Reading Borough Local Plan Partial Update
Reading Borough Council response to initial questions (part 2: IQ46, IQ47, IQ51, IQ52)

July 2025

Contents

Introduction

This document relates to the examination of the Reading Borough Local Plan Partial Update (LPPU) and contains Reading Borough Council's remaining responses to the initial questions in the letter from the Inspector of 19 June 2025 following on from the answers to most of the questions that was produced on 14 July. It consists of answers to IQ46, IQ47, IQ51 and IQ52 relating to climate change and the urban greening factor.

Climate change

IQ46. Could the Council set out the robust evidence base supporting Policies CC2 and H5?

1. **Strategic policies CC2 and H5 set requirements for the following criteria in relation to non-residential buildings and homes respectively:**

   1.1. Energy efficiency and carbon emissions

   1.2. Water efficiency

   1.3. Whole life impacts

   1.4. Accessibility and space standards (H5 only, not covered in this response)

2. **Regarding the viability of policies CC2 and H5**

   2.1. It should be noted that the requirements set out in policies CC2 and H5 represent the approach which the Council expects planning applicants to take, to secure climate resilient development which is in line with local and national objectives.

      2.1.1. The Reading Climate Emergency Strategy (OP004) summarises the need for urgent action for the UK to meet its national obligations under the Paris Agreement, including reaching net zero greenhouse gas emissions by 2050.[1]

      2.1.2. The Strategy explains Reading's target of net zero emissions by 2030 for the whole local authority area, which is "*based on the sound science outlined by the Intergovernmental Panel on Climate Change, recognising the need for more ambitious and urgent action to avoid catastrophic climate impacts.*"[2]

   2.2. Policies CC2 and H5 set out the steps which should be taken for development to be delivered as sustainably as possible, while allowing for the individual circumstances of each application to be taken into account as appropriate.

   2.3. The Council acknowledges that circumstances can impact the viability of development delivery. To ensure that policies CC2 and H5 do not unduly restrict the feasibility of development, flexibility is added to each policy through **exceptional basis clauses**.

[1] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.8, paragraph 2.2
[2] Ibid. P.11, paragraph 3.2

2.4. Where the full requirements of either policy CC2 or H5 cannot be met for demonstrable reasons (for example where viability, technical or heritage constraints apply), the exceptional basis clauses set out the expectation that the policy requirements should be met as far as possible.

2.5. Alternative means of compliance (particularly in the cases of applications for major development) are provided within the exceptional basis clauses, including financial contributions for offsetting against any shortfall in on-site energy efficiency measures.

2.6. These alternative means of compliance also contain provision such that in cases where demonstrable viability restrictions would mean they cannot be fully met, it will be acceptable for applicants to provide evidence of the degree to which they can comply with the requirements in order for the development to become viable.

2.7. The Council considers that the flexibility within policies CC2 and H5 is sufficient to ensure that development viability is not restricted by the policy requirements, while ensuring that a consistent and proportionate approach to sustainable development is taken in all development proposals, covering the key issues of energy efficiency and greenhouse gas emissions, water efficiency and whole life impacts.

2.8. The viability of Policy H5 is further supported by evidence supporting the allowance for net zero development costs within Appendix 5 of the Local Plan Viability Testing Report (EV004).[3]

3. To answer IQ46, evidence is presented in relation to the requirements of policies CC2 and H5.

3.1. Primary evidence in support of the energy efficiency requirements of policy CC2 can be found in paragraphs 4.1.0 – 4.1.8 of the Local Plan Partial Update Background Paper (2025) (EV002).[4]

3.2. Primary evidence in support of the energy efficiency requirements of policy H5 can be found in paragraphs 4.18 – 4.18.18 of the Local Plan Partial Update Background Paper (2025) (EV002).[5]

3.3. Further evidence in relation to policies CC2 and H5 is collated below. For ease of reference, paragraphs outlining requirements are coded "**R**" and those setting out corresponding evidence are coded "**E**".

4. Requirements for energy efficiency and carbon emissions

4.1. **R**. Policies CC2 and H5 require that **all** new development should follow the energy hierarchy to achieve net zero status wherever possible and that after energy demand has been reduced through application of the energy hierarchy, residual demand should be met wherever possible by on-plot renewable energy generation.

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[3] BPS Chartered Surveyors. (2024). Local Plan Viability Testing Report: Independent Viability Review. Dorking: Reading Borough Council. Retrieved from https://images.reading.gov.uk/2025/05/EV004-Whole-Plan-Assessment-of-Viability-Reading-Local-Plan-BPS-Chartered-Surveyors.pdf Pp. 70-72 Appendix 4-5 pp. 4-6)

[4] Reading Borough Council. (2025). Local Plan Partial Update Background Paper. Reading: Reading Borough Council. Retrieved from https://images.reading.gov.uk/2025/05/EV002-Local-Plan-Partial-Update-Background-Paper-May-2025.pdf Pp. 36-38 paragraphs 4.1.1 – 4.1.8

[55] Ibid Pp. 58-60 paragraphs 4.18 – 4.18.18

4.1.1. **E**. Use of the energy hierarchy to first reduce energy demand from buildings as far as possible and then meet residual demand through renewable measures is known as the fabric first approach and widely recognised as best practice, for example the Government's 2022 Research and analysis paper Building for 2050: Low cost, low carbon homes advocated for reducing capital costs in new development by "*Adopting a fabric first approach to reduce the space heating demand and ensuring the building services are correctly sized, not over-specified or overly complex*."[6]

4.1.2. **E**. Development in line with the energy hierarchy is identified as a key action by the Reading Climate Emergency Strategy (OP004): "*Reducing demand is the first step in achieving a zero carbon future. New developments are built to a higher standard but it will be important to reach the zero carbon standards set out in Reading's Local Plan*."[7]

4.1.3. **E**. A focus on reducing emissions from new buildings also aligns with the Reading Borough Sustainability Appraisal Scoping Report (2014) (PP004) which highlights contribution to climate change through emissions of greenhouse gases and resource use as key environmental issues affecting the Borough.[8] The report goes on to list 20 appraisal objectives against which Local Plan documents should be assessed. The first relates to minimising greenhouse gas emissions and the second relates to adapting to the impacts of climate change.[9]

4.1.4. **E**. The benefits of using a fabric first approach alongside renewable energy generation to meet residual energy demand aligns with the economic, social and environmental objectives contributing to sustainable development as defined by the NPPF (2003) (OP001)[10] since:

4.1.4.1. Improved energy efficiency requires improvements to the fabric specifications of new buildings. These improvements reduce the need to retrofit buildings in future and can also lead to improved health among building users and residents.[11]

4.1.4.2. Fabric improvements also contribute to climate change adaptation and resilience since buildings with a more energy efficient fabric are less likely to experience an energy performance gap[12] and are better equipped to

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[6] HM Government. (2022). Building for 2050: Low cost, low carbon homes. London: Department for Energy Security & Net Zero. Retrieved from https://www.gov.uk/government/publications/building-for-2050/building-for-2050-low-cost-low-carbon-homes

