Warwick District Council

NET ZERO CARBON

DEVELOPMENT PLAN DOCUMENT

Submission Version

August 2022



Contents

SECTION 1
05 The Local Context

SECTION 2
08 The National Context

SECTION 3
12 The Planning Policy Context

SECTION 4
15 Aims and Objectives

SECTION 5
17 Overarching Strategy
18 Policy NZC1: Strategy to Achieve Net Zero Carbon Development

SECTION 6
22 Reducing Energy Demands
23 Policy NZC2(A): Net Zero Carbon – Making Buildings Energy Efficient

SECTION 7
25 Energy Sources
26 Policy NZC2(B): Net Zero Carbon – Energy Sources

SECTION 8

28 Carbon Offsetting

29 Policy NZC2(C): Net Zero Carbon – Offsetting Residual Carbon

SECTION 9

32 Embodied Carbon

33 Policy NZC3 Net Zero Carbon – Embodied Carbon

SECTION 10

34 Existing Buildings
Policy NZC4 Net Zero Carbon – Existing Buildings

SECTION 11

36 Viability

SECTION 12

37 Warwick District Local Plan 2011-2029 – Policies superseded or amended

APPENDIX

38 Glossary

43 Appendix 1: Policy Context

1.The Local Context

1.1 Warwick District Council's Climate Change Commitments

1.1.1 On 27 June 2019 Members of Warwick District Council (WDC) unanimously declared a climate emergency, issuing the following statement:

"In October 2018, the IPCC Intergovernmental Panel on climate change issued a special report on the state of global warming, which warned of the rapid and far reaching consequences of over 1.5 °C of warming on all aspects of society. The Council recognises the importance of this report with the motion now adopted along with the following commitments.

i) Becoming a net-zero carbon organisation, including contracted out services, by 2025.

ii) Facilitating decarbonisation by local businesses, other organisations and residents so that total carbon emissions within Warwick District are as close to zero as possible by 2030.

iii) Working with other local councils to lobby central government to help address the above points including by funding and changing regulation.

iv) Engaging with and listening to all relevant stakeholders including members of the Warwickshire Youth Parliament regarding approaches to tackling the climate emergency.

v) Ensuring that tackling the Climate Emergency is central to the strategic business plan – both in terms of adaptation and mitigation.

vi) Producing within six months an action plan to implement these commitments."

1.1.2 Following this, the Council adopted a Climate Emergency Action Programme (CEAP) at its meeting in February 2020. The Action Programme included a strong recognition of the important influence of planning in tackling climate change including the following areas for possible action:

· Ensure that the planning system, led by the Local Plan, sets developments and land use standards aimed at reducing carbon emissions and building sustainable communities

· Develop and implement policies that will deliver improved net zero carbon building standards - subject to national policy

· Ensure carbon reduction features and BREEAM standards are included in major development schemes.

1.1.3 The CEAP recognises the importance of the planning system in achieving its ambitions: "In the coming decade, Warwick will have to improve the efficiency of all its buildings to reduce the demand for energy. Low carbon and/or renewable heating, energy reduction and an increase in the adoption of energy efficiency technologies in both commercial and domestic buildings will be required." A key part of this is a proposal to "Develop and implement policies that will deliver improved net zero carbon building standards".

1.1.4 The Council has also agreed to a Climate Change Action Programme (CCAP) which has been shaped by Warwick's Climate Change People's Inquiry which convened during 2020 and 2021, and a detailed emissions report by Anthesis[1] on behalf of Warwick and Stratford Council's. These have helped to shape the climate ambitions of the Council and set targets for delivery.

1.1.5 Recognising that the Council had declared a climate emergency, the preparation of a Climate Change Development Plan ahead of a Local Plan review was identified as an area for early priority focus when the Executive (now Cabinet) approved the year 1 priorities in December

[1] Anthesis – South Warwickshire Climate Action Support Report June 2021

2020. This was considered to be an important early element in enabling Warwick District to be as close as possible to net zero by 2030.

1.1.6 Development plan documents (DPDs) are the statutory elements of the Local Plan and as such this document provides new and extended policies to those found in the Local Plan with regard to climate change and sustainable buildings. This DPD outlines the issues we are facing in terms of climate change in order to facilitate delivery of the Council's commitments outlined above.

1.2 About Warwick District

1.2.1 Warwick District lies between the city of Coventry to the north, rural parts of Solihull Metropolitan Borough to the north and west, Stratford-on-Avon District to the south and Rugby Borough to the east. It enjoys good links by rail to Birmingham and London. There are regionally significant road networks linking to the M40, A45 and A46 corridors within and adjacent to the district.

1.2.2 90% of the 137,700 residents (2011 Census) live in the main urban areas of Kenilworth, Royal Leamington Spa, Warwick, and Whitnash with the remaining 10% living in a number of relatively small villages. Updated estimates put the district's population at 143,753 in 2019.

1.2.3 Relative to the West Midlands as a whole, the district has a strong local economy, with a skilled population and higher than average levels of productivity and earnings.

1.2.4 The district's relative prosperity masks some significant areas of deprivation however.

1.2.5 Approximately 80% of the district's rural area lies within the West Midlands Green Belt, with only the area to the south of Warwick, Whitnash and Royal Leamington Spa lying outside it.

1.2.6 81% of total employment in the district is provided in the professional services, health and education sectors together with retailing and public administration. There are strong representations of companies dealing in computing, IT and communications technology and the gaming industry (2011 Employment Land Review).

1.2.7 Overall, it has been estimated that the District is responsible for 1,259,600 tonnes CO2e per year (based on 2017 SCATTER figures). Of this around 40% of carbon emission arises from buildings (split evenly between residential buildings and institutional/commercial/industrial buildings).

1.2.8 Excluding embodied carbon, residential buildings make up 21.7%[2] of carbon emissions across the district. The Council is committed to reducing the districts carbon emissions by 55% by 2030, it is anticipated that new homes built in accordance with this DPD will have the potential to reduce emissions by 7,000 tCO2 per year.

1.2.9 'Carbon' is used in this DPD as a shorthand term for all greenhouse gases excluding water vapour (see Glossary for definitions of key terms). This will require the reduction of all greenhouse gases, of which carbon dioxide is the most prominent.

1.3 Objective of DPD

1.3.1 This DPD aims to focus on minimising carbon emissions from new buildings within the District to support the achievement of national and local carbon reduction targets. In achieving this aim, the DPD will ensure that new development does not add to the District's carbon deficit and will therefore ensure that the significant cost of retrofitting buildings to achieve net zero carbon does not increase.

[1] Anthesis – South Warwickshire Climate Action Support Report June 2021

2. National Context

2.1 The UK's international commitment via the Paris Agreement requires the UK to reduce its carbon emissions to an extent that would limit climate change to no more than 2°C and pursue a limit of 1.5°C.

2.2 The Committee on Climate Change (CCC) advises the government on emissions targets and reports to Parliament on progress made in reducing greenhouse gas emissions. CCC is an executive non-departmental public body, sponsored by the Department for Business, Energy and Industrial Strategy. The CCC reports that 40% of UK emissions come from households[3] devising that this can be reduced by continuing to reduce, reuse or recycle waste, switching to smart heating systems and by walking, cycling and investing in a more efficient or an electric car.

2.3 The 2020 CCC update report[4] states that the Committee has assessed a wide set of measures and gathered the latest evidence on the role of climate policies in the economic recovery. Its report highlights five clear investment priorities in the months ahead:

- Low-carbon retrofits and buildings that are fit for the future
- Tree planting, peatland restoration, and green infrastructure
- Energy networks must be strengthened
- Infrastructure to make it easy for people to walk, cycle, and work remotely
- Moving towards a circular economy.

2.4 The report finds that UK action to curb greenhouse gas emissions is lagging behind what is needed to meet legally-binding emissions targets. There is near-complete elimination of greenhouse gas emissions needed from UK buildings to meet the UK's legally binding targets[5].

2.5 The UK has legislated for net-zero emissions by 2050 and in a statement in April 2021, the Prime Minister announced the UK's ambition to cut greenhouse gas emissions by 78% by 2035. This announcement relates to the UK's sixth carbon budget which sets a restriction on the total amount of carbon to be emitted over a five year period (2033-2037), and subsequent carbon budgets will reduce emissions even further.

