivers, surface water and ALC 3.

Physical Environment

4.18 New development presents challenges and opportunities for a range of environmental assets and processes. These include biodiversity value and ecosystem services such as provision of clean water, air quality, improving food security, and supporting the well-being of residents. The availability of open space, alongside other green and blue infrastructure, to residents can affect the function of these services. Pollution of land, air and water, and pollution by noise, vibration, and light also factor into these issues.

4.19 Gas emissions associated with new development can have impacts on local air quality. Air quality in Milton Keynes is good in terms of nitrous oxide and particulate matter levels. Currently, across the Milton Keynes administrative area, air pollution levels do not exceed air quality objectives. Milton Keynes previously had an Air Quality Management Area designation in Olney created due to high concentrations of nitrous oxides, although this was formally revoked in early 2024 due to pollution levels being within air quality objectives for several years. There was an estimated exceedance of $PM_{2.5}$ in 2019, although, levels have since improved and are projected to remain below the objective until at least 2030.

4.20 However, **air pollution (even at levels below official objectives) from new development and associated transport can have a wide range of health effects at all ages, including respiratory and cardiovascular diseases, cancer, birth defects, diabetes, and dementia**. Air pollution also has a disproportionate impact on the young, elderly and those with existing health conditions, and is linked to inequalities in exposure and harm. For all four growth typologies, nitrous oxide and particular matter levels are projected to increase over the plan period due to higher numbers of

vehicles on the road, while air pollution from buildings is expected to be comparable between options. However, due to greater reliance on vehicles in rural areas, air pollution levels would be highest in a rural-led development scenario when compared with the other scenarios. **Locating more homes in the urban area would result in the least transport-related air pollution**. Figure 10 has a visual comparison of this data. **We should include high levels of green infrastructure and landscape planting within developments to help absorb these emissions and to function as buffer zones where consistent with other objectives of the MKCP**. **Including green roofs and walls within developments where feasible and viable would also contribute to this objective.**

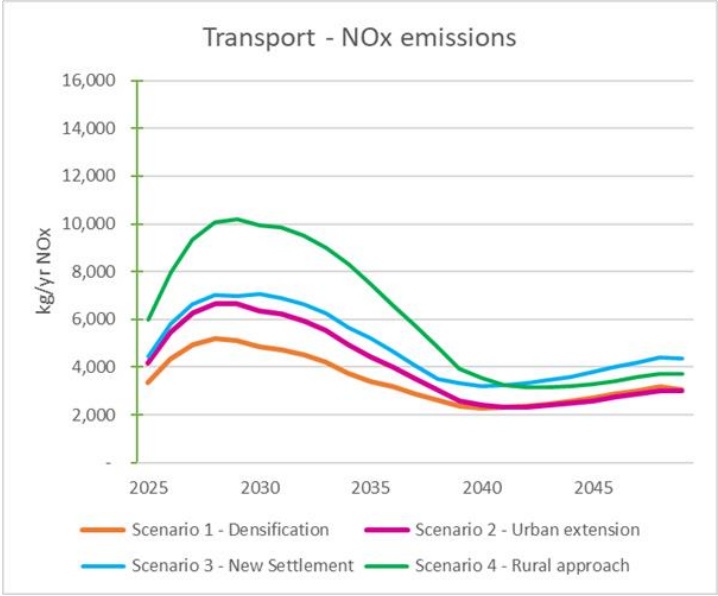


Figure 10: Transport-related nitrous oxide emission projection.

4.21 As the population increases the potential for noise and vibration pollution also increases. Noise and vibration can have a detrimental effect on public health and the natural environment. As noted in the Sustainability Appraisal Scoping Report, planning cannot affect all sources of noise. However, **good design can mitigate the potential for noise and vibration when different land uses and buildings are near one another**.

4.22 Reuse of existing developed land and buildings creates opportunities to remediate (resolve) ground and soil contamination, and we will support such efforts in line with national planning policy and the 1995 Environment Act. As the plan period progresses, the frequency of these redevelopments is likely to increase as the building stock in Milton Keynes ages and occupier needs change over time. The Housing and Economic Development Needs Assessment (HEDNA) highlights that a significant proportion of employment floorspace needs will come from redevelopment of existing employment land and buildings. **We will therefore need to ensure that no unacceptable risks arise from such schemes.**

4.23 Artificial light can be necessary for safety and security, and for maximising the use of buildings and facilities. However, light spillage from artificial light can be detrimental to both people, wildlife, and can change the character of an area at night, in particular the tranquillity and dark skies within the rural area. As Milton Keynes grows over the

course of the plan period, the likelihood of light pollution will increase, unless appropriate mitigation measures are used. **Artificial lighting therefore needs to be carefully sited and designed. In certain cases, a landscape character and visual impact assessment or appraisal must be provided as appropriate, to assess impacts such as night sky glow, light spill, and glare.**

4.24 Tree planting has been an integral part of environmental management in Milton Keynes since its inception. Planting trees within developments have a number of benefits for carbon storage and improving air quality as mentioned, but also through flood risk management, biodiversity, and improvements for mental health. However, monoculture planting (of the same plant species) in the past has increased the vulnerability of tree populations in Milton Keynes to pests and disease, an issue likely to be exacerbated by climate change. **Therefore we need to ensure that new developments, retain existing trees and hedgerows, use tree pits where appropriate, have a wider variety of tree and plant species** to support enhanced biosecurity, resilience to climate change, as well **as increasing the amount of tree cover generally within the area** to maximise their co-benefits[9].

4.25 Provision of a high amount of open space and green and blue infrastructure has been a key part of the MK design philosophy since the original masterplan was created. These spaces help us to create places that are nature rich and beautiful, active and healthy, thriving and prosperous, have improved water management, are resilient and climate positive, and provide a range of ecosystem services. Feedback from our engagement as part of the Aims and Objectives, CCS, Nature, Green and Blue Infrastructure (NGBI) Study, and Healthy Places consultations highlights that well designed and multifunctional green spaces within MK are highly valued by residents.