[7] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.20

[8] Reading Borough Council. (2014). Sustainability Appraisal Scoping Report. 2014: Reading Borough Council. Pp.8-9

[9] Ibid. P.12

[10] HM Government. (2023). National Planning Policy Framework. London: Department for Levelling Up, Housing & Communities. P.5, paragraph 8

[11] Committee on Climate Change. (2019). UK housing: Fit for the future? London: Committee on Climate Change. Retrieved from https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf Pp.14-16

[12] The energy performance gap is the term given to the problem that the true operational performance of new buildings is typically worse than predicted through energy and thermal modelling. This problem is exacerbated by the UK Building Regulations using "notional" buildings. (generic models using some of the characteristics of a proposed building) to estimate performance without requiring in-use verification.

deal with external temperature fluctuations while maintaining stable internal conditions.[13] This aim aligns directly with Priority 2 of the Reading Borough Council Climate Change Adaptation Framework (OP006)[14] and is particularly vital in Reading, which is located in an area experiencing significant and increasing heat stress, particularly in urban areas of the Borough,[15] (OP004)[16] due to climate change.

4.1.4.3. Reduced energy demand from new development can lead to reduced energy bills, improving the affordability of new buildings and reducing the risk of fuel poverty.[17]

4.1.4.4. Reduced demand on the energy grid could result in increased viability for new developments which would otherwise be restricted by limitations on grid capacity. The need to manage risks to the power distribution system is highlighted in the Reading Climate Emergency Strategy (OP004).[18]

4.1.4.5. Where energy demand is reduced before meeting residual demand through renewables, the amount of renewable energy generation needed is reduced. This reduces the risk that energy export connections would be restricted by limitations on the national grid.[19]

4.1.4.6. Policy requirements for residual energy demand from new development to be met through renewable energy generation align directly with the Council's sustainability aims, including its commitment to the UK100 scheme whereby it aims to achieve 100% clean energy by 2050 as outlined in the Reading Sustainable Design and Construction SPD (2019) (PP012).[20]

4.2. **R. All** new development should achieve a site average space heating demand (SHD) of 15-20kWh/m^2/year.

4.2.1. **E.** The targets for SHD and EUI set out in policies CC2 and H5 are derived from best practice standards which are set at a level which supports delivery of

[13] Committee on Climate Change. (2019). UK housing: Fit for the future? London: Committee on Climate Change. P.111
[14] Reading Borough Council. (2024). Climate Change Adaptation Framework. Reading: Reading Borough Council. P.23, 27
[15] BBC. (2022, July 20). Check your postcode: Is your area vulnerable to extreme heat? Retrieved from BBC News: https://www.bbc.co.uk/news/uk-62243280
[16] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.10
[17] Committee on Climate Change. (2019). UK housing: Fit for the future? London: Committee on Climate Change. P.115
[18] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.20
[19] In accordance with the G98 standards for distributed generation connection, households with single phase connections may connect generating units up to a capacity of 3.68 kW without needing to inform the distribution network operator (DNO). Larger connections will require notification and can be subject to delays or restrictions caused by limitations in the carrying capacity of the power grid. See Energy Networks Association. (2024). Distributed Generation Connection Guide: G98 & G99, Version 1.0. London: ENA. Retrieved from https://www.ssen.co.uk/our-services/new-supplies/generation-connections/micro-generation-connections/g98g99-generator-requirement-documents/ P.19
[20] Reading Borough Council. (2019). Reading Sustainable Design and Construction Supplementary Planning Document. Reading: Reading Borough Council. Retrieved from https://images.reading.gov.uk/2025/05/PP012-Sustainable-Design-and-Construction-SPD.pdf P.3

net zero development. Ensuring that as much new development as possible achieves net zero is key to the goals and actions within the Reading Climate Emergency Strategy (OP004) which states that "*ensuring that new development does not add to Reading's carbon footprint is vital*".[21]

4.2.2. **E.** The target of SHD in the range 15-20kWh/m^2/year is originally derived from the Passivhaus standard, a voluntary standard for certification of low-energy buildings, but it has since been more widely adopted as best practice used across sustainable development guidance and planning policy. For example, the landmark LETI Climate Emergency Design Guide (CEDG) (2020) identified a SHD of 15 kWh/m^2/year for all building types as one of its ten key requirements for new net zero buildings. The CEDG explains that "*By 2030 all new buildings must operate at net zero to meet [UK national] climate change targets. This means that by 2025 all new buildings will need to be designed to meet these targets*." [22]

4.2.3. **E.** The need for new homes to be delivered with a space heating demand of 15-20 15 kWh/m^2/year by 2025 at the latest is also stressed by the Committee on Climate Change,[23] and the UK Green Building Council[24] among others.

4.3. **R**. Policy CC2 requires that new **non-residential development** should achieve a site average total energy demand (EUI)[25] of 70kWh/m^2/year with no individual unit having a total energy demand greater than 90kWh/m^2/year.

4.4. **R**. Policy H5 requires that new **residential development** should achieve a site average total energy demand (EUI) of 35kWh/m^2/year with no individual unit having a total energy demand greater than 60kWh/m^2/year.

4.4.1. **E.** Maximum site average and individual building energy demand requirements in policies CC2 and H5 are set to recognise recommendations from across sustainable development guidance and to align with the Reading Climate Emergency Strategy (OP004), while allowing adequate flexibility to ensure that development viability is safeguarded.

4.4.2. **E.** The use of EUI as a target is intended to simplify compliance and ensure that targets set in planning policy translate into real world energy use (and bills). This addresses a key issue with both the Building Regulations and Energy Performance Certificate systems which do not generate results that can be

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[21] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. Pp.20-21

[22] Low Energy Transformation Initiative (LETI). (2020). Climate Emergency Design Guide. London: LETI. P.112

[23] Committee on Climate Change. (2019). UK housing: Fit for the future? London: Committee on Climate Change. Retrieved from https://www.theccc.org.uk/wp-content/uploads/2019/02/UK-housing-Fit-for-the-future-CCC-2019.pdf P.14, 63-66

[24] UK Green Building Council (UKGBC). (2025). UK Net Zero Carbon Buildings Standard. London: UKGBC. Retrieved from https://www.nzcbuildings.co.uk/_files/ugd/6ea7ba_1ef36b6835de46668f2ad8b589ff1b93.pdf p.101=102

[25] Energy Use Intensity (EUI) is an annual measure of the total energy consumed in a building. It can be estimated at the design stage and very easily monitored in-use as energy bills are based on kWh of energy used by the building. This metric can be used to compare buildings of a similar type, to understand how well the building performs in-use. It includes all of the energy consumed in the building, such as regulated energy (heating, hot water, cooling, ventilation, and lighting) and unregulated energy (plug loads and equipment e.g. kitchen white goods, ICT/AV equipment). It does not include charging of electric vehicles. (Adapted from Low Energy Transformation Initiative (LETI). (2020). Climate Emergency Design Guide. London: LETI. P.24)

easily translated into predictions of actual energy consumption. EUI can be easily checked when a building is in use, simply by monitoring consumption as tracked by energy meters.