2.6 Given the significant proportion of emissions nationally that stem from buildings, it is a key part of the Government's strategy to improve building standards. As a result, the Government has published its intentions to introduce new Building Regulations during 2022, updating Part L for new homes and non-domestic buildings as a first step towards a Future Homes Standard. The new Building Regulations will require standards that are expected to reduce emissions from new buildings in comparison with current standards by 31%. Further, proposals to bring into effect a Future Homes Standard from 2025 have been published. The proposed Future Homes Standard seeks to deliver homes that are zero-carbon ready by:

- setting the performance standard of the Future Homes Standard at a level which means that new homes will not be built with fossil fuel heating, such as a natural gas boiler.
- future-proofing homes with low carbon heating and high levels of energy efficiency.
- ensuring no further energy efficiency retrofit work will be necessary to enable them to become zero-carbon as the electricity grid continues to decarbonise.

[3] (https://www.theccc.org.uk/wp-content/uploads/2016/07/5CB-Infographic-FINAL-.pdf)

[4] https://www.theccc.org.uk/publication/reducing-uk-emissions-2020-progress-report-to-parliament/

[5] https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/

2.7 The Government expects the proposals for a Future Homes Standard to "ensure that an average home will produce at least 75% lower CO^2 emissions than one built to current energy efficiency requirements. In the short term this represents a considerable improvement in the energy efficiency standards for new homes. Homes built under the Future Homes Standard will be 'zero carbon ready', which means that in the longer term, no further retrofit work for energy efficiency will be necessary to enable them to become zero-carbon homes as the electricity grid continues to decarbonise."

2.8 The Future Homes Standard includes proposals for fabric first to achieve energy efficient building construction and low carbon heat options, such as an intention "to move away from heating our homes with fossil fuels" recognising that it is "unlikely that there will be a one-size-fits all solution, so multiple technologies will play a role", whilst recognising that "Currently, electrification is one of the few proven scalable options for decarbonising heat. As set out in the consultation, we expect heat pumps will become the primary heating technology for new homes under the Future Homes Standard and we believe that it is therefore important to build the market for them now".

2.9 Alongside its plans to decarbonise new buildings by 2025 through the Future Homes Standard, the Government has clarified its position with regard to the power of Local Authorities to set standards which go beyond the Building Regulations. Specifically, the proposals state:

"All levels of Government have a role to play in meeting the net zero target and local councils have been excellent advocates of the importance of taking action to tackle climate change. Local authorities have a unique combination of powers, assets, access to funding, local knowledge, relationships with key stakeholders and democratic accountability. This enables them to drive local progress towards our national climate change commitments in a way that maximises the benefits to the communities they serve. As part of this, the Government wishes to ensure that we have a planning system in place that enables the creation of beautiful places that will stand the test of time, protects and enhances our precious environment, and supports our efforts to combat climate change and bring greenhouse gas emissions to net zero by 2050.

We recognise that there is a need to provide local authorities with a renewed understanding of the role that Government expects local plans to play in creating a greener built environment; and to provide developers with the confidence that they need to invest in the skills and supply chains needed to deliver new homes from 2021 onwards. To provide some certainty in the immediate term, the Government will not amend the Planning and Energy Act 2008, which means that local planning authorities will retain powers to set local energy efficiency standards for new homes."

2.10 Alongside this, lenders, investors and shareholders are likely to put increasing pressure on developers to decarbonise. This combination of shifting national policy and changes to the way development is financed, provide important context to local planning policies which support decarbonisation of new development.

2.11 In declaring a climate emergency, WDC has committed to "facilitating decarbonisation by local businesses, other organisations and residents so that total carbon emissions within Warwick District are as close to zero as possible by 2030." The Council is therefore committed to introducing standards which enable net-zero carbon buildings as soon as possible. Recognising the Government's position that "local planning authorities will retain powers to set local energy efficiency standards for new homes", Warwick District Council is committed to bringing forward policies ahead of the Government's stated timetable for the Future Homes Standard, whilst ensuring the approach we take broadly aligns with the approach set out in the Government's outline proposals. This DPD provides the building standards policies to achieve this and (except where policies within the existing Local Plan are replaced by the DPD), these policies supplement those within the adopted Warwick District Local Plan, 2011 – 2029 (See Section 11). The policies will be incorporated and built on in the preparation of the emerging South Warwickshire Local Plan.

3. The Planning Policy Context

3.1 National Planning Policy Framework (NPPF), July 2021

3.1.1 The NPPF originally published in 2012 and revised in 2018 and 2019, was updated in July 2021 and addresses the issue of sustainability by promoting sustainable development and encouraging sustainable transport. The NPPF addresses climate change and directs meeting the challenge of flooding and coastal change and adapting accordingly. It also directs that plans should include policies that move toward a low carbon economy.

3.1.2 It goes on to say in paragraph 9, that "These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account to reflect the character, needs and opportunities of each area.

3.1.3 The NPPF addresses the need for the planning system to address climate change through Chapter 14, notably paragraphs 152, 153, 154 and 157. Local requirements for sustainability of buildings should reflect Government policy for national technical standards in accordance with Paragraph 154.

3.2 Planning Practice Guidance updated in 2019

3.2.1 The Planning Practice Guidance states that: "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 NPPF. 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."

3.3 Warwick District Local Plan 2011-2029, adopted September 2017

3.3.1 The adopted Local Plan was prepared at a time when the NPPF was a recently published document which directed planning authorities to prepare plans for sustainable development. Policies were therefore written with this very much in mind. One of the policy areas considered was "climate change mitigation and adaptation, and the conservation and enhancement of the natural and historic environment, including landscape."

3.3.2 Identified issues included:

- The threat of flooding to homes and businesses in some areas, and the concern that flooding events will increase because of climate change
- Pressure for new development and climate change threatening the high-quality built and natural environments in the district, particularly in historic areas.

3.3.3 These policies aim to protect those elements of the environment that support and generate climate change resilience and include the more strategic objectives that are expected to contribute towards sustainable development and adaptation.

3.3.4 There are policies on climate change and water conservation. However, it should be noted that the Examination of the adopted Local Plan took place within the context of a Written Ministerial Statement setting out an expectation that local planning authorities should not set energy efficiency standards for new homes higher than the energy requirements of Level 4 of the Code for Sustainable Homes. This meant that the draft policy relating to sustainable homes was removed from the Plan prior to adoption. Following adoption, restriction on the ability of local authorities to prepare local building standards policies was lifted and thus provides the opportunity to prepare a DPD to do this. This DPD replaces and expands on relevant Warwick District Local Plan 2011-2029 policies and introduces standards for development which will positively contribute to the new targets set by both local and central government since the Local Plan was adopted.

3.3.5 The Warwick District Local Plan 2011 –2029 forms the framework within which developments are expected to conform. The Local Plan already contains policies which deal with aspects of climate change such as adaptation. This DPD should be used alongside the Local Plan and forms part of the development plan for the area. It carries equal weight and where policies set higher standards, these will take precedence and will further meet the Local Plan Objectives.

3.3.6 There is an adopted Sustainable Buildings SPD, dated December 2008. This is now very much in need of updating and the DPD will supersede it upon adoption.

3.4 Neighbourhood Development Plans (NDPs)

3.4.1 NDPs become part of the local development framework when they are 'made' (adopted) and policies carry the weight of those in the Local Plan. Sustainable development and climate change issues can and should also be addressed in policies in NDPs and any relevant adopted policies will need to be complied with when planning applications are submitted. There are currently 10 made Neighbourhood Plans within Warwick District. Policy NZC1 set out below is a Strategic Development Plan Policy with which new and updated Neighbourhood Plans are expected to conform.

3.5 Information and reference for further relevant international, national and local policy are set out at Appendix 1.

4. Aims and Objectives

4.1 Aim

4.1.1 This DPD aims to minimise carbon emissions from new buildings within the District to support the achievement of national and local carbon reduction targets set out in section 1.1 and paragraph 2.5 above. From adoption (and earlier where possible) the DPD will aim to ensure all new developments (as set out on para 5.11) should be net zero carbon in operation. For the purposes of this DPD net zero carbon relates to regulated operational energy, which results from fixed building services and fittings (space heating, cooling, hot water, ventilation and lighting).