[9] Policies supporting these objectives in the MKCP would complement efforts by the wider Council to protect and enhance tree planting in Milton Keynes, as set out in our City of Trees plan.

4.26 However, the ability of people to access these spaces is not uniform across the borough, and that in some places a surplus of open space exists based on proposed standards, whereas in others there are shortages. The quality of publicly accessible open spaces is also not uniform, with some areas providing a greater range of ecosystem services and benefits for residents than others. **There is a need to consider how the varied use and accessibility of open spaces and green and blue infrastructure can be improved by new development**[10]. We have sought to align our proposed approach with Natural England's Green Infrastructure Framework[11].

Great Linford Manor Park. Photo credit: Luke Gledhill, Development Plans team, MKCC.

4.27 Green roofs and walls are an additional form of green infrastructure that can provide multiple benefits for local people and environments. They can help improve public health, mitigate the urban heat island effect, improve air quality, reduce noise travel, reduce surface water run-off, and increase biodiversity. The evidence recommends **a policy approach which seeks green roofs and/or walls on new buildings to deliver multifunctional value which balances the public health, microclimate, climate resiliency, and biodiversity value with the whole life cost effectiveness of the installation.**

4.28 We have also considered the likely impacts of climate change on natural environment and assets, such as biodiversity and green spaces, within Milton Keynes. It is expected that there is a very high risk of impacts to natural environment and assets because of river flooding, surface water flooding, sewer flooding, water scarcity, and extreme heat. These conditions make it particularly difficult for certain flora and fauna to

[10] Work will be carried out by our Environment Service teams and The Parks Trust to maintain and enhance existing open spaces within MK, however, such work will be beyond the remit of the MKCP which relates to new developments.

[11] Green Infrastructure Home (naturalengland.org.uk)

thrive. A medium risk is expected from extreme wind, groundwater flooding, and reservoir flooding. As such, **there is a need for policy to ensure that new developments locate new habitats and green spaces in ways that are resilient (resistant) to the effects of climate change. Intentionally choosing plant species that are drought/flood/heat resistant will also help achieve this objective.**

Example of a medium depth green roof at Broughton Pavilion, Milton Keynes. Source: The Green Project.

4.29 Flood and water management is an integral part of planning for sustainable development. Predicted water supply deficits pose a threat to residents and businesses in Milton Keynes. From reduced drinking water supplies to reduced goods production and economic output, the effects of water shortages can be wide ranging. Not introducing measures to combat these effects in Milton Keynes may reduce the effectiveness of measures introduced elsewhere. Continued poor water quality in our streams, rivers and lakes may result in adverse impact of environmental and human health, and potential contamination of drinking water supplies.

4.30 River, reservoir, groundwater, sewers, canal overtopping, and surface water flooding all present risks to people, buildings, and the wider environment. It is expected that overtime the potential for flooding from all sources is likely to increase, primarily because of climate change and further development taking place. New development has the potential to adversely affect flood risk, either by increasing the risk of flooding onsite and/or elsewhere. **National planning policy provides a clear requirement that new development, especially homes, should not be in areas of existing flood risk, and we will reflect this approach**.

4.31 Through Schedule 3 of the Flood & Water Management Act, Government has introduced a requirement for local authorities to approve sustainable drainage systems in new developments, through new procedures that are separate from the statutory planning process. Through the new Local Plan, we will seek to support our Environment Service in the delivery of this statutory function.

4.32 All EA regulated water bodies located in or within catchment areas in the MKCC area are classed as 'Fail' for overall chemical status tests. Whereas some, but not all, water bodies were rated 'poor' for water ecological status tests. While we are clear that improving water quality is not wholly within the remit of both the Council and the planning system[12], we note new development has the potential to adversely affect water quality. There is potential for surface water run-off to contain contaminants, such as chemicals from road vehicle exhausts. Moreover, greater volumes of wastewater associated with additional development may (without sufficient infrastructure upgrades) result in sewer overflows, thus negatively impacting the quality of watercourses and nutrient neutrality. As such, we need to **design new development to minimise these risks to an acceptable level, for example through use of sustainable drainage systems (SuDS) which comply with the "four pillars of SuDS design"**: water quantity, amenity, biodiversity, and water quality, and which are maintained throughout the lifetime of a development.

Campbell Park. Photo credit: Luke Gledhill, Development Plans team MKCC.

4.33 Biodiversity refers to all species of animals and plants – everything that is alive on our planet. Biodiversity has intrinsic value but is also important to sustaining liveable and viable places for people. However, human activity poses significant risks to biodiversity and by extension, our ability to respond to the impacts of climate change, manage conservation of habitat and provide custodianship and stewardship over the natural world. Changes in weather will drastically impact the environment, what grows, the habitat for species and migration and growth patterns for flora and fauna. Climate change will weaken biosecurity, and the balance of traditional native species against species emerging from other climates is not yet understood nor do we

[12] The Council is committed to working with our partners, such as the Environment Agency and Anglian Water, to improve water quality in the MKCC area.

understand the wider impact. New development may lead to habitat and biodiversity loss, thus impacting the natural environment's capacity to adapt to climate change.

4.34 Through the development of the Local Nature Recovery Strategy (LNRS) we have sought to identify potential areas for the expansion of key habitats, potential areas for biodiversity offsetting, and biodiversity net gain. Generally, more opportunities exist for habitat creation outside of the city boundary due to the absence of urban development, and availability of agricultural land which can be improved more easily than brownfield land (land which has already been built on). More detailed evidence in this area will be available on completion of the LNRS, a draft version of which is expected in late 2024. However, other evidence base studies highlight the importance of creating more multifunctional green infrastructure which provides biodiversity net gain, within CMK and the rest of the urban area. As such, **we have considered sustainable growth options and reviewed how best to protect and enhance the natural and historic environment, support net gains in biodiversity and ecological networks, use a range of nature-based solutions, and improve the wellbeing of residents**[13].