4.4.3. **E.** Recognised sources of best practice guidance which informed the EUI targets within policies CC2 and H5 include:

4.4.3.1. The LETI Climate Emergency Design Guide which advocates for EUI of 35 kWh/m^2/year for new housing and 55-65 kWh/m^2/year for non-residential buildings, [26] to achieve a net zero trajectory;[27]

4.4.3.2. The RIBA 2030 Climate Challenge which advocates for EUI of 35 kWh/m^2/year[28] for new housing and 55-60 kWh/m^2/year for non-residential buildings[29] or lower by 2030, through application of the energy hierarchy.

4.4.3.3. UK GBC's Net Zero Whole Life Carbon Roadmap which advocates for the Future Homes and Buildings Standards to adopt absolute targets for energy use and space heating demand with the following standards recommended for implementation in 2025 "*Energy Usage Intensity (EUI) target (kWh/m^2/yr) compliance approach in place of notional building methodology … (35-40 kWh/m^2/year for new homes); Thermal Energy (Space Heating) Demand limits (15 kWh/m^2/year for new homes*)".[30]

4.4.4. **E.** By introducing site average requirements which reflect the recommendations of industry guidance as set out above, while allowing for greater flexibility in the performance of individual buildings, the Council seeks to support development to be sustainably delivered, allowing for variations in what can be achieved relative to site constraints.

4.5. **R**. For **all** new development proposals, policies CC2 and H5 require that an accurate methodology should be used to predict energy performance and

4.6. **R**. Energy Statements should include design stage ("pre-built") energy performance calculations with "as built" revisions being submitted prior to occupation.

4.6.1. **E.** The use of "pre-built" estimates of energy performance are used to asses whether the proposal is likely to be compliant with planning policy, taking into account the fact that many planning applications are received when the project is at an early design stage and before fixed technical specifications are in place. This allows for useful feedback to be provided through the planning process.

4.6.2. **E.** Submission of "as-built" energy performance calculations can then be provided to discharge planning conditions and confirm that policy compliance has been achieved, reducing the risk of an energy performance gap.

5. Requirements for water efficiency

[26] Low Energy Transformation Initiative (LETI). (2020). Climate Emergency Design Guide. London: LETI. Pp.45, 112
[27] Ibid. P.120
[28] Royal Institute of British Architects. (2021). RIBA 2030 Climate Challenge - Version 2. London: RIBA. P.6
[29] Ibid. P.5
[30] UK Green Building Council. (2021). Net Zero Whole Life Carbon Roadmap Summary for Policy-Makers. London: UKGBC. P.13

5.1. **R**. Both Policies CC2 and H5 require that operational water consumption is reduced as far as possible in **all** development through measures in line with the fittings approach as set out in Approved Document G of the Building Regulations, meaning that common water fittings such as showers and washing machines must not exceed the maximum water consumption rates listed in the Approved Document.

5.1.1. **E.** Since this requirement follows one of the compliance mechanisms set out under the extant Building Regulations, it is considered not to require additional evidence.

5.1.2. **E.** The requirement does not duplicate the Building Regulations because it stipulates use of the fittings approach, rather than the water efficiency calculator defined in Appendix A Approved Document G.

5.1.3. **E.** The fittings approach[31] is required by policies CC2 and H5 as it allows for ease of compliance for applicants, as well as ease of monitoring. Use of the fittings approach also allows planning officers to easily identify whether any elements of the proposed fittings specification approach best practice consumption values for that type of fitting. This allows for more informed planning decisions to be made.

5.1.4. **E.** Use of the fittings approach also allows applicants and planning officers to easily determine whether a proposed specification will be sufficient to achieve the maximum consumption levels for fittings to enable the scheme to benefit from the Thames Water Environmental Incentive (see paragraphs 5.3.3 – 5.3.4 below).

5.2. **R**. Policy H5 requires that **new homes** meet the optional requirement (evidenced through the fittings approach) for water efficiency as defined by Approved Document G. This means that total consumption should be less than 110 L per person per day (including a 5L per person allowance for external water use such as garden watering), compared to the baseline requirement of a maximum rate of consumption of 125 litres per person per day.

5.2.1. **E.** The optional requirement "*only applies where a condition that the dwelling should meet the optional requirement is imposed as part of the process of granting planning permission*."[32]

5.2.2. **E**. The Council is considers use of the optional requirement to be necessary based on evidence of national and regional water stress which is forecast to increase as a result of climate change.

5.2.2.1. As set out in paragraph 4.4.46 of the supporting text of the Local Plan Partial Update Submission Draft May 2025 (LP001),[33] the Thames Water

[31] HM Government. (2024). Approved Document G, Sanitation, hot water safety and water efficiency. The Building Regulations 2010. London: HM Government. Retrieved from https://assets.publishing.service.gov.uk/media/66f6c6ce3b919067bb4828cc/ADG_with_2024_amendments.pdf P.18, paragraphs 2.5-2.7
[32] Ibid. P.19, paragraph 2.8
[33] Reading Borough Council. (2025). Reading Borough Local Plan Submission Draft Partial Update. Reading: Reading Borough Council. P.102, paragraph 4.4.46

area including Reading is classed as an area of serious water stress by the Environment Agency.[34]

5.2.2.2. The Reading Climate Emergency Strategy (OP004) identified hotter, drier summers leading to increased challenges with resource planning, water stress and drought impacts on water quality and supply, as climate change impacts relevant to the Borough.[35]

5.2.2.3. The Strategy (OP004) contains a Water Theme Action Plan which notes that "*Reading is located in one of the most water stressed parts of the country, with a similar water availability per head to some communities in the Middle East … we are vulnerable: with the potential for more intense future droughts – coupled with the expected growth of the town – we need to make sure we manage our use of water carefully*."[36] The Strategy goes on to highlight how peaks in domestic water demand seen during the COVID-19 pandemic are likely to continue to some extent as hybrid and remote working patterns remain more common than before the pandemic.

5.2.2.4. Paragraph 6.2.1 of the Reading Borough Council Climate Change Adaptation Framework (OP006) identifies key climate risks and existing vulnerabilities for the borough, highlighting the impacts of drought as "*increases in the frequency and severity of drought conditions will increase risks to water supplies, both in terms of water availability and water quality. Growth in housing stock to meet demand will increase the challenge of managing these pressures… infrastructure such as gas and water pipes are at risk from the combination of hot, dry spells followed by wet weather and flooding."*[37]

5.2.2.5. The Climate Change Committee has also identified England's Southeast region as being particularly vulnerable to water stress, with a projected increased deficit in supply leading to water shortages along with possible increases in water bills and measures to restrict use such as hosepipe bans.[38]

5.2.3. **E**. The Council also seeks to mitigate the greenhouse gas emissions associated with supplying and treating water, in alignment with its carbon reduction targets and contribution to national emissions reductions.