4.1.2 In achieving this aim, the DPD will ensure that new development does not add to the District's carbon deficit and will therefore ensure that the significant cost of retrofitting buildings to achieve net zero carbon does not increase.

4.2 Objectives

4.2.1 **Objective 1**: To provide a clear policy framework to enable developers to understand the requirements for planning proposals to ensure new buildings are planned and constructed to be net zero carbon in operation.

4.2.2 **Objective 2**: To ensure practical and viable low carbon building standards that can be applied to new buildings.

4.2.3 **Objective 3**: To support the consideration of low carbon energy sources as part of development proposals.

4.2.4 **Objective 4**: As a last resort, to provide the policy framework for addressing residual carbon from new buildings through a robust carbon offsetting policy.

5. Overarching strategy: Achieving Net Zero Carbon Development

5.1 New development that falls within the scope of this Development Plan (as set out in 5.11 below) is expected to comply with the whole Plan.

Policy NZC1: Achieving Net Zero Carbon Development

New development of one or more new dwellings (C3 or C4 use class) and/or 1,000sqm or more of new non-residential floorspace, hotels (C1 use class) or residential institutions (C2 use class) should achieve net zero operational regulated carbon emissions by implementing the energy hierarchy.

Proposals should demonstrate application of the energy hierarchy through submission of an energy statement which identifies:

i. For new dwellings, a minimum 63% reduction in carbon emissions is achieved by on-site measures, as compared to the baseline emission rate set by Building Regulations Part L 2021 (SAP 10.2).

ii. In non-residential buildings, hotels and residential institutions at least a 35% reduction in carbon emissions through on-site measures compared to the rate set by Building Regulations 2013 (or equivalent percentage reduction on Building Regulations 2021).

iii. Compliance with the energy efficiency and renewable energy provisions set by policies policy NZC2(A) & (B) and by presenting the carbon savings achieved across each step of the energy hierarchy (demand reduction, efficient supply, renewable and other low-carbon technology).

iv. Any residual operational regulated carbon emissions (over the course of 30 years) will be calculated and offset to zero in accordance with policy NZC2(C). Offsetting will only be considered an acceptable solution to net zero carbon requirements if it can be demonstrated that carbon reductions achieved via on-site measures (and near-site renewables) are demonstrably unfeasible or unviable.

Where full compliance is not feasible or viable, proposals must demonstrate through the energy statement that carbon reductions to the greatest extent feasible have been considered and incorporated through applying the energy hierarchy. In applying the energy hierarchy, proposals are expected to implement fabric energy efficiency and low carbon heating before incorporating renewable electricity generation and then offsetting.

A condition will be applied to planning permissions requiring as built SAP or SBEM calculations to be submitted prior to occupation and demonstrating that the finished building meets the standard set in Policy NZC1.

Alternatively, applications may demonstrate the requirements of Policy NZC1 are met through the Passivhaus standard with accompanying PHPP calculations submitted within the energy statement (without the use of fossil fuels on site including gas). A condition will be applied requiring Passivhaus certification prior to occupation.

5.2 This strategy has been designed to deliver the objectives set out in section 4 above. The focus is on providing a practical and viable approach to deliver new development which is net zero carbon in operation – in other words the net zero carbon emissions will occur following completion of the development.

5.3 Improving energy efficiency and minimising our energy demand is the most cost-effective way to minimise new infrastructure that will be required to achieve a zero-carbon energy system and thus represents the starting point for the whole net zero journey. Improving energy efficiency in new homes will reduce the need for costs and future carbon emissions in retrofitting buildings at a later date and contribute to the total reduction in energy demand.

5.4 As a District that can demonstrate levels of development viability that can accommodate energy efficiency measures that go beyond the 2021 Part L building regulations, Policy NZC1 requires developments to achieve building performance that is broadly consistent with national ambitions as set out in the proposed Future Homes Standard to be introduced in 2025.

5.5 The percentages derived in NZC1 reflect the emissions reductions required for buildings to align with the Future Homes Standard, based on 2021 Building Regulations.[6]

5.6 The strategy seeks to achieve this by requiring applicants to address carbon emissions by applying the energy hierarchy (as shown in Figure 1) sequentially in three ways:

1: Reduce energy demands. Developments should be designed to minimise demand for energy in operation, thereby minimising carbon emissions. This involves:

a) Considering the potential for technology that enables occupants to live in ways that minimise energy demands.

b) Maximising energy efficiency.

2: Zero or low carbon energy sources. To meet energy demands in operation, developments should incorporate or utilise zero or low carbon energy sources. This involves:

a) Considering the potential to utilise large scale renewable or low carbon energy sources such as heat networks or local large-scale renewable energy generation sources, through a direct connection.

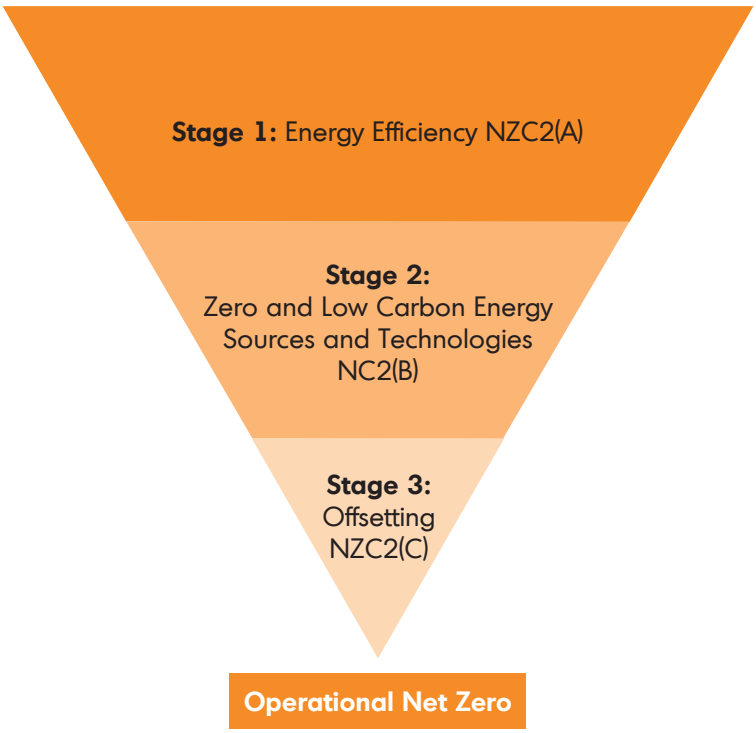
b) Incorporating passive and renewable energy sources within the development.

3: Carbon Offsetting. Developments that result in residual operational carbon emissions having incorporated stage 1 and stage 2, will be subject to carbon offsetting requirements to bring the total operational carbon emissions to net zero.

[6] Using a compound percentage based on government statements about the carbon reductions that will be achieved in 2021 and 2025 compared to 2013, the targets have been calculated with the following assumptions: Part L 2021 is a 31% reduction on Part L 2013, The Future Homes Standard is a 75% reduction on Part L 2013, which equates to the FHS being a 63.8% reduction on Part L 2021.

Figure 1: Energy Hierarchy

Overall emissions reduction target to acheve net zero carbon buildings (NCZ1)



5.7 A condition will be applied to relevant planning permissions requiring as built SAP or SBEM calculations to be submitted prior to occupation and demonstrating that the finished building meets the standard set in Policy NZC1. For sites of over 10 dwellings where standard house types are used, a sample of at least 20% of all dwellings (and including all house types) shall be tested.

5.8 To ensure the SAP or SBEM calculations identifying the carbon emissions are as accurate as possible, applicants will be required to perform SAP or SBEM[7] calculations at the following points of the design:

1. Pre-planning, using design values and submitted within the planning application energy statement.
2. Post-construction and preoccupation, using figures from the building as constructed, incorporating the following:

    i. Any specification changes to design values made to any SAP/SBEM regulated building element during construction.

    ii. The measured air-permeability, tested in accordance with the procedures set out in TM23, and reported as statutory compliance in Section 7 Part L.

    iii. Accredited construction detail performance as confirmed by infra-red thermographic survey and selective borescope surveys.

    iv. Commissioning logbooks provided to demonstrate that ventilation and heating systems are operating as intended.