4.35 Based on the findings of our Landscape Character Assessment and Valued Landscape Policy Review in 2022, we commissioned a local landscape designation study to either refresh our old Areas of Attractive Landscape (AALs) or designate new areas of landscape value. **Using this evidence, we have defined areas worthy of local landscape designation. These will be known as "Special Landscape Areas" (SLA) to highlight their value to local areas in Milton Keynes and will help to defend valued landscape areas in planning assessments and appeals.**

Sustainable Travel

4.36 Transport is a key theme that is covered throughout the topic papers supporting the MKCP, but this section specifically looks at the environmental issues created by the transport sector and what we can do about it through the new plan. Provision of easy to access transport and active travel networks has been a central tenet of the design approach in Milton Keynes since the original masterplan. However, transport emissions accounted for 28% of annual GHG emissions in Milton Keynes in 2021. Therefore, failing to increase active travel and use of public transport will inhibit efforts to decarbonise the movement of people and reduce the accessibility of certain locations, which until now have not been as well served by public transportation as other areas. This would also fail to support efforts to improve levels of physical activity and access to economic opportunities.

4.37 Where we locate new development, particularly housing, has a large impact on the carbon footprint of people living in those homes. A key reason for the differences in carbon emissions between the four spatial typologies tested by the CCS is that locating homes and employment uses in more rural areas increases dependency on use of the

[13] This approach reflects work in the wider Council to make MK the "Greenest City in the World" by adopting the three-pillar approach to the physical and natural environment: nature, landscape and trees, and water.

private car to travel, at the expense of public transportation and active travel modes which, per person travelling, are less/not polluting forms of mobility.

4.38 For comparison, Figures 11 and 12 show the estimated levels of annual transport emissions associated with new growth over the plan-period for the densification and rural area spatial typologies. As shown, while emissions in both scenarios would reduce to near net zero by the end of the plan period, a densification-led approach would result in the least emissions of the four typologies tested, both annually and cumulatively, and the rural led approach would result in the most emissions[14].

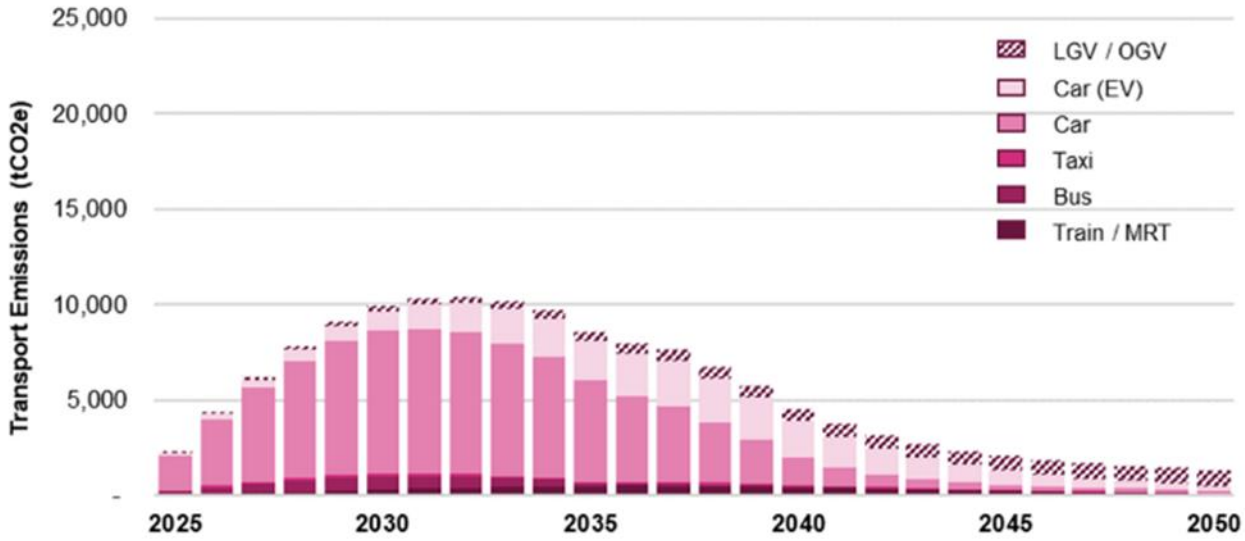


Figure 11: Densification typology annual transport emissions.