5.2.4. **E.** The Planning Practice Guidance provides examples of how planning policies should make provision for climate change adaptation. The requirements of policies CC2 and H5 in relation to water efficiency align with the example of "*Considering availability of water and water infrastructure for the lifetime of the*

[34] Environment Agency. (2021). Water stressed areas – final classification 2021. Bristol: Environment Agency. Retrieved from https://www.gov.uk/government/publications/water-stressed-areas-2021-classification P.6
[35] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.10, paragraph 2.5 and Table 1
[36] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.40
[37] Reading Borough Council. (2024). Climate Change Adaptation Framework. Reading: Reading Borough Council. P. 20, paragraph 6.2.1
[38] Committee on Climate Change. (2019). UK housing: Fit for the future? London: Committee on Climate Change. Pp.76-77

development and design responses to promote water efficiency and protect water quality."[39]

5.3. **R**. Water neutral status[40] is encouraged for **all** development.

5.3.1. **R**. In the case of **new homes**, Policy H5 requires that water neutrality is achieved unless it can be demonstrated that doing so would render the development unviable.

5.3.2. **E**. Working with council planners and Thames Water to develop local plan policies around water neutrality is identified as a key adaptation issue under the Reading Climate Emergency Strategy (OP004) Water Theme Action Plan.[41]

5.3.3. **E**. As set out in paragraph 4.4.46 of the supporting text of the Local Plan Partial Update Submission Draft May 2025 (LP001) "*Reading Council encourages all new housing development to utilise Thames Water's 'environmental incentive' which offers financial assistance to achieve high performance levels for water fittings and appliances, the inclusion of water reuse technologies (rainwater and/or greywater recycling), and water neutrality.*" [42] Details of this scheme are linked within footnote 100 on page 102 of the Plan. As of 2025, the scheme offers three tiers of connection discounts of £400, £2500 and £3200 per property for proposals which demonstrate compliance with the enhanced fitting specification requirements, water recycling and rainwater harvesting provision requirements and residual demand offsetting respectively.[43]

5.4. **R**. Installation of water recycling and rainwater collection measures should be installed in **all** development where energy and cost-effective to do so.

5.4.1. **E**. The requirement for water recycling and rainwater collection measures to be installed wherever feasible aligns with the actions of the Reading Climate Emergency Strategy (OP004) Water Theme Action Plan and best practice measures encouraged through the Thames Water charging arrangements as set out in paragraph 5.3.3 above.

6. Requirements in relation to whole life impacts of development.

6.1. **R**. Policies CC2 requires that **all** development including proposed demolition of existing structures must show that demolition is justified because either:

6.1.1. The condition of the existing structure means that it is not feasible to retain it.

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[39] Ministry of Housing, Communities and Local Government. (2014). Guidance: Climate Change. London: HM Government. Retrieved from https://www.gov.uk/guidance/climate-change#statutory-duty-on-Climate-Change Paragraph 003 Reference ID: 6-003-20140612

[40] Water neutral status is conferred to any development with a net zero demand to public water supply by reducing water demand and offsetting residual water demand (through on-site harvesting or recycling measures or offsite offsetting for example).

[41] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.41

[42] Reading Borough Council. (2025). Reading Borough Local Plan Submission Draft Partial Update. Reading: Reading Borough Council. P.102, paragraph 4.4.46

[43] Thames Water. (2024). Charging arrangements for new connection services, 1 April 2025 to 31 March 2026. Reading: Thames Water. Retrieved from https://www.thameswater.co.uk/media-library/aczan453/charging-arrangements-for-new-connection-services-202526.pdf Pp. 42-44

6.1.2. Works required to satisfactorily refurbish the existing structure would result in equal or higher embodied emissions arising from the development.[44]

6.1.3. **E.** Demolition and replacement of buildings contributes significant emissions to the built environment sector. It is therefore appropriate for policy CC2 to seek to ensure that demolition is only carried out where necessary, and that alternative avenues such as retrofitting, partial retention of structures or sustainable deconstruction (where materials from a building to be removed are salvaged as far as possible) are fully explored.

6.1.4. **E.** Where demolition is justified by the circumstances set out in policy CC2, evidence for the justification can be provided in the form of surveys and/or design stage lifecycle carbon assessment.

6.1.5. These requirements are designed to ensure that embodied carbon is not ignored during the design of new buildings, and that the largest developments in the Borough adequately account for their impact in terms of whole life carbon. They are supported by precedents outlined below in paragraph 6.2.3.

6.2. For new commercial buildings of 5000m^2 floor area or more, embodied carbon must be assessed.

6.2.1. This assessment must demonstrate that the development will generate a rate of embodied carbon per area of 800kg/m^2 or less.

6.2.2. **E.** The requirements for demolition to carried out only where justified, and for large commercial schemes to account for their rates of embodied carbon, are designed to ensure that embodied carbon is considered through the planning process and that the largest developments in the Borough adequately account for their impact.

6.2.3. **E.** Requirements for monitoring and restricting embodied carbon have been successfully introduced into planning policies across the UK for a number of years. Examples include policies SI 2 (Minimising greenhouse gas emissions) and SI 7 (Reducing waste and supporting the circular economy) of the London Plan adopted March 2021, policy S11 (Embodied Carbon) of the Central Lincolnshire Local Plan adopted April 2023. policy SCR8: (Embodied Carbon) of the Bath & North East Somerset Local Plan (Core Strategy and Placemaking Plan) Partial Update adopted January 2023.

7. Conclusion of response to IQ46

[44] The emissions associated with the extraction and processing of materials and the energy and water consumption used in producing products and constructing the building. There are also embodied emissions associated with the 'in-use' stage (maintenance, replacement, and emissions associated with refrigerant leakage) and 'end of life' stage (demolition, disassembly, and disposal of any parts of product or building) and any transportation relating to the above.

N.B. Although emissions arising from human activity are typically made up from a mix of gases which contribute to the greenhouse effect (greenhouse gases), they are usually expressed in terms of carbon dioxide equivalent or CO_2e. CO_2e represents the amount of carbon dioxide (CO_2) that would be emitted to cause the same global warming impact as the total emitted mixture of greenhouse gases. This is why emissions are often referred to as "carbon emissions" as shorthand.

7.1. The Council has based the requirements of policies CC2 and H5 on robust evidence and precedents as outlined above.

7.2. Both policies CC2 and H5 are supported by exceptional basis clauses which offer alternative means of compliance, which are intended to allow for all development in the Borough to be delivered as sustainably as possible, in alignment with local and national climate action targets.

7.3. The viability of Policy H5 is further supported by evidence supporting the allowance net zero development costs within Appendix 5 of the Local plan Viability Testing Report (EV004).[45]

IQ47. Could the Council provide a clear explanation as to why the Council does not propose to use the approach set out in the WMS? In what way does Reading differ from other local planning authorities around the country, which would justify the approach outside the parameters of the WMS?