[7] Calculations should be performed using the latest version of the SAP 10.2 methodology (current version 20.08.2021). Government has confirmed that this calculation will become the statutory methodology by June 2022 along with the interim uplift to Part L.

If the completed building fails to meet the conditioned standard, the developer must take reasonable remediation measures. Any residual operational regulated carbon emissions will be required to be offset in accordance with Policy NZC2(C) whether identified at application stage or pre-occupation, unless this is demonstrated to be unviable.

5.9 Furthermore, to ensure the energy performance gap is minimised we recommend the use of a recognised quality assurance process that ensures the 'as built' performance (energy use, carbon emissions, indoor air quality, and overheating risk) matches the calculated design performance of buildings. Examples of these include BEPIT (Building Energy Performance Improvement Toolkit), the Passivhaus accreditation process and the Assured Performance Process (NEF/GHA).

5.10 A condition will be applied to planning permissions requiring developers to produce a home user guide in accordance with the updated approved document L template.

5.11 Policy NZC1 sets out what is required of development proposals to demonstrate the delivery of this strategy. The policies in this plan will apply to the following new developments (except where otherwise specified):

a) All new residential developments of 1 dwelling or more (C3 or C4 use)

b) All new non-residential buildings, hotels (C1 use class) or residential institutions (C2 use class) of 1,000sqm or more floorspace.

6. Reducing Energy Demands:

Energy Efficient Buildings

Policy NZC2(A): Making Buildings Energy Efficient

New development of one or more new dwellings (C3 or C4 use) are expected to demonstrate a 10% improvement on the Part L 2021 Target for Fabric Energy Efficiency (set by SAP10.2).

New developments of 1,000sqm or more of new non-residential floorspace, hotels (C1 use class), or residential institutions (C2 use class) are expected to demonstrate that they achieve a 19% reduction in carbon emissions compared to Part L 2013 through energy efficiency measures (fabric efficiency, efficient services and efficient energy supply; steps 1 and 2 of the energy hierarchy).

Where full compliance is not feasible or viable having regard to the type of development involved and its design, proposals must demonstrate through the energy statement that carbon reductions to the greatest extent feasible through energy efficiency measures have been considered and incorporated.

All energy statements must also lay out the U-values and airtightness of the proposed building in comparison to the notional values in the Future Homes Standard or Future Building Standard (indicative specification, or final, as available at time of application).

6.1 The energy efficiency of buildings has a significant part to play in achieving the Council's net zero aims, but it also carries wider benefits for consumers and the country at large. We know that, in addition to reducing CO2 emissions, energy efficient homes minimise energy bills, provide healthier and more comfortable environments to live in, and ensure that we are making the best use of energy resources which in turn will help facilitate a faster transition to low carbon energy sources for all.

6.2 The Standard Assessment Procedure (SAP) is the methodology used by the Government to assess and compare the energy and environmental performance of dwellings.

6.3 To demonstrate compliance with policy NZC2(A), calculations should be performed using the latest version of the SAP 10.2 methodology (current version 20.08.2021). Government has confirmed that this calculation will become the statutory methodology by June 2022 along with the interim uplift to Part L.

6.4 All developments must demonstrate the extent to which compliance with Policy NZC2(A) is achievable through an energy statement. It is acknowledged that it may not be feasible for some types of commercial development (hotels and schools) to achieve the 19% carbon reduction from energy efficiency measures, due to high peak hot water demand and will be considered on a case-by-case basis.

6.5 The 10% improvement in dwellings is set to reflect the approximate uplift to building fabric (U-values and airtightness) between Part L 2021 and the indicative Future Homes Standard 2025. There is national government estimated cost data on the achievement of these fabric measures, which has been taken into account in the whole-plan viability assessment.

6.6 The 19% improvement for non-residential dwellings reflects that and which evidence has identified is demonstrably feasible and viable in Milton Keynes.

6.7 To demonstrate compliance with this policy, development proposals should provide data that is consistent with the building performance metrics set out in the Government's response to the

Future Homes Standard consultation (January 2021) or any subsequent set of metrics required through the Building Regulations. At the time of drafting this policy, this requires four metrics to be provided:

i) Primary energy target

ii) CO2 emission target

iii) Fabric energy efficiency target

iv) Minimum standards for fabric and fixed building services.

The use of these metrics will ensure consistency and clarity in the way data is collated and set out.

6.8 The approach focuses on a fabric first methodology to ensure the maximum benefits of passive and low energy design and technology can be achieved. This serves to reduce energy demand and minimise lifecycle cost.

6.9 In addition to the requirements of this policy, proposals for dwellings should consider how to make best use of site orientation, building form, layout, landscaping and materials to maximise natural light and heat, whilst avoiding internal overheating by providing passive cooling and/or mechanical ventilation, thus reducing potential overheating and reliance on air conditioning systems.

6.10 On all new dwellings and commercial development over 1,000sqm it will be expected that the development is tested through the most up to date SAP calculations to demonstrate the performance gap between design and construction. These calculations would take place in accordance with the methodology set out in paragraph 5.9. For sites of over 10 dwellings where standard house types are used, a sample of at least 20% of all dwellings (and including all house types) shall be tested.

7. Energy Sources

Policy NZC2(B): Zero or Low Carbon Energy Sources and Zero Carbon Ready Technology

New development of one or more new dwellings (C3 or C4 use class) and/or 1,000sqm or more of new non-residential floorspace, hotels (C1 use class), or residential institutions (C2 use class) should demonstrate through an energy statement that additional renewable, zero and low carbon energy technologies have been provided on-site* to achieve the carbon reductions required by Policy NZC1 and achieve on-site net zero operational carbon wherever possible.

Where full compliance is not feasible or viable having regard to the type of development involved and its design, proposals must:

- demonstrate through the energy statement that additional renewable, zero and low carbon energy technologies have been provided to the greatest extent feasible and viable.
- incorporate 'zero carbon ready' (as opposed to immediately providing 'low/zero carbon') technologies.

*this may include off site existing or planned zero, low carbon or renewable energy generation or heat network provision where there is a direct off-grid connection to the development which has capacity to serve the development.

7.1 It is the Council's aspiration that by maximising the energy efficiencies achieved through NZC2(A), the energy demands of developments will be significantly reduced. NZC2(B) requires that the means of meeting residual energy demands is set out in an energy statement. This energy statement should consider all available zero or low carbon energy sources that could be incorporated or utilised so that the energy used in the development achieves the minimum carbon emissions. The Council will expect energy statements to address low carbon or renewable energy generation in the specific local context of each development. Options should explore:

- On site renewable energy and low carbon energy generation for individual buildings including solar energy and heat pumps and any other sources of energy/heat that may be applicable.
- Direct, off grid connections to local offsite renewable energy sources such as solar farms or wind turbines.
- Large scale sources of energy/heat such as a direct connection to low carbon heat networks.

7.2 Developers are expected to incorporate local renewable energy generation within schemes in line with the energy statement, as a way of reducing the offsetting requirements. Where large scale renewable or low carbon energy options may be appropriate (such as for residential schemes in excess of 150 dwellings), developers are advised to contact the Council to discuss data on appropriate sources of heat, existing schemes or plans that could support the development and other support that the Council or its partners may be able to offer.

7.3 The Government has set out its intention to ensure that new homes and buildings will not be built with fossil fuel heating, such as natural gas boilers. Given the Council's commitment to reducing carbon emissions across the District, we are seeking to accelerate the delivery of this national ambition within Warwick District. As a result, the Council is expecting that energy sources avoid fossil fuels in their entirety.

7.4 This policy is written with the view that it is likely that heat pumps or near-zero-carbon heat networks will have already been deployed in the design to achieve the required initial 63% carbon reduction against Part L 2021. The policy therefore aims to encourage on-site or near-site renewable electricity generation. Warwick District Council recognises that not all sites will be suitable for large-scale wind and solar for reasons of grid constraints, shadow or heritage, in which case off-site renewables, partial compliance, or offsetting under NZC2(C) can be acceptable.

7.5 Zero carbon ready technology is that which is already available (such as heat pumps) and its transition to zero carbon is based on realistic current projections of the time-period in which its carbon will be eliminated. 'Zero carbon ready' heat technologies that rely on speculative future technological advances and use onsite fossil fuels meanwhile, will not be accepted.