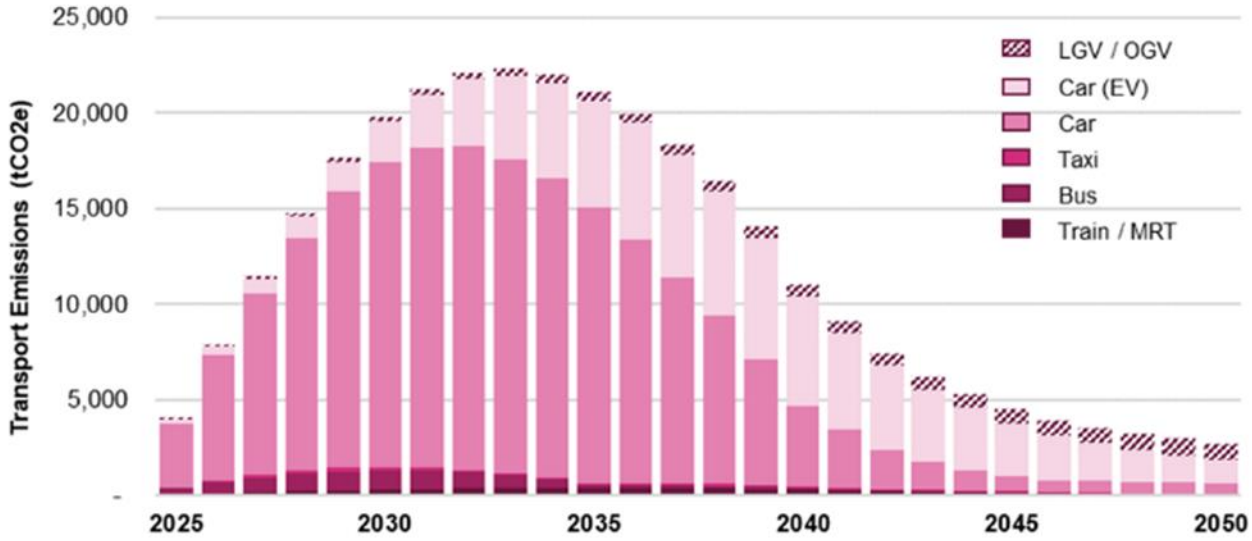


Figure 12: Rural area typology annual transport emissions.

4.39 Best practice produced by the Royal Town Planning Institute (RTPI)[15] suggests, wherever possible, that we **locate houses, schools, shops, community facilities, and employment uses in the same places and make it easier for people to walk between these places**, to reduce the distance people must travel as they go about their daily lives. Such measures have co-benefits for contribute to better public health, as people can walk and cycle to where they need to go instead of using private cars, and better air quality due to reduce reliance on vehicle travel. A shift to more sustainable modes of transport creates wide ranging benefits, for example **with less space being used for driving and parking cars there are opportunities for healthier urban environments**. Furthermore, there are **public health and air quality benefits of sustainable transport which would not be achieved by simply switching all private cars to electric vehicles**.

4.40 To help solve the challenges to public transport viability within the city and to deliver economically and environmentally transformative growth, as set out in the Strategy for 2050, we are planning to deliver a Mass Rapid Transit (MRT) system for Milton Keynes. The strategic growth topic paper considers how the new Local Plan may support rollout of an MRT system in more depth. However, just in terms of the environmental benefits, it is assumed that MRT would be fully electric from the first year of operating, and so, as the UK electricity grid fully decarbonises, **MRT would represent a significantly less carbon intensive mode of travel than private vehicles. It is also assumed that due to fewer private vehicles being on the road, particulate matter emissions would be reduced, creating better local air quality.**

4.41 Higher densities in new housing developments in close to MRT stops will make frequent MRT services more viable. However, we are clear that increased densities do not necessarily mean building tall buildings that may not match the surrounding character. While tall buildings may be acceptable in certain locations such as CMK and Bletchley town centre, appropriate densities to support MRT can be achieved through blocks of 4-5 storey flats and terraced housing, thereby increasing housing density while maintaining the character and scale of existing neighbourhoods. Increased housing densities also support the delivery of more walkable neighbourhoods, in line with the recommendations of the *High-Quality Homes and Neighbourhoods*, and *Healthy Places* Topic Papers.

[15] RTPI | Net Zero Transport: the role of spatial planning and place-based solutions

Principles and Policies for Climate and Environmental Action

5.1 This section outlines the emerging policy options as informed by our evidence base work so far. Plan-making plays a crucial part in helping to deliver more sustainable developments on the small scale (e.g., by imposing energy and efficiency standards) and at the strategic level (e.g., by planning for growth with the consideration of resilience to flooding, increasing access to different transport modes, and improving options for sustainable travel). There is, as Section 4 suggests, a large amount of scope to include new planning policies to help protect and enhance the environment and to combat climate change. We propose that the MKCP contains several policies within its Climate and Environmental Action chapter. The content of these policies is explained below.

Sustainable buildings

5.2 These policies relate broadly to a range of design standards for new buildings in Milton Keynes. In line with statutory and national policy requirements, we are proposing net zero building and whole lifecycle carbon standards for major residential and commercial developments, to help achieve our targets to be zero carbon by 2030 and carbon negative by 2050 and align with carbon budgets set by the Committee for Climate Change. Alongside this is a requirement for 25% of energy demand in new buildings to be provided by on-site renewable generation. The building performance of new dwellings would also need to be monitored to measure whether the as designed performance matches the as built performance.

5.3 As already required by Plan:MK, any remaining emissions would need to be offset through payments into our longstanding Carbon Offset Fund. Through the Whole Plan Viability Study, we are testing a revised methodology for calculating the offset payments, which takes into account up-to-date carbon pricing and the expected lifetime of building services (25 years as per BSRIA research). Based on a carbon price of £294 for 2024, as set by the Department for Energy Security and Net Zero, and the 25-year expected lifetime of building services, the proposed offset amount would be £7,350.00 per tonne of carbon dioxide.

5.4 The energy efficiency standards set out in the plan target the energy use intensity of new developments. However, we are in the process of preparing additional evidence to support a Target Emission Rate (TER)-based standard, considering Government's position in the 13 December 2023 Written Ministerial Statement that local energy efficiency standards should be expressed in terms of the percentage uplift of the TER. This evidence would support a fallback TER-based policy to support the plan at the Public Examination in case the energy use intensity standard is not accepted.

5.5 The policies address the role of preserving older buildings as a way of locking in embodied carbon and retrofitting these buildings to reduce carbon and energy use and preserve our cultural heritage. It also addresses how we can ensure new buildings are resilient to the physical effects of climate change, including through additional of green roofs and walls, and inclusion of measures to improve water efficiency in new homes in line with the Anglian Water Efficiency Joint Protocol.

Low and zero carbon energy production

5.5 These policies set out our criteria for assessing proposals for new renewable and low carbon energy generation projects, and schemes which help to facilitate the green energy transition (e.g., grid upgrades) and reiterates our support for such schemes where any harms are adequately mitigated. These include the potential impacts on amenity, wildlife and biodiversity, landscape, and heritage assets, which are addressed

by other policies within the plan. Policies contain additional criteria in relation to preventing harm to air safety and radar interference due to low and zero carbon energy production.