1. ***In what way does Reading differ from other local planning authorities around the country, which would justify the approach outside the parameters of the WMS?***

1.1. The Council has arrived at its proposed policy approach through interrogation of the evidence of local, regional and national climate action targets and priorities, as well as evidence in relation to feasibility and by drawing on examples of best practice planning policies which have been successfully implemented elsewhere as shown in the Local Plan Partial Update Background Paper (2025) (EV002).

1.2. The Borough has a strong track record on climate action, having declared a climate emergency in February 2019.[46] In Reading, less than 1.5% of total emissions from the Borough originate directly from the Council's activities.[47] It was therefore vital that the Council set a carbon reduction target for the Borough as a whole, which aligns with the UK's net zero trajectory. This target is set for the Borough to achieve **net zero emissions by 2030**.

1.2.1. The Reading Climate Change Partnership (RCCP) was established in 2007 with the Council as a founding member, to aid with co-ordination of efforts from the Council in partnership with communities, business, organisations and individuals to reduce Borough emissions and contribute to other climate change mitigation and adaptation actions in the area. The RCCP is responsible for the Reading Climate Emergency Strategy 2020-2025 (OP005). The Reading Climate Action Network[48] (ReadingCAN) is run by the RCCP and produces the

[45] BPS Chartered Surveyors. (2024). Local Plan Viability Testing Report: Independent Viability Review. Dorking: Reading Borough Council. Retrieved from https://images.reading.gov.uk/2025/05/EV004-Whole-Plan-Assessment-of-Viability-Reading-Local-Plan-BPS-Chartered-Surveyors.pdf Pp. 70-72 Appendix 4-5 pp. 4-6)

[46] Reading Borough Council. (2019, February 19). ITEM NO 11 - CLIMATE EMERGENCY - TOWARDS A ZERO CARBON READING - ALTERED. Council Meeting. Reading: Reading Borough Council. Retrieved from https://democracy.reading.gov.uk/documents/s3743/item11-ClimateChange-ALTERED.pdf

[47] Reading Borough Council. (2025, 03 18). Climate change. Retrieved from Reading.gov.uk: https://www.reading.gov.uk/climate-and-pollution/climate-change/

[48] About. (2022). Retrieved from ReadingCAN.org.uk: https://readingcan.org.uk/about-us/

annual reports on progress towards actions under the Reading Climate Emergency Strategy, the most recent of which was published by ReadingCAN in November 2024.[49]

1.3. The Reading Climate Emergency Strategy 2020-2025 (OP005) was published in 2020, and highlights climate related risks which are significant in the Borough.

1.4. One key risk identified in the Strategy is hotter, drier summers. "*The latest information suggests that 2019 was the second hottest summer on record globally with 2016 being the hottest. The last decade (2010-19) was also the hottest on record with each decade since the 1980s being warmer than the last. … Hot summers will become more common – the chance of a summer as hot as 2018, one of the hottest on record, has already increased from less than 10% to between 10-25% in any one year, and is expected to be around 50% by mid-century. The 2018 heatwave saw Reading reach a high of 32.9°C with no rainfall for 30 consecutive days*".[50]

1.4.1. Since the publication of the Strategy in 2020, temperatures peaked again in 2022, reaching 39°C in Reading on July 19th, just one degree lower than the new UK record which was set in Lincolnshire on the same day. At the time of writing in July 2025, Reading has just experienced its hottest June on record.[51]

1.4.2. The risk to the residents of Reading posed by extreme temperatures is severe. The Borough is located in one of the hottest, driest regions of the UK.[52] It is also a predominantly urban borough with only 0.3% of residents living in areas classified as rural.[53]

1.4.3. This leaves residents at increased risk of overheating due to urban heat island effect whereby urban neighbourhoods can be up to 8-12°C hotter than rural neighbourhoods in the same region, due to increased population and built environment density, reduced cooling from vegetation and water, and heat energy being retained and re-released by built surfaces.

1.4.4. While other nearby local authorities benefit from some mitigation of extreme heat through high levels of tree canopy cover, Reading has a canopy cover of 14.6% across the Borough area, placing it in the middle third of UK local authority areas by canopy cover levels according to Friends of the Earth.[54] This

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[49] Reading Climate Action Network. (2024). The Reading Climate Emergency Strategy 2020-25, Annual Report 2023/4. Reading Climate Change Partnership. Reading: ReadingCan. Retrieved from https://democracy.reading.gov.uk/documents/s33466/Appendix%201%20-%20Annual%20Report%202023-24%20on%20the%20Reading%20Climate%20Emergency%20Strategy%202020-25.pdf

[50] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.10, paragraph 2.5

[51] Burt, Dr. S. (2025, June 30). Reading's hottest June on record. Retrieved from University of Reading: Expert Comment: https://www.reading.ac.uk/news/2025/Expert-Comment/Hottest-June-on-record---Expert-comment

[52] Met Office. (2016). Southern England: Climate. Reading: Met Office. Retrieved from https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/weather/regional-climates/southern-england_-climate-met-office.pdf

[53] Department for Environment, Food & Rural Affairs. (2021). 2011 Rural Urban Classification for Local Authorities. London: HM Government Office for National Statistics. Retrieved from https://www.gov.uk/government/statistics/2011-rural-urban-classification-of-local-authority-and-other-higher-level-geographies-for-statistical-purposes

[54] Friends of the Earth. (2023). Spreadsheet of tree cover by English local authority areas. London: Friends of the Earth. Retrieved from https://policy.friendsoftheearth.uk/download/spreadsheet-tree-cover-english-local-authority-areas

canopy cover is very unevenly spread, with a 2022 assessment[55] identifying that Abbey ward, which covers most of the town centre, where significant levels of development are anticipated, has canopy cover levels or 5.5%, the lowest in the Borough.

1.4.5. Additionally, the large amount of older housing stock in the Borough with almost a quarter of the homes in Reading being built before 1919[56] intersects with other risk factors, since older housing is more often poorly adapted to deal with high temperatures.[57]

1.4.6. This factor when combined with Reading's urban environment, location in the inland southeast of England and lack of tree cover, leaves the residents of Reading particularly vulnerable to extreme temperatures.[58]

1.5. By promoting a policy approach which sets absolute targets for space heating demand (SHD) and total energy demand (expressed as rate of Energy Use Intensity, EUI), the Council aims to reduce the risk of the energy performance gap whereby issues with the specification and construction of buildings mean that they do not achieve thermal or energy performance levels shown through design-stage modelling. This is a key step towards protecting Reading's residents from extreme temperatures, since buildings which are constructed with a more thermally efficient fabric, benefit from more stable internal temperatures.

1.6. The requirements of policies CC2 and H5 ensure that energy demand is reduced as far as possible through design measures, before the use of any active building systems. This policy approach encourages the delivery of new buildings with adaptations such as thermally efficient forms, appropriate solar orientation and glazing strategies and optimised natural ventilation, since simply delivering a poorly adapted building with a powered cooling system and renewable energy generation measures is not likely to meet the energy efficiency requirements of the policies (though it may meet the requirements of the Building Regulations).