7.6 'Zero carbon ready' technology does not include gas boilers that are marketed as 'hydrogen-ready' but will use fossil fuel gas for the foreseeable future. These should be avoided because there is no robust national or local timeline for transitioning the gas system onto hydrogen or other green gas at the time of writing, and current hydrogen production technology is vastly inefficient[1] (taking multiple units of electricity to produce each unit of hydrogen). It therefore is prudent to simply use the electricity as it is, rather than converting it to hydrogen.

7.7 Currently, the only proven heating technology with a realistic and time-bound projected transition to zero carbon is electricity, whether direct electric or heat pumps. This has a clear trajectory to zero carbon in the form of the national Treasury Green Book projections on electricity grid carbon. Nevertheless, the policy wording is designed to be flexible towards future technological innovation, for example if a low-carbon, non-wasteful way to produce hydrogen is developed, along with a realistic national timeline for converting the gas system away from fossil fuels.

7.8 Through the holistic approach to reducing carbon emissions by following the energy hierarchy and polices NZC2(A) and NZC2(B), should developments fail to achieve net zero on occupation, or are found to have emissions in excess of the set targets for emission reductions through performance gap monitoring, offsetting through Policy NZC2(C) will apply.

7.9 Where developments give rise to carbon emissions in excess of the targets in NZC1, following the application of policies NZC2(A) and NZC2(B), offsetting through NZC2(C) will apply. The offsetting calculation will be based on reasonable assumptions (including published national policy ambitions for renewable electricity) about future levels of carbon emissions associated with that energy source.

[1] https://www.newscientist.com/article/2186273-hydrogen-will-never-be-a-full-solution-to-our-green-energy-problems/

8. Carbon Offsetting

Policy NZC2(C): Carbon Offsetting

Where a development proposal of one or more new dwellings (C3 or C4 use class) and/or 1,000sqm or more of new non-residential floorspace, hotels (C1 use class) or residential institutions (C2 use class) cannot demonstrate that it is net zero carbon, it will be required to address any residual carbon emissions by:

- a cash in lieu contribution to the District Council's carbon offsetting fund

and/or

- at the Council's discretion, a verified local off-site offsetting scheme. The delivery of any such scheme must be within Warwickshire or Coventry, guaranteed and meet relevant national and industry standards. If it is a nature-based carbon sequestration scheme, then it must be backed by the national government's Woodland Carbon Code initiative (or future replacement/equivalent national scheme) and meet the Warwickshire ecosystem service market trading protocol.

Where full compliance is demonstrably not feasible having regard to the type of development involved and its design, proposals must offset any residual carbon emissions to the greatest extent viable.

Contributions to an offsetting scheme shall be secured through Section 106 Agreements and will be required to be paid prior to the occupation of the development.

The amount of carbon to be offset will be calculated according to the SAP or SBEM carbon emissions submitted in the energy statement required under policy NZC(1). This must then be multiplied to reflect emissions over a period of 30 years from completion. Where "zero-carbon ready" technology is proposed, associated carbon emissions should be calculated in accordance with the stated national trajectory for carbon reduction of the energy source (i.e. annual Treasury Green Book BEIS projections[1] of grid carbon intensity or future national equivalent).

The carbon offset contribution amount will be calculated within the energy statement at the submission of the application. It must then be recalculated at completion and pre-occupation. Where assessment undertaken at completion shows that there is a performance gap between the design and the performance of the completed building, carbon offsetting contributions will be required to reflect any associated additional carbon emissions not accounted for at the point of determination of the planning application and an adjusted payment made if necessary.

The carbon offset price is the central figure from the nationally recognised non-traded valuation of carbon, updated annually as part of the Treasury Green Book data by BEIS.

Funds raised through this policy will be ringfenced and transparently administered by the Council to deliver a range of projects that achieve measurable carbon savings as locally as possible, at the same average cost per tonne. The fund's performance will be reported in the Authority Monitoring report on: amount of funds spent; types of projects funded; amount of CO2 saved.

[1] https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

8.1 Offsetting should only be used where a developer has maximised on site carbon reductions through applying NZC2(A) and NZC2(B). Offsetting will only be acceptable where it is demonstrated that it is the only option available to enable necessary development to be brought forward. As such the Council considers offsetting to be an option of final resort. It has been estimated that it would take the planting of 160 trees to offset a 4 tonne carbon footprint.

8.2 Using the most up to date Standard Assessment Procedure (SAP) or SBEM, planning applications will be required to set out in full the anticipated annual operational carbon emissions from the development for each of the 30 years after completion. The sum of this will be the amount of carbon to be offset over the 30 year building life. The resulting financial contribution will be calculated as follows:

The estimated amount of residual CO2 emissions from the development over 30 years from the completion of the development, multiplied by the central carbon figure from the Treasury Green Book (data by BEIS) average carbon market price per tonne for the 12-month period preceding the completion of the development.

8.3 The carbon offset price of £245/tonne is the central figure for 2021 from the nationally recognised non-traded valuation of carbon[1], released annually as part of the Treasury Green Book data by BEIS. This is the same approach precedented in other local plan carbon offset schemes.

8.4 New development is expected to get as close as possible to zero-carbon on-site through fabric performance and the inclusion of renewable energy. Where residual carbon emissions are identified, the associated carbon emissions will be calculated in accordance with the stated national trajectories for the carbon reduction of the relevant energy source. As an example, if an electrical heating system based on supply from the national grid is utilised, the calculation of carbon emissions associated with this will be based on any published national government carbon reduction targets (including where possible a reduction trajectory) for the electricity grid. Where there are no published government targets, existing levels of carbon will be assumed unless robust evidence can be provided regarding future decarbonisation of the energy source.

8.5 Offset contributions will be paid into the Council's Carbon Offset Fund. Some carbon-saving interventions are more expensive while others will be cheaper, so the actual cost per tonne of carbon saved will vary between different projects. The Council's S106-based offset fund will support a portfolio of projects that deliver measurable carbon savings at an average cost per tonne equal to that paid per tonne by developers. This approach is precedented in other planning areas such as London.

8.6 This average cost of carbon savings delivered by the fund will consider the cost of fund administration, project identification and setup, and insurance against failure/reversal of delivered projects. Projects are yet to be formalised by Warwick District Council, but will deliver carbon-saving interventions that would otherwise not be deliverable with other available funds. Projects could include but are not limited to: renewable energy generation; energy retrofitting in existing buildings; large-scale tree planting. Projects will be delivered within Warwick District wherever possible but could include neighbouring authorities elsewhere in Warwickshire and Coventry and cross-border initiatives where there is a benefit to doing so (e.g. deliverability; economies of scale; social benefits). The same localism principles will be required in any alternative offsetting solution proposed by developers, whereby the Council will seek that the offsetting solution is delivered within Warwick District and/or delivers benefits to the district, and must contribute to securing a net zero carbon future for Warwick District.

[1] https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

8.7 In the event that Warwickshire County Council or Warwick District Council operate a local carbon market that gives value to the growth and enhancement of local natural assets, this will be the preferred scheme.

8.8 The Council will prepare and maintain supplementary planning guidance setting out how contributions to the Carbon Offset Fund will be utilised to enable net-zero carbon, and how the Council's discretion will be exercised with regards to assessing the acceptability of any alternative off-site offsetting solutions that may be proposed by developers. This will include a list of projects to be funded and regularly reviewed in line with the Council's Climate Emergency Action Programme to ensure that there is transparency throughout the process.

8.9 Monitoring of the funds and progress made by adopting this policy will be included in the Authority Monitoring Report produced annually and will include details of:

· The amount of carbon offset fund payments collected

· The amount of carbon offset fund payments spent

· Types of projects being funded

· Amount of CO2 offset and price.

9. Embodied Carbon

Policy NZC3: Embodied Carbon

New major development should demonstrate in the energy statement or design statement how the embodied carbon of the proposed materials to be used in the development has been considered and reduced where possible, including with regard to the type, life cycle and source of materials to be used.

Proposals for development of 50 or more new dwellings and/or 5,000sqm or more of new non-residential floorspace should be accompanied by a whole-life assessment of the materials used.

9.1 Through the implementation of policies within this DPD the operational emissions from buildings will decrease, and therefore embodied carbon emissions will represent a greater proportion of the overall carbon from a development. Embodied carbon emissions can be as much as 50% of total emissions over a building's lifetime.