5.6 We note the support that the Energy Act 2023 gives to provision of heat networks, which can be a very efficient form of heat and energy distribution, particularly when using zero carbon energy sources and/or energy from waste processes. The policy approach will reflect this approach by requiring new developments to connect into those networks, subject to a criteria-based approach based on emissions savings, costs of connection, and the heat/energy demands of the proposed development. This requirement would only apply to developments within the same/adjacent grid square/settlement as infrastructure associated with existing heat/proposed networks.

5.7 To facilitate the delivery of wind turbine and solar farm developments in the borough, we will introduce areas of search for these types of development. These areas are based on an evidence-based analysis of areas with the least amount of land use constraints on these types of development being delivered, such as proximity to important ecological designations and flood risk zone 3.

5.8 We will also support the principle of installing solar PV canopies to existing and proposed car parks to foster the efficient use of land and decentralisation of renewable energy supply.

Sustainable and resilient environments

5.9 These policies contain additional requirements (other than those in the flood and water management, biodiversity, and landscaping policies) which will deliver environments and buildings which are resilient to a range of environmental effects, as well as climate change. A key aspect of the planning process is ensuring that the potential for new developments to pollute the environment is minimised to an acceptable level. We will ensure that new development proposals appropriately address the potential for schemes to be impacted by and/or create contaminated land and soil, poor air quality, water, noise and vibration, and light pollution.

5.10 The policy requirements will also set out that a proportion of all parking spaces in new developments will need to be served by electric vehicle chargers. As set out in the *High-Quality Homes and Neighbourhoods* Topic Paper, we expect that the MKCP will set out revised parking standards for new development. Unless these also include new EV charging standards, we would expect new development to also accord with the EV standards as set out in our Parking Standards SPD (2023).

Accessible open spaces and formal outdoor playing fields

5.11 Public Open Spaces form an important part of the Green and Blue Infrastructure network. They are recognised as being important to the quality of people's lives and are a significant factor in achieving sustainable communities by providing numerous benefits. Open spaces often encourage enjoyment of the natural and semi-natural

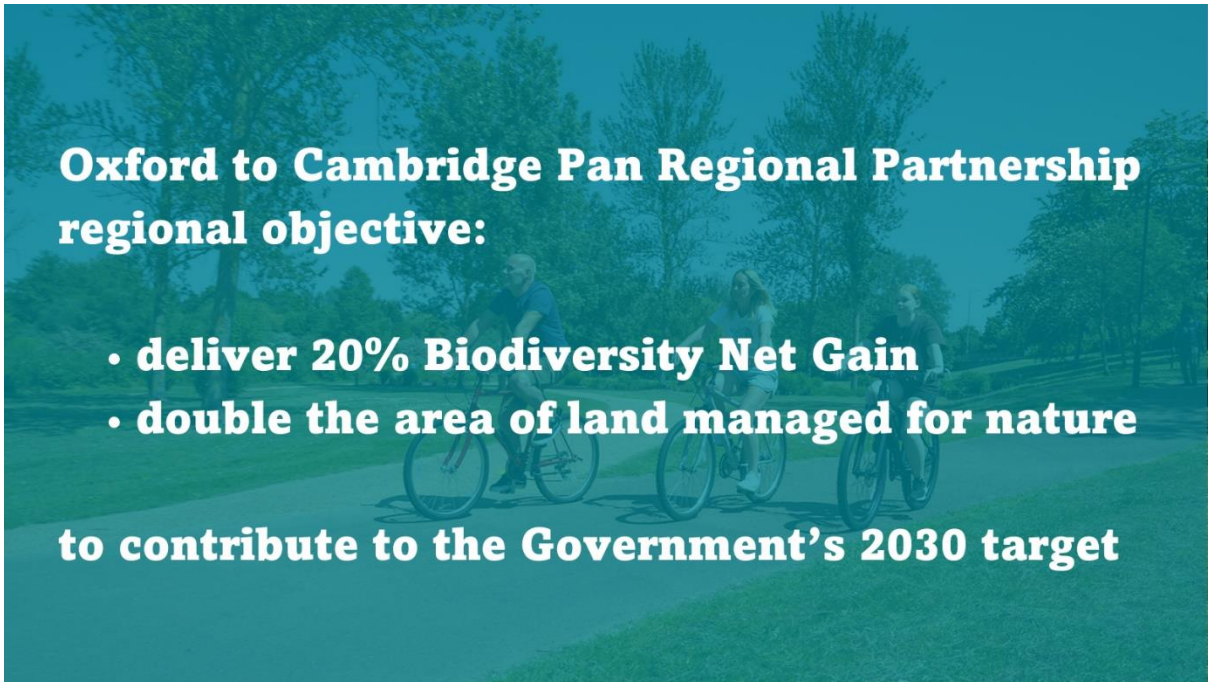
environment whilst contributing to biodiversity net gain and conservation of nature and landscape, protection of water resources and air quality. Policies seek to protect existing open spaces and the linear park network within Milton Keynes.

5.12 Future provision of accessible open spaces and formal outdoor playing fields should be appropriate to the needs of the development and surrounding area as per draft standards (provision, type, size). Subject to requirements this could be achieved though off-site provision, contributions towards improvements of existing sites. Long term management and maintenance should also be taken into consideration. These policies use the recommended standards provided by the Open Space Assessment. Detailed site/area-specific policies (e.g., CMK) shall also consider the need for open spaces.

Supporting our Natural Environment and Biodiversity

5.13 The policies are guided by the objectives of the NGBI study and the LNRS which will be used to identify how habitats can deliver wider environmental benefits, which may also improve people's access to green infrastructure. The policies in this section seek to provide details of the required measures so that developers have certainty over what green infrastructure and biodiversity enhancements are needed. Moreover, policy wording deliberately adopts strong phrasing to enforce the need for action to be taken. Site-specific policies shall also include details on how the strategy for NGBI will be delivered.