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[55] Reading Borough Council (2022). Reading's Tree Canopy Cover Assessment. https://images.reading.gov.uk/2023/05/Tree-Canopy-Cover-Assessment.pdf

[56] The Health Foundation. (2024, October 16). Proportion of properties built before 1919 by local authority. Retrieved from health.org.uk: https://www.health.org.uk/evidence-hub/housing/housing-quality/proportion-of-properties-built-before-1919-by-local-authority **Source**: Health Foundation analysis of Valuation Office Agency, Table CTSOP4.0: Number of properties by Council Tax band, property build period and administrative area, England and Wales, 2024

[57] Coyne, K. (2021, August 19). UK homes heat up more quickly than those in western Europe. Environmental Health News. London. Retrieved from https://www.cieh.org/ehn/environmental-protection/2021/august/uk-homes-heat-up-more-quickly-than-those-in-western-europe/#:~:text=Tado%20reported%20that%20the%20UK%20has%20the%20oldest,energy-efficient%20homes%20are%20also%20difficult%20to%20keep%20warm.

[58] The risks of extreme heat in urban locations were recently highlighted by research published by the Grantham Institute which examined the excess mortality caused by the early summer 2025 European heatwave. The research found that temperatures peaked around three to four degrees higher than they would without the effects of climate change, and that 263 heat related excess deaths occurred in London alone during the ten day period from June 24th 2025 – July 2nd 2025. Of these, it estimated that 171 deaths could be directly attributed to climate change.
See: Grantham Institute. (2025). Climate change tripled heat-related deaths in early summer European heatwave. Imperial College London, Institute reports and analytical notes, London. Retrieved from https://www.imperial.ac.uk/media/imperial-college/grantham-institute/public/publications/institute-reports-and-analytical-notes/Climate-change-tripled-heat-related-deaths-in-early-summer-European-heatwave.pdf

1.7. By promoting a fabric first approach, the Council aims to ensure that active building systems can work alongside sustainably designed and constructed buildings to deliver safe and comfortable internal environments while not contributing to net Borough emissions (as is required to align with the Reading's 2030 net zero target).

2. Could the Council provide a clear explanation as to why the Council does not propose to use the approach set out in the WMS?

2.1. If the Council proposed a policy approach which focussed on reduction in regulated emissions only (the Target Emission Rate (TER)-tracking approach set out in the WMS 2023), it would risk the delivery of a generation of buildings which are not suitably adapted to provide safe, climate resilient environments, for a number of reasons.

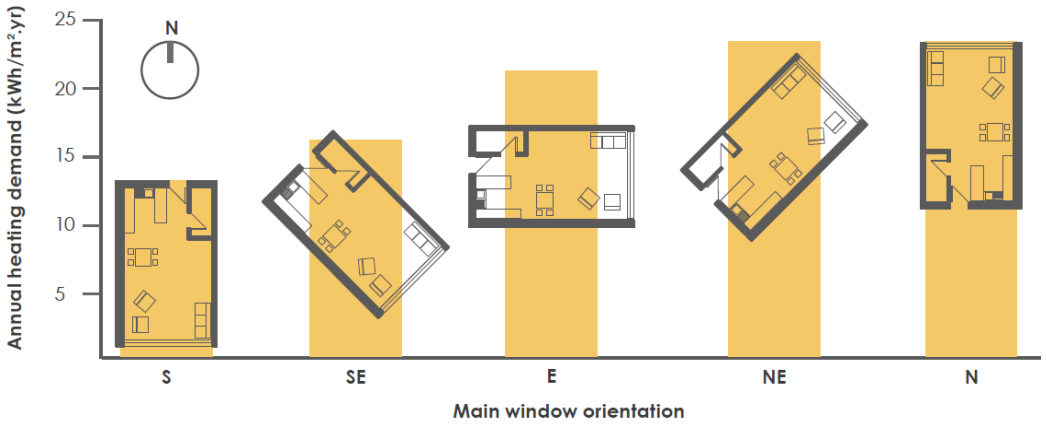
2.2. Firstly, the TER is not an energy performance metric, it is an emissions metric linked to the performance of a "notional building". BRE define the notional building as "*A hypothetical building of the same size, shape, orientation and shading as the actual building, with the same activities, zoning and system types and exposed to the same weather data, but with pre-defined specified properties for the building fabric, fittings and services*." [59]

2.2.1. This is problematic because the size, shape, orientation and shading of a building are all to a lesser or greater extent decided through the design process, and all have a significant impact on the building's energy and thermal performance. For example, an apartment oriented to face south may use roughly half the annual heating energy of an identical apartment which faces north, as illustrated by this extract from the LETI Climate Emergency Design Guide:

Figure 1 Diagram showing a floorplan rotated through five positions from south facing to north facing, overlaid with the space's annual heating demand. Extracted from page 48 of the LETI Climate Emergency Design Guide. In a south facing orientation the annual space heating

[59] BREEAM UK. BREEAM New Construction UK Non-Domestic Buildings, Technical Manual SD5078 BREEAM UK New Construction 2018 3.0. London, BRE, 2018. p.150.

demand (SHD) is shown as 13 kWh/m2/year whereas in a north facing orientation with all other variables constant, the SHD rises to 24 kWh/m2/year.



2.2.2. Since the notional building is generated based on the design of the building as submitted, including orientation, form factor and glazing ratio, it does not incentivise energy efficient design choices which could have a highly significant impact on how much energy the building uses.

2.3. Another problem with the TER is that the notional building does not allow for meaningful comparison between similar buildings. Whereas the metrics of absolute energy demand (EUI) and space heating demand (SHD) make it easy to see that one building is more energy efficient than a comparable building with a higher EUI and/or SHD, the TER is generated based on the design parameters submitted and has no relationship with actual in-use energy performance.

2.4. An issue which makes TER-based policies unsuitable for securing delivery of net zero development is that the TER and TFEE (target fabric energy efficiency) metrics used by the Building Regulations do not account for all the energy used by buildings. The regulations divide energy use in buildings into *regulated energy*, which includes energy used to power fixed building systems such as heating and lighting, and *unregulated energy* which includes everything else. Only the regulated portion of energy use is assessed through the Building Regulations. This makes it impossible to accurately predict how a building will truly perform in use (or to estimate energy bills) based on its performance against the TER and TFEE.

2.4.1. It should be noted that all plug-in appliances, including cooking equipment, count as unregulated energy under the Building Regulations. Plug-in heating and cooling equipment (such as space heaters and electric fans) are also typically unregulated. This is highly problematic since it means that buildings which are designed with relatively poor thermal performance and are therefore more likely to require additional plug-in seasonal heating and/or cooling equipment will have their space heating and cooling energy demands underestimated through Building Regulations SAP[60] and SBEM[61] methodologies.

[60] Standard Assessment Procedure, used to assess residential buildings.
[61] Simplified Building Energy Model, used to assess non-residential buildings.

2.4.2. Unregulated energy can form a large proportion of the energy used in a building. It is therefore clear that a building which is designed to achieve a percentage reduction relative to its TER (even if that reduction is 100%) is not a net zero building, unless its unregulated emissions are also separately addressed.