9.2 Warwick District Council recognises the importance of embodied carbon and the complexities of the calculation methods for the whole-life assessment of materials. Consideration was given to scales of development which could support an embodied carbon assessment, and this has been included in viability testing accordingly. Assessment of embodied carbon is therefore applied to a major development threshold as set out in the The Town and Country Planning (Development Management Procedure) (England) Order 2015 (as amended) with more detailed whole life carbon assessments for larger scale developments.

9.3 The materials used in development should use and manage resources as efficiently as possible accounting for the energy, carbon emissions and other environmental impacts arising from construction and end of life demolition and disposal. Use of environmental assessment methods such as BREEAM or HQM pre-assessments with reference to the BRE Green Guide would be suitable as such a statement.

10. Existing Buildings

Policy NZC4: Existing Buildings

All developments should demonstrate a consideration to sustainable construction and design in accordance with Local Plan Policy CC1 'Planning for Climate Change Adaptation'.

In addition, all development should consider alternatives to conventional fossil fuel boilers. This should be explored through a Low/Zero Carbon assessment of low carbon energy supply options within the submitted application documents.

Development proposals which would result in considerable improvements to the energy efficiency, carbon emissions and/or general suitability, condition and longevity of existing buildings will be supported, with significant weight attributed to those benefits.

The sensitive retrofitting of energy efficiency measures and the appropriate use of micro-renewables in historic buildings, including listed buildings, locally listed buildings and buildings within conservation areas will be encouraged, providing the special characteristics of the heritage assets are conserved in a manner appropriate for their significance.

10.1 This DPD aims to minimise carbon emissions resulting from new development to support the achievement of local and national carbon reduction targets. Existing buildings (residential and commercial) are estimated to contribute around 40% of carbon emissions across the District. Retrofitting the existing building stock therefore presents a significant opportunity to reduce the District's carbon deficit. It will often not be possible to retrofit existing buildings to the same level of fabric efficiency required for new buildings under Policy NZC1 and NZC2(A). Policy NZC4 therefore provides a positive approach to reducing carbon emissions in existing buildings through low carbon energy supply, energy efficiency measures and micro-renewables whilst recognising this needs to be sensitive in historic contexts.

10.2 For existing buildings an average heating energy demand of 40kWh/m^2 should be used as a target for proposals involving alterations, extensions and changes of use. Detailed guidance for existing buildings is provided by LETI's Climate Emergency Retrofit Guide[8]

[8]https://www.leti.london/retrofit

11. Viability

11.1 In preparing this DPD, the Council has undertaken a high-level viability assessment. This demonstrates that the majority of development types, in the majority of locations are viable.

11.2 Net zero carbon development that accords with this DPD will be required except where it can clearly be demonstrated that meeting all the requirements of this DPD will render a development proposal unviable.

11.3 Where this is the case, in line with Local Plan Policy DM2, applicants should discuss viability concerns with the Local Planning Authority at the earliest possible stage in the development process and any viability assessment will be independently reviewed. Where this demonstrates that the viability of a proposal is threatened, discussions should take place with the Local Planning Authority on a case-by-case basis to consider the implications.

12. Warwick District Local Plan 2011–2029:

Policies superseded or amended by this DPD

12.1 The following Local Plan policies will be superseded or amended by this DPD:

- Policy CC3: Building Standards and other Sustainability Requirements is superseded
- Expands Policy SC0 Sustainable Communities
- Expands Policy BE1 Layout and Design
- Expands Policy HS1 Healthy, Safe and Inclusive Communities
- Expands Policy CC1 Planning for Climate Change Adaptation
- Expands Policy CC2 Planning for Renewable Energy and Low Carbon Generation

12.2 The 2008 Sustainable Buildings SPD is also superseded.

Glossary

Air-Source Heat Pump: A type of heat pump which captures the latent heat in the air outside a building and uses that to help heat a home. Some air-source heat pumps can also be used for cooling in the summer.

Anthropogenic greenhouse emissions: Greenhouse gas emissions resulting from human activities.

Biomass: Living organisms and dead matter such as wood, leaves etc. used as a fuel or energy source. These fuels are considered renewable as long as the vegetation producing them is maintained or replanted, such as firewood, alcohol fermented from sugar, and combustible oils extracted from soy beans. Their use in place of fossil fuels cuts greenhouse gas emissions because the plants that are the fuel sources capture carbon dioxide from the atmosphere.

Carbon deficit: The amount by which carbon emitted exceeds carbon sequestered. If there is no carbon deficit, then 'net zero' has been achieved.

Carbon dioxide (CO2): Carbon dioxide is a gas which occurs naturally in the atmosphere, and is produced as a by-product of human activity such as burning fossil fuels to generate electricity and power vehicles. It is the main greenhouse gas created by combustion.

Carbon footprint: A measure of the impact that activities, people and businesses have on the environment in terms of the amount of greenhouse gases produced, measured in units of carbon dioxide.

Carbon neutral: Carbon neutral refers to a process, energy source, material, or product that, when factoring everything that goes into it, neither adds to nor reduces the amount of CO2 in the atmosphere.

Carbon offsetting: To help become carbon neutral, activities such as tree planting can off-set carbon-producing activities such as the burning of fossil fuels. Trees lock in carbon.

Carbon sequestration: The removal or storage of carbon in a place (a sink) where it will remain. Types of sequestration include 'geological' where CO2 is captured and buried underground and 'biological' where CO2 is absorbed during the growth of plants and trees.

Climate change adaptation: Adjustments to natural or human systems in response to actual or expected climatic factors or their effects (including from changes in rainfall and rising temperatures) which moderate harm or exploit beneficial opportunities for climate change mitigation.

Climate change mitigation: Action to reduce the impact of human activity on the climate system, primarily through reducing greenhouse gas emissions.

Climate Emergency Declaration: An action taken by governments and scientists to acknowledge humanity is in a climate emergency. Warwick District Council declared a climate emergency in February 2020.

Combined heat and power (CHP): An efficient technology for generating electricity and heat together. A CHP plant is an installation generating usable heat and power simultaneously (usually electricity) in a single process. The heat generated in the process is utilised via suitable heat recovery equipment for a variety of purposes including industrial processes and community heating.

Decarbonisation: The process of replacing carbon-emitting processes with carbon-neutral processes. For example, the national energy grid is expected to decarbonise over time as coal and gas fired power stations are replaced with renewable energy sources.

Development Plan Documents (DPDs): DPDs are statutory component parts of the local development framework, which can introduce new policy to sit alongside the Local Plan. DPDs are formally consulted on and tested for soundness at an examination in public.

Embodied carbon / embodied energy (Carbon Capital): All the carbon / energy required to grow, harvest, extract, manufacture, refine, process, package, transport, install and dispose of a particular product or building material.

Energy efficiency: Using less energy to provide the same level of energy service. Along with renewable energy, energy efficiency is one of the twin pillars of sustainable energy.

Fabric First: A 'fabric first' approach to building design involves maximising the performance of the components and materials that make up the building fabric itself, before considering the use of mechanical or electrical building services systems.

Feasible: or feasibility refers to whether a matter is capable of being done or carried out. When 'feasible' is included within this document it refers to the physical nature of that requirement and whether this can be incorporated into the design of a development. It does not apply to any financial consideration which is dealt with separately under 'viability'.

Fossil fuels: Coal, oil and natural gas which produce carbon dioxide when burnt; responsible for global warming and climate change.

Geothermal Energy: Energy found in the form of heat beneath the ground. It is usually only a viable source of power in areas near tectonic plate boundaries.

Greenhouse gases: Gases in the atmosphere that absorb the earth's thermal infra-red radiation. Scientists believe that greenhouse gases resulting from human activity are causing the earth's climate to change, and this is now a generally accepted view.

Ground source heat pump: A type of heat pump which captures the latent heat from the ground and uses that to help heat a home.

Heat exchanger: A system used to transfer heat between two or more fluids. Heat exchangers are used in both cooling and heating processes.

Heat pump: A device that moves heat from a low temperature heat source to a higher temperature heat sink. Examples include ground source heat pumps, air to air heat pumps, refrigerators and air conditioners.

Mitigation: Intervention to attempt to reduce the negative impact of human activity, or to balance the negative impact with positive actions elsewhere.