5.14 Biodiversity Net Gain (BNG) is an Environment Act requirement for new development to deliver a minimum 10% increase in biodiversity after development, compared to the level before, which can provide an investment mechanism for both on-site and off-site green infrastructure. This can be achieved by either enhancing existing habitats or creating new ones. BNG can therefore be used to both raise the quality of existing green and blue spaces (such as river restoration) and provide new green infrastructure.

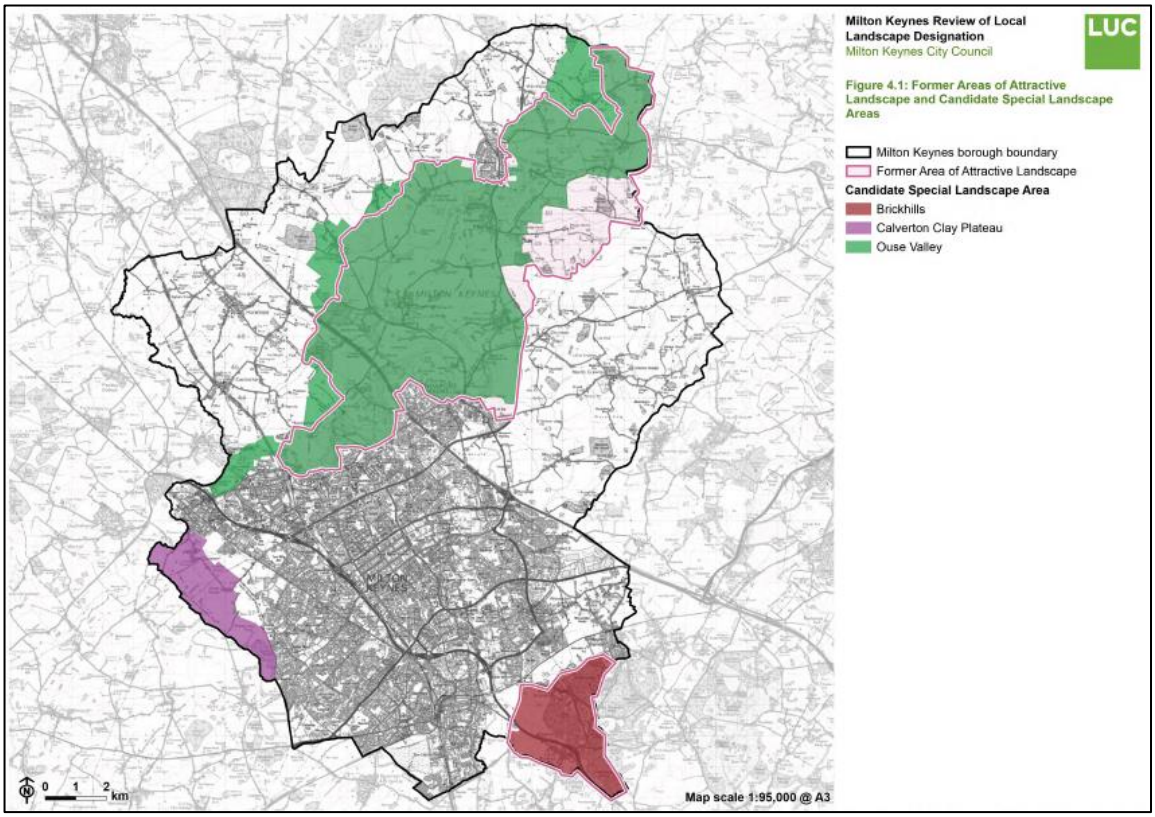


5.15 At a regional level, the Oxford to Cambridge Pan Regional Partnership has set an environmental objective to deliver 20% Biodiversity Net Gain and to double the area of land managed for nature across the region to contribute to the Government's 2030 target. However, based on viability evidence this target would not be achievable in Milton Keynes. Therefore, policies will require proposals to achieve at least 10% BNG, and will strongly support proposals that provide higher than 10% BNG. Alongside this requirement, policies will need all new development to avoid a loss of habitat on-site, unless equivalent habitat or statutory credits are provided off-site. Policies will also seek the protection and enhancement of the environmental infrastructure network, priority species and priority habitats, in line with the NGBI Study and list of habitats identified in the MKCP.

5.16 The MKCP introduces Urban Greening Factor, Urban Tree Canopy Cover, and woodland standards for new development. Collectively these seek to improve the provision of green infrastructure and greening in urban environments, increase the number of trees planted in Milton Keynes, protect and enhance existing woodlands, and make it easier to access woodlands from new developments.

Special Landscape Areas

5.17 Our three proposed Special Landscape Areas (SLA) have been informed by the findings of our review of historic Areas of Attractive Landscape (AAL). The locations and boundaries of the proposed SLA areas are shown in the map below. This map also indicates the boundaries of the former AAL designations, to demonstrate the amendments made to the new SLA designations. The evidence base provides a Statement of Significance for each proposed SLA, demonstrating how the area meets the criteria for designation.



5.18 We recognise that all landscape is of value, a principle established by the European Landscape Convention, which came into force in the UK in 2007. Where landscape has been designated as an SLA, it is recognition of the 'special' qualities of that landscape which make it of higher sensitivity and value. While the SLA designations do not prevent all development in an area, some of the key policy recommendations from the emerging evidence base include conserving, and where possible enhancing, the open character of the landscape through avoiding the introduction of large-scale elements which would have visual impacts over a wide distance and retaining the characteristic settlement pattern of historic villages by avoiding out-of-scale residential developments. This has been a key consideration in decisions to allocate strategic sites for extensions to Milton Keynes.