2.5. Actions set out in the Reading Climate Emergency Strategy 2020-2025 (OP005) are designed to bring the Borough as close as possible to its 2030 goal.

2.5.1. As outlined in paragraphs 2.1-2.1.2 of the Council's response to IQ46, The Reading Climate Emergency Strategy (OP004) summarises the need for urgent action for the UK to meet its national obligations under the Paris Agreement, including reaching net zero greenhouse gas emissions by 2050.

2.5.2. The Strategy explains Reading's target of net zero emissions by 2030 for the whole local authority area, which is "*based on the sound science outlined by the Intergovernmental Panel on Climate Change, recognising the need for more ambitious and urgent action to avoid catastrophic climate impacts*." [62]

2.5.3. Retrofitting existing buildings to lower their energy demand is a key action to assist Reading to meet its net zero target. New buildings, on the other hand, can only contribute to mitigating borough emissions if they export more renewable energy than they consume, or if they replace an existing building with higher operational emissions. This means that new buildings are only compatible with the duty to mitigate climate change (and Reading's net zero target) if they achieve net zero status as a minimum.

2.5.4. As explained above, a TER-based policy approach is therefore not suitable to secure net zero development and cannot lead to development which is aligned with Reading's committed carbon reduction trajectory.

2.6. The WMS 2023 refers to "*a specific version of the Standard Assessment Procedure (SAP)"* being used to express any planning policy requirement for a percentage uplift relative to a building's TER.[63]

2.6.1. The SAP is periodically updated with the most recent update coming into effect as SAP10.2 in June 2022. SAP updates can change any aspect of the methodology including parameters such as assumed carbon intensity of the national grid or baseline assumptions on the performance of buildings, systems or equipment.

2.6.2. The next change to the way that the Building Regulations deal with energy efficiency and carbon emissions is expected with the release of the Future Homes Standard (FHS) and Future Building Standard (FBS) which are scheduled for publication in autumn 2025.

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[62] Reading Climate Change Partnership. (2020). The Reading Climate Emergency Strategy 2020-25. Reading: Reading Climate Change Partnership. P.11, paragraph 3.2

[63] Baroness Penn and Lee Rowley MP on behalf of HM Government. (2023). Planning - Local Energy Efficiency Standards Update. Department for Levelling Up, Housing and Communities. London: UK Parliament. Retrieved from https://questions-statements.parliament.uk/written-statements/detail/2023-12-13/hlws120

2.6.3. The FHS will contain a new methodology which will replace the SAP: the Home Energy Model (HEM).

2.6.4. The initial release is expected to also include a revised, transitional version of SAP (SAP 10.3).

2.6.5. Although the FHS, FBS and HEM have been subject to public consultation, the final form that each will take will not be known until the final versions are released. It is therefore not possible to write a policy based on HEM (or SAP10.3) as it could not currently be assured that such a policy would be robustly supported by feasibility evidence, given the lack of information on these methodologies.

2.6.6. To comply with the requirements of the WMS 2023, a policy would therefore need to be formulated to require a percentage improvement relative to a TER generated through SAP10.2, since this is the currently extant version of SAP; previous versions of SAP are no longer compliant with Approved Document L and the forthcoming versions of SAP and HEM are not sufficiently defined to allow a policy based on either of them to be assessed as sound.

2.6.7. Given that SAP10.2 is scheduled to be superseded in autumn 2025, it is highly likely that if the Council were to include a policy worded to refer to reductions relative to a building's TER as generated by SAP10.2, as required by the WMS 2023, it will be out of date and unusable by the time the Local Plan Partial Update is adopted.

2.6.8. Conversely, policies such as CC2 and H5 which are based on absolute targets for energy efficiency and performance-based verification may be better able to align with future expectations than policies based on current Building Regulations.

2.7. In summary, the Council has chosen to incorporate absolute energy metrics into Policies CC2 and H5 in respect of robust evidence as summarised in the responses to IQ46 and IQ47. This approach will ensure that new development in Reading delivers safe, climate resilient buildings which do not push the Borough off-course to delivering on its commitment to achieving net zero by 2030 in line with the UK's legally binding target of achieving net zero by 2050.

2.7.1. Flexibility is provided within both policies, through the use of site average values with higher individual limits for energy efficiency, and notably through the exceptional basis clauses incorporated into policies CC2 and H5. These measures are sufficient to ensure that the policies are highly useable and do not unduly restrict the viability of development delivery.

3. Relevant precedent and legal advice on the status of the WMS 2023

3.1. A judicial review of the WMS 2023 was undertaken. The judgement which was published on 2 July 2024 rejected the grounds which formed the basis of the judicial review, however it should be noted that at time of writing, further challenge to the 2023 WMS is expected through the appeals process.

3.2. Essex County Council has published open legal advice in relation to the ability of local planning authorities to set local plan policies that require development to achieve energy efficiency standards above Building Regulations.

3.3. Paragraphs 127-129 of the advice relate to the example of the Tendring and Colchester Borders Garden Community DPD which included policies containing limits on both EUI and SHD and was found to be sound by the Examining Inspector on 31st of March 2025. [64]

3.4. This Plan requires proposals to:

"*demonstrate how new homes will achieve:*

- *Space heating demand less than 30kWh/m2/per annum.*
- *Total energy consumption (energy use intensity) of less than 40kWh/m2/annum.*
- *Onsite renewable generation to match or exceed the total energy consumption (energy use intensity).*"[65]

3.5. The open legal advice by Estelle Dehon KC reflects that the Inspector recognised that the policy wording was not consistent with the requirements of the WMS, however found that it was justified by the evidence provided.

3.6. In his report on the Tendring Colchester Borders Garden Community DPD, Inspector Graham Wyatt noted that "*whilst the WMS is a material consideration of significant weight, the Councils must prepare development plan documents that, in accordance with Section 19(1A) of the 2004 Act, include policies which contribute to the mitigation of, and adaption to, climate change. Additionally, Section 1 of the Planning and Energy Act 2008 states that local planning authorities may in their development plans include policies imposing reasonable requirements for development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations.*"[66]

3.7. The open legal advice by Estelle Dehon KC concludes that "*In my view, this is the correct approach. The 2023 WMS is a material consideration and, even if it is one to which considerable weight should be given, it is lawful to depart from a part of the 2023 WMS where it is reasonable to do so. It is open to Examining Inspectors to find sound, and in overall compliance with national policy, draft policies which do not refer to the TER metric or which refer to a different metric, so long as this is supported by robust viability evidence. Indeed, it would be unlawful for Examining*

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[64] Dehon, E. KC (2025). FURTHER UPDATED OPEN ADVICE IN THE MATTER OF THE BUILDING REGULATIONS, PART L 2021 AND THE PLANNING AND ENERGY ACT 2008. London: Essex County Council and Essex Climate Action Commission. Retrieved from https://www.essexdesignguide.co.uk/media/3129/essex-open-legal-advice-a-updated-may-2025-energy-policy-in-plans-and-building-regulations.pdf

[65] Essex County Council with Colchester City Council and Tendring District Council. (2025). Tendring Colchester Borders Garden Community Development Plan Document (DPD). Tendring: Tendring District Council. P. 118 Retrieved from https://tdcdemocracy.tendringdc.gov.uk/documents/s75100/A.1%20Appendix%203%20-%20Development%20Plan%20Document%20DPD%20as%20modified.pdf

[66] Wyatt, G. (2025). Report to Tendring District Council and Colchester City Council. The Planning Inspectorate. Tendring: Tendring District Council. Appendix 1, p.19, paragraph 78.
Retrieved from https://tdcdemocracy.tendringdc.gov.uk/documents/s75098/A.1%20Appendix%201%20-%20Inspectors%20Report.pdf

Inspectors to apply the 2023 WMS inflexibly or to fail to consider whether departure from the TER bullet point where justified."[67]

Urban greening factor

IQ51. What is the evidential basis for LPPU Policy EN19 and Appendix 3?