Net zero carbon: Net zero refers to achieving a balance between the amount of greenhouse gas emissions produced and the amount removed from the atmosphere.

Nitrogen oxides: Nitrogen Oxide and Nitrogen Dioxide are collectively known as Nitrogen Oxides. Nitrogen Oxides are primarily produced as a result of the combustion process, typically from motor vehicles and power stations. They are one of the precursors for photochemical ozone formation as well as being injurious to human health.

Passive design: A design strategy that optimises a building's form, fabric and orientation to make the most of natural sources of heating, cooling and ventilation, to reduce the energy usage in operation.

Passivhaus standard: A construction standard for all buildings which emphasises high levels of insulation and airtightness, minimal thermal bridging, use of solar and internal heat gains and tightly controlled ventilation. Calculation of Passivhaus standards is done through Passivhaus Planning Package (PHPP).

Pollution: Anything that affects the quality of land, air, water or soils, which might lead to an adverse impact on human health, the natural environment or general amenity. Pollution can arise from a range of emissions, including smoke, fumes, gases, dust, steam, odour, noise and light.

Power Purchase Agreements: a contractual agreement between energy buyers and sellers. They come together and agree to buy and sell an amount of energy which is or will be generated by a renewable asset. PPAs are usually signed for a long-term period between 10-20 years.

R-value: The R-value is a measure of resistance to heat flow through a given thickness of material. So the higher the R-value, the more thermal resistance the material has and therefore the better its insulating properties. The R-value is calculated by using the formula R = l/ λ Where: l is the thickness of the material in metres and λ is the thermal conductivity in W/mK. The R-value is measured in metres squared Kelvin per Watt (m2K/W). For example the thermal resistance of 220mm of solid brick wall (with thermal conductivity λ=1.2W/mK) is 0.18 m2K/W.

Regulated Carbon Emissions: these emissions are those from fixed building services and fittings, for example: space heating, cooling, hot water, ventilation and lighting and are based on average assumptions of use. For the avoidance of doubt they do not include 'plug in' appliances.

Renewable and low carbon energy: Includes energy for heating and cooling as well as generating electricity. Renewable energy covers those energy flows that occur naturally and repeatedly in the environment – from the wind, the fall of water, the movement of the oceans, from the sun and also from biomass and deep geothermal heat. Low carbon technologies are those that can help reduce emissions (compared to conventional use of fossil fuels).

Renewable resources: Resources that are capable of regeneration at a rate greater than their rate of depletion.

Residual Carbon: The remaining emissions after these have been reduced as far as possible through attention to energy efficiency and use of renewable energy.

Retrofitting: Applying new components to existing buildings, for example to improve energy efficiency or the use of renewable energy.

Standard Assessment Procedure SAP: is the Government recognised methodology for calculating CO2 emissions in residential buildings. Versions of SAP calculations are updated by the Government and the most up to date calculation should be used.

Simplified Building Energy Model SBEM: is the Government recognised methodology for calculating CO2 emissions in non-residential buildings. Versions of SAP calculations are updated by the Government and the most up to date calculation should be used.

Sink: Any process, activity or mechanism which removes a greenhouse gas. Forests and other vegetation are considered sinks because they remove carbon dioxide through photosynthesis.

Smart meters: Smart meters give real-time information on energy use. Through an in-home display, usage and cost can be tracked giving the consumer a picture of how they are using energy and the total cost.

Solar energy: The use of energy from the sun, captured either by a solar photovoltaic panel, or a solar thermal system that concentrates solar energy to heat water (or other medium) that then generates steam which is converted into electrical power.

Supplementary Planning Documents (SPDs): Documents that add further detail to the policies in the Local Plan. They can be used to provide further guidance for development on specific sites, or on particular issues, such as design. SPDs are capable of being a material consideration in planning decisions but are not part of the development plan.

Sustainable development: Resolution 42/187 of the United Nations General Assembly defines sustainable development as meeting the needs of the present without compromising the ability of future generations to meet their own needs. The UK Sustainable Development Strategy Securing the Future sets out five 'guiding principles' of sustainable development: living within the planet's environmental limits; ensuring a strong, healthy and just society; achieving a sustainable economy; promoting good governance; and using sound science responsibly.

Sustainable transport modes: Any efficient, safe and accessible means of transport with overall low impact on the environment, including walking and cycling, electric, low and ultra-low emission vehicles, car sharing and public transport.

Viability: When 'viable' is included within this document it refers to financial viability. This is an objective financial viability test of the ability of a development project to meet its costs including the cost of planning obligations, whilst ensuring an appropriate site value for the landowner and a market risk adjusted return to the developer in delivering that project. Essentially it is the ability to attract investment and business.

Water Vapour: Water in a vaporous form especially when below boiling temperature and diffused (as in the atmosphere).

Zero carbon building: A building with no net carbon emissions resulting from its operation over the space of a year.

Zero carbon ready: Buildings built to a standard such that no further energy efficiency retrofit work will be necessary to enable them to become zero carbon as the electricity grid continues to decarbonise.

APPENDIX 1: Policy Context

International

The Paris Agreement:

The Paris Agreement (https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement) under the United Nations Framework Convention on Climate Change, also called Paris Climate Agreement or COP21, international treaty, was adopted in December 2015, and aimed to reduce the emission of gases that contribute to global warming.

The Paris Agreement continued the process started at the **1992 Earth Summit** (https://sustainabledevelopment.un.org/milestones/unced) where countries joined the international treaty, the 'United Nations Framework Convention on Climate Change' (https://unfccc.int/process-and-meetings/the-convention/what-is-the-united-nations-framework-convention-on-climate-change). The objective of this treaty was to 'stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic (human) interference with the climate system'.

Energy Performance of Buildings Directive:

Both the Energy Performance of Buildings Directive 2010/31/EU (EPBD) (https://eur-lex.europa.eu/legal-content/EN/ALL/;ELX_SESSIONID=FZMjThLLzfxmmMCQGp2Y1s2d3TjwtD8QS3pqdkhXZbwqGwlgY9KN!2064651424?uri=CELEX:32010L0031) and the Energy Efficiency Directive 2012/27/EU (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1399375464230&uri=CELEX:32012L0027) were amended, as part of the Clean energy for all Europeans package, in 2018 and 2019 (https://energy.ec.europa.eu/topics/energy-strategy/clean-energy-all-europeans-package_en)
The European Union (EU) Directive on the energy performance of buildings was intended to improve the energy efficiency of buildings, reduce carbon emissions and the impact of climate change

National

In December 2006, the then Labour government committed that from 2016 all new homes would be 'zero carbon'. This introduced the **Code for Sustainable Homes** (https://www.breeam.com/discover/technical-standards/homes/)

The **'Building a Greener Future: Policy Statement'** (https://www.thenbs.com/PublicationIndex/documents/details?Pub=DCLG&DocID=283171) in 2007 proposed tightening of the building regulations to achieve the 2016 goal, first by 25% in 2010 and then by 44% in 2013. The Labour budget in 2008 announced a further intention that all new non-domestic buildings should also be zero carbon from 2019.

The current **Regulations are the Energy Performance of Buildings (England and Wales) Regulations** 2012 (https://www.legislation.gov.uk/uksi/2012/3118/contents/made) which were last amended in 2018.

The future of all such directives for the UK and therefore the regulations, is currently unknown as a result of the United Kingdom's withdrawal from the European Union (Brexit).

Climate Change Act 2008:

(https://www.legislation.gov.uk/ukpga/2008/27/contents)

The act originally set up a national target for the reduction of greenhouse gas emissions for the year 2050. The target of reducing carbon emissions by 80% compared to 1990 levels by 2050, with a reduction of at least 34% by 2020 was supported by a strategy to achieve it set out in The Carbon Plan published in December 2011. The Act also set up the independent statutory Committee on Climate Change, an advisory body to government.

The Decarbonisation and Economic Strategy Bill:

(https://services.parliament.uk/bills/2019- 21/decarbonisationandeconomicstrategy.html)

Published in September 2019 was expected to provide a framework to decarbonise the UK economy. This bill failed to complete its passage through Parliament before the end of the session which means the Bill will make no further progress.