5.19 The Special Landscape Area policy seeks to reflect these recommendations and will seek to ensure developments conserves and enhances the special character and key landscape qualities of the SLA designations, as well as ensuring that the character of wider landscapes in Milton Keynes are conserved. The policy seeks to require development proposals to incorporate appropriate measures to mitigate landscape

and visual impacts, and to have regard to the Milton Keynes Landscape Character Assessment and any other relevant landscape and visual assessments or studies.

Flood and Water Management

5.20 The policies in the MKCP consider the likelihood of flooding from various sources and seek to ensure that new developments do not cause flooding elsewhere. A Level 1 Strategic Flood Risk Assessment was produced which identifies several flood risks in the area: fluvial, surface water, groundwater, sewer, canals, and reservoirs. Specific requirements seek to ensure new development does not negatively impact existing flood controls, wholesome and foul water infrastructure is provided in time to serve new buildings, reduce run-off rates on brownfield sites, and ensure site-specific Flood Risk Assessments are carried out where appropriate.

5.21 Further criteria seek to protect and enhance existing watercourses through stand-off distances, allowing for the de-culverting of waterways, and ensuring watercourses and balancing lakes are allowed to function in a natural way.

5.22 SuDS are most effective at reducing flood risk for relatively high intensity, short and medium duration events, and are particularly important in mitigating potential increases in surface water flooding, sewer flooding and flooding from small and medium sized watercourses resulting from development. Plan policies seek their inclusion to mitigate the impacts of new development, including when considering the impacts of climate change. Moving forwards, an Integrated Water Management Study will be used to inform site specific policies in future versions of the MKCP.

Next Steps

6.1 This topic paper accompanies the Regulation 18 consultation version of the MKCP. As we progress through the plan-making process to examination, we will continue to update the topic paper and relevant policies as we consider new evidence and feedback from the consultation. In this sense, the topic paper is a ‘living’ document that will be updated through the preparation of the Local Plan.

6.2 The topic paper will highlight key issues and opportunities that the Local Plan should seek to address. It will help to shape and influence the direction and focus of policies and designations or site allocations where applicable.

6.3 Where possible we have identified the synergies between each of the topic papers. For example, this topic paper addresses design and environmental features which help to support public health, provision of high-quality buildings, and support climate resilience. There is therefore crossover between this and the other topic papers. Awareness of this crossover will be helpful when ensuring dependencies between evidence studies are met, and policies within the plan form an effective and holistic approach to new development.

Appendix A - Milton Keynes City Council Plan

Key Objective: A Sustainable City

We will ensure that we grow sustainably and deliver value for money services that put tackling climate change at the heart of our actions.

Outcomes

The world's leading sustainable city

- Reduce MK Council emissions to net zero and aim to reduce all carbon emissions in MK to net zero by 2030.
- Increase the biodiversity of our green spaces.
- Decrease levels of waste and increased the reuse and recycling of resources.
- Reduce water usage and improve water management.
- Continue to be a world-leading Smart City.

Sustainable public transport and mobility

- Improve the availability and affordability of public transport in Milton Keynes.
- Support bus services and improve demand responsive transport.
- Develop plans for a Mass Rapid Transport System for Milton Keynes.
- Increase journeys made by walking and cycling and investment in improving our Redways to reduce car usage.
- Support the speedy transition to electric vehicles.

Mitigate the impact of climate change

- Improve the energy efficiency of local housing.
- Development of local renewable and low carbon heat and power generation schemes.
- Expand our carbon capture capacity through green roofs and afforestation.
- Reduce as much as possible the harm caused by increasing instances of flooding.
- Promote more sustainable land uses.

Appendix B – Policy & Legislative Context

National Policy and Legislation

A1.1 It is important to note that the adopted Local Plan was examined under the **National Planning Policy Framework (NPPF) 2012**. There have subsequently been updates to the NPPF, which sets national policies around climate change and environment protection; this is supported by the Planning Practice Guidance with a wide range of guidance set out under this topic in various sections of the NPPG (National Planning Policy Guidance) (including Climate change, Natural environment, Renewable and low carbon energy, Flood risk and coastal change)[16] as well as standalone guidance such as the National Design Guide[17] and National Model Design Code[18]. The most recent version of the NPPF (December 2023) includes reference to the United Nations 17 Sustainable Development Goals that address social progress, environmental protection, and economic well-being. Sustainable development was also re-defined to refer to environment improvement and climate change mitigation and adaptation (Paragraph 11).

A1.2 Another area where the NPPF has been strengthened is in relation to the environment is biodiversity net gain, reflecting the Government's aspirations for nature recovery set out in the 25 Year Environment Plan and which are taken forward in the **Environment Act 2021**. The Environment Act 2021 makes provision for Biodiversity Net Gain (BNG) to be a condition of planning permissions. The revised NPPF also introduces the concept of natural capital, requiring Local Plans to 'plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries' (Para 181).

A1.3 With respect to climate change, **Section 19 (1a) of the Planning and Compulsory Purchase Act (2004)** states "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".

A1.4 Moreover, the **Planning and Energy Act (2008)** states that Local Planning Authorities may impose reasonable requirements for a proportion of energy used in development to be from renewable and low carbon sources in the locality of the development, and for development in their area to comply with energy efficiency standards that exceed the energy requirements of the building regulations.

A1.5 In terms of design, the NPPF seeks a high-quality design and place creation and has been strengthened by requesting: '(…) creation of high quality, beautiful and sustainable buildings, and places (…) (Para 131). Trees play a key role in the NPPF where they contribute to local character and help tackling climate change.

A1.6 Chapter 9 of the NPPF is about promoting sustainable transport and requires the consideration of transport infrastructure from the earliest stages of plan-making and development design, so that:

[16] Planning practice guidance - GOV.UK (www.gov.uk)
[17] National design guide - GOV.UK (www.gov.uk)
[18] National Model Design Code - GOV.UK (www.gov.uk)

- The potential impacts of development on transport networks are considered.
- We ensure that the opportunities from changing transport technologies are realised.
- We identify and pursue opportunities to promote walking, cycling and public transport.
- The environmental impacts of traffic and transport infrastructure are identified, assessed, and considered in decision making, and mitigate these where possible.
- We consider the patterns of growth, movement, streets, parking, and other transport considerations that are integral to designing high quality places.