The Infrastructure Bill, 2014:

(https://commonslibrary.parliament.uk/research-briefings/sn06909/)

The Infrastructure Bill, published by the Department for Transport, proposed re-setting the zero-carbon home standard at Level 5 of the Code for Sustainable Homes, but allowing developers to build to Level 4 by using allowable solutions to achieve Level 5, but controversially making small sites of fewer than 10 dwellings exempt from the allowable solutions option. This bill received royal assent and became law in 2015 as the Infrastructure Act 2015.

Fixing the Foundations, creating a more prosperous nation, 2015:

(https://www.gov.uk/government/publications/fixing-the-foundations-creating-a-more-prosperous-nation)

The report stated, "The government does not intend to proceed with the zero carbon Allowable Solutions carbon offsetting scheme, or the proposed 2016 increase in on-site energy efficiency standards, but will keep energy efficiency standards under review, recognising that existing measures to increase energy efficiency of new buildings should be allowed time to become established."

The industry viewed this as a massively retrograde step, putting at risk the government's commitment to controlling climate change and ending the zero carbon homes project.

Housing and Planning Bill, 2015:

(https://commonslibrary.parliament.uk/research-briefings/cbp-7331/)

The Bill scrapped the zero carbon homes initiative and in spite of attempts by the House of Lords to reintroduce it in 2016, the requirement was dropped. The Chancellor's budget speech in March 2019 however, stated that from 2025, new homes may not be connected to the gas grid for the purposes of heating. This bill received royal assent and became law in 2016 as the Housing and Planning Act 2015.

The National Adaptation Programme and the third strategy for climate adaptation reporting, published 19 July 2018:

(https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/727252/national-adaptation-programme-2018.pdf)

Looking at the role of local authorities in the resilience agenda, the report states "Local government has obligations that contribute to resilience. These include flood risk management, under the Flood and Water Management Act 2010, and commitments to prepare and plan for emergencies under the Civil Contingencies Act 2004. Local Planning Authorities (LPAs) are also required under the Planning Act 2008 to adopt proactive strategies to mitigate and adapt to climate change." The stated vision being, "Local Government plays a central role in leading and supporting local places to become more resilient to a range of future risks and to be prepared for the opportunities from a changing climate".

National Planning Policy Framework (NPPF), July 2021:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf) The NPPF originally published in 2012 and revised in July 2018, February 2019 and updated in July 2021 and addresses the issue of sustainability by promoting

sustainable development and encouraging sustainable transport. The NPPF addresses climate change and directs meeting the challenge of flooding and coastal change and adapting accordingly. It also directs that plans should include policies that move toward a low carbon economy.

It goes on to say in paragraph 9, that "These objectives should be delivered through the preparation and implementation of plans and the application of the policies in this Framework; they are not criteria against which every decision can or should be judged. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account to reflect the character, needs and opportunities of each area."

The NPPF addresses the need for the planning system to address climate change through Chapter 14, notably paragraphs 152, 153, 154 and 157. Local requirements for sustainability of buildings should reflect Government policy for national technical standards in accordance with Paragraph 154.

This DPD aims to address that local element and deliver at a local level while contributing to national targets.

Planning Practice Guidance, https://www.gov.uk/guidance/climate-change published in 2014 and updated in 2019 states that:

"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 NPPF. 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."

Latest Supporting Information

In June 2019, the Prime Minister, committed the government to reducing UK greenhouse gas emissions to net zero by 2050, in a review of the Climate Change Act of 2008 (https://www.legislation.gov.uk/ukdsi/2019/9780111187654), to tackle climate change. This introduces tougher measures to the UK's current target to reduce emissions by 80% by 2050.

This proposal is designed to help meet an international target of not exceeding a 0.5°C temperature rise by 2100; the rise considered to be the dangerous climate threshold.

The Building Regulations (as updated at 2016):

(https://www.gov.uk/government/publications/building-regulations-c-amendment-regulations-2016)

Part L: Conservation of fuel and power, The Building Regulations, sets out how the regulations will control aspects of new buildings in relation to carbon indexing.

Part L also sets requirements for Carbon Index ratings.

The Future Homes Standard:

(https://www.gov.uk/government/consultations/the-future-buildings-standard)

The Future Homes Standard updated Building Regulations Part L (conservation of fuel and power), Part F (ventilation) and introduced Part O (overheating) to ensure that all new homes built from 2025 will produce 75-80% less carbon emissions than homes delivered under 2013 Building Regulations. The updated regulations also sets an interim uplift in Building Regulations to reduce carbon emissions in new houses by 30% and new buildings by 27% from June 2022

Environment Act 2021:

(https://services.parliament.uk/bills/2019-21/environment.html)

The Environment Act was enacted in November 2021 and sets clear regulatory targets for the recovery of nature in four priority areas: air quality, biodiversity, water and waste, and a target to reverse the decline in species abundance by 2030. The Act creates the requirement for a statutory Environmental Improvement Plan, as set out in 'A Green Future: Our 25 Year Plan to Improve the Environment'. The legislation also establishes an Office for Environmental Protection which will have scrutiny, advice and enforcement functions.

The National Design Guide; Planning practice guidance for beautiful, enduring and successful places, 2021:

(https://www.gov.uk/government/publications/national-design-guide)

Published by the Ministry of Housing, Communities and Local Government, The National Planning Policy Framework makes clear that "creating high quality buildings and places is fundamental to what the planning and development process should achieve". The National Design Guide, and the National Model Design Code and Guidance Notes for Design Codes "illustrate how well-designed places that are beautiful, healthy, greener, enduring and successful can be achieved in practice. It forms part of the Government's collection of planning practice guidance and should be read alongside the separate planning practice guidance on design process and tools".

Local

Warwick District Local Plan 2011-2029 (adopted Sept 2017):

(https://www.warwickdc.gov.uk/info/20410/new_local_plan)

The adopted Local Plan was prepared at a time when the NPPF was a recently published document which directed planning authorities to prepare plans for sustainable development. Policies were therefore written with this very much in mind. One of the policy areas considered was "climate change mitigation and adaptation, and the conservation and enhancement of the natural and historic environment, including landscape."

Identified issues included:

- The threat of flooding to homes and businesses in some areas, and the concern that flooding events will increase because of climate change
- Pressure for new development and climate change threatening the high-quality built and natural environments in the district, particularly in historic areas

These policies aim to protect those elements of the environment that support and generate climate change resilience and include the more strategic objectives that are expected to contribute towards sustainable development and adaptation. There are policies on climate change and water conservation. This DPD expands on Local Plan policies and introduce standards in development which will positively contribute to the new targets set by central government since the Local Plan was adopted.

There is an adopted Sustainable Buildings SPD, dated December 2008. This is now very much in need of updating and the DPD will replace it in due course.

Neighbourhood Development Plans (NDP):

(https://www.warwickdc.gov.uk/info/20444/neighbourhood_plans)

NDPs become part of the local development framework when they are made and policies carry the weight of those in the Local Plan. Sustainable development and climate change issues can and should also be addressed in policies in NDPs and any relevant adopted policies will need to be complied with when planning applic ations are submitted.

Relevant Local Plan Objectives:

The objectives of the Local Plan have sustainability at their heart. The objectives provide the framework to deliver sustainable development by balancing social, economic and environmental imperatives and where possible enhancing all three.

a) Providing sustainable levels of growth in the District.

b) Providing well-designed new developments that are in the right location and address climate change

c) Enabling the District's infrastructure to improve and support growth

Related Supplementary Planning Documents and Guidance

The following supplementary planning documents and guidance are related to this DPD:

Climate Emergency Action Programme – Main Report

https://estates8.warwickdc.gov.uk/CMIS/Document

Air Quality SPD:

https://www.warwickdc.gov.uk/downloads/file/5043/air_quality_spd

Public Open Space SPD:

https://www.warwickdc.gov.uk/downloads/file/5516/public_open_space_spd

Residential Design Guide SPD:

https://www.warwickdc.gov.uk/downloads/file/4782/residential_design_guide

Biodiversity Offsetting:

https://www.warwickshire.gov.uk/biodiversityoffsetting

https://api.warwickshire.gov.uk/documents/WCCC-863-793

Climate Emergency Action programme

4.30 Details of the Council's CEAP are available here

https://estates8.warwickdc.gov.uk/CMIS/Document.ash:

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