A1.7 In 2021, Government published its **Decarbonising Transport** paper, its strategy for a delivering a national transport system which does not emit carbon emissions, but also provides a range of other benefits for the economy and public health. We have touched upon some of these benefits above, in terms of public health and proximity of homes to education and job opportunities. In addition, Government's **Bus Back Better (2021)** sets out its national strategy for buses and the role of buses in a sustainable transport system.

A1.8 Addressing the climate change and ecological emergency at the national level, the **Climate Change Act 2008 (as amended)** sets out legally binding targets for net UK carbon account for the year 2050 where the emissions will have to be at least 100% lower than the 1990 baseline and by 78% by 2035.

A1.9 Flooding is specifically mentioned in the NPPF with requirements for sequential test for assessing flood risk. The NPPF also notes the need for managing risk by exploring opportunities for green infrastructure and natural flood management. Other important legislations is the **Flood and Water Management Act (2010)** that aims to reduce the flood risk associated with extreme weather and therefore addresses the threats of flooding, water scarcity intensified by climate change and coastal erosion and the **Natural Environment and Rural Communities Act 2006** ('2006 Act') (as amended) which makes it more explicit that public authorities in England must assess how they take action to conserve and enhance biodiversity. Specified public authorities are also required under the 2006 Act to produce biodiversity reports on how they have conserved and enhanced biodiversity. The requirements of the Act are important to consider as Blue and Green Infrastructure (BGI) forms a very strong part of enhancing and improving wildlife and biodiversity.

A1.10 In August 2022 the government published a significantly revised flood risk and coastal change section of the PPG, which provides guidance on, among other topics:

- When and how the sequential and exception tests should be applied.

- How surface water should be considered when designing and delivering development.
- The use of multifunctional Sustainable Drainage Systems (SuDS) and natural flood management methods.

A1.11 Government has recently published a consultation titled "Levelling-up and Regeneration Bill: reforms to national planning policy." Included within this consultation are proposed changes to the NPPF that are relevant to climate change and environment, including:

- Changes in relation to climate change and renewable energy.
- The need to consider the availability of land for food production when deciding which sites are most appropriate for development.
- How to take an integrated approach to flood risk.

Local policy

A1.12 We currently have a range of local planning policies and guidance relating to climate change and environmental matters. These can be found in our current Local Plan, **Plan:MK**, as well as our **Waste and Minerals Local Plans**, and a suite of **Supplementary Planning Documents (SPD).**

A1.13 The preparation of Plan:MK required a compilation of various evidence base studies that were used to support formulation of local plan policies and they included studies on climate change and the environment.

A1.14 Plan:MK Strategic Objectives 12, 13 and 15 seek the mitigation of climate change issues as well as protecting, maintaining, and enhancing the natural environment, alongside maximising the role of smart, shared, and sustainable mobility in managing increased travel demands. This approach is supported both by policies within the Plan, the Biodiversity SPD, the Sustainable Construction SPD, and the Parking Standards SPD. The Planning Obligations SPD sets out our approach to seeking planning obligations.

A1.15 Nature conservation is regarded as a key test of sustainable development. The local planning process addresses this duty by the inclusion of several nature conservation polices in Plan:MK (including NE1: Protection of Sites, NE2: Protected species and priority species and habitats, NE3: Biodiversity and geological enhancement, NE4: Green infrastructure, NE5: Conserving and enhancing landscape character, NE6: Environmental pollution). There are other policies within Plan:MK that set design principles for a new development and consider BNG via connected green infrastructure such as Policies SD1 (Place-making principles for development) and CT8 (Grid Road Network).

A1.16 The key Plan:MK policies in relation to water management are Policy FR1 (Managing Flood Risk, Policy FR2 (Sustainable Drainage Systems (SuDS) and Integrated Flood Risk Management), and Policy FR3 (Protecting and Enhancing Watercourses).

A1.17 With respect to climate change, Chapter 17 of Plan:MK contains three policies (SC1: Sustainable Construction, SC2: Community Energy Networks and Large Scale Renewable Energy Schemes, and SC3: Low Carbon and Renewable Energy Generation) which, in conjunction with Policy WCS3 in the Waste DPD and our award-winning Sustainable Construction SPD, set out a range of design requirements that help the construction industry and building users to mitigate/adapt to climate change and reduce waste. This includes achieving lower than Building Regulations levels of carbon emissions, closing the building performance gap in new dwellings, and minimising waste arising from construction and demolition, as well as throughout a development's lifecycle.

A1.18 Chapter 8 of Plan:MK relates to transport and contains Policies CT1 (Sustainable Transport Network), CT2 (Movement and Access), CT3 (Walking and Cycling), CT4 (Crossovers on Redways), CT5 (Public Transport), CT6 (Low Emission Vehicles), CT7 (Freight), CT8 (Grid Road Network, and CT10 (Parking Provision).

A1.19 In Milton Keynes, our **Mobility Strategy (2018)** and **Transport Infrastructure Delivery Plan (TIDP) (2019)** have already provided greater detail about how we intend to meet many of the objectives set out by Government. The work on the MKCP is an opportunity to review how the planning process can help us achieve these objectives, and to support upcoming work on the **Local Transport Plan 5** (LTP5), which will replace the Mobility Strategy and TIDP. Key to the LTP5 work will be exploring all steps that can be taken to maintain and improve the transport system in Milton Keynes. This will include consideration of our Bus Service Improvement Plan (and Enhanced Partnership) which sets out the steps we are taking to deliver better bus provision.


Milton Keynes
City Council