1. Natural England provided comments during the Regulation 18 consultation (November 2023) advising that RBC explore a new Urban Green Factor (UGF) policy (see pp. 126 of LP010). Through analysing existing planning applications in early 2024 it was determined that Biodiversity Net Gain (BNG) requirements would fail to deliver green cover on many sites within the Borough. This is because so many sites in Reading are entirely built up and do not include any existing habitat value. This would fail to achieve Reading's climate and biodiversity aspirations as set out in the Climate Emergency Strategy, the Biodiversity Action Plan, and the Local Plan.

2. For instance, the Climate Emergency Strategy (OP004) notes the following as key priorities on the pathway to net zero in the nature theme:

    - *"Managing existing natural habitats to sequester and store more carbon: by increasing the amount of permanent cover (including but not restricted to tree cover) and managing greenspace differently in the town and, perhaps even more important, increasing the storage of carbon within the soil, the natural environment can make a significant contribution to reducing Reading's carbon footprint"*; and

    - *"Ensuring that new development delivers a 'net gain' for the environment: as Reading grows we need to ensure that national and local planning policies requiring a 'net gain' for biodiversity are observed, so that new and restored habitats can help us mitigate the causes and adapt to the impacts of climate change".* (p47)

3. Among the specific actions in the nature theme are:

    - N10: Compensatory habitat restoration/offsets for urban development (p51); and

    - N18: Greening front gardens and reducing hardstanding (p52).

4. Ecologists and policy officers therefore developed a proposed UGF policy based on the adopted policies of other local planning authorities, in particular London and Southampton.

5. The calculators and guidance provided by Natural England, London and Southampton were employed to test various applications within Reading. It was considered that these methods were too detailed and too burdensome, particularly in light of the new BNG requirements. A new calculator was developed to ensure green cover would be delivered within Reading on all sites, particularly those with no existing baseline biodiversity value. In order to avoid unnecessary work for the applicant, habitat

[67] Dehon, E. KC (2025). FURTHER UPDATED OPEN ADVICE IN THE MATTER OF THE BUILDING REGULATIONS, PART L 2021 AND THE PLANNING AND ENERGY ACT 2008. London: Essex County Council and Essex Climate Action Commission. P.46, paragraph 129
Retrieved from https://www.essexdesignguide.co.uk/media/3129/essex-open-legal-advice-a-updated-may-2025-energy-policy-in-plans-and-building-regulations.pdf

definitions were aligned with those given in DEFRA's Statutory Metric, wherever possible. These are set out in the table in the user guide. The policy is intended to be a simple way for a developer to demonstrate that a development will have a positive impact on the environment by ensuring that natural green coverage is of an appropriate level and type.

6. The proposed Reading Local Plan UGF calculator has been tested on 13 applications of a variety of development types based on submitted landscaping plans and or BNG calculations (where these were available). Of these, 64% passed the UGF. The full list of applications is set out in Appendix 1. For this reason, it is not considered to represent a significant additional burden on a developer, since many will already be compliant, rather a straightforward way to demonstrate and ensure greening on the many urban development sites in the Borough.

IQ52. How does this work with requirements for Biodiversity Net Gain?

1. Because Reading is largely urbanised and dominated by hardstanding, particularly in the town centre where more than half of the development is expected to take place, there are many sites where BNG requirements will not deliver a sufficient (or any) uplift in urban greening. For example, a site with no existing biodiversity value would not deliver any additional green cover, as a 10% increase of zero is zero.
2. There are also sites, for example private gardens, which are being eroded by new housing with little green landscaping other than hard surfaces. Where these do not deliver 10% BNG, government guidance states that it would be generally inappropriate to refuse an application [NPPG paragraph Paragraph: 019 Reference ID: 74-019-20240214]. Therefore, the Council is seeking an additional policy tool to ensure development in garden land is acceptable in terms of biodiversity. For example, a large householder extension would likely result in loss of green cover. By requiring examples of "surface cover types" stated within the proposed policy, loss of green cover could be avoided.
3. It is expected that, for those sites where mandatory 10% BNG does apply, meeting the BNG requirements will also assist in meeting the requirements of policy EN19. Demonstrating compliance with the urban greening factor will not be a considerable additional burden as the existing and proposed areas of various surface cover types will have been measured for BNG compliance. For those sites where the BNG requirement does not apply, the urban greening factor will ensure that a contribution to greening is still made.

Appendix 1: Applications tested against urban greening factor

Table A1.1: List of applications that were tested against the urban greening factor requirements

Application ref	Address	Proposed plans	UGF	UGF development type	UGF threshold	Pass or fail
120293	Phase 2, Land At Chatham Place, Reading	Detailed planning application for phase 2 of the Chatham Place redevelopment comprising one nine storey and one nineteen storey building to accommodate a total of 184 residential units and ground floor retail uses (use classes A1, A2 or A3), together with basement car parking, public and private amenity space, public realm works and landscaping and alterations to existing vehicular access.	0.4175	Major developments that are predominately residential (more than 50% as-built internal floor area)	0.25	PASS
200683	Portman Road, Reading, Berkshire, RG30 1DR	Discharge of conditions 7 (Sustainable Drainage Scheme), 9 (Landscaping) and 25 (Bicycle Parking Facilities) relating to the planning permission 180319.	0.5365	Major developments that are predominately residential (more than 50% as-built internal floor area)	0.25	PASS
200888	Homebase Kenavon Drive Reading	Non-material amendments to permission 170509 (granted on 10/10/2018) to alter landscaping, access design and associated alterations	0.3105	Major developments that are predominately residential (more than 50% as-built internal floor area)	0.25	PASS
221916	Former Debenhams Department Store West of Yield Hall	Original Proposal: Mixed use development comprising part demolition of former department store and erection of new buildings comprising up to 218 build to rent residential dwellings (Class C3) &	0.2657	Major developments that are predominately residential (more	0.25	PASS

Application ref	Address	Proposed plans	UGF	UGF development type	UGF threshold	Pass or fail
	Place The Oracle RG1 2AS	1,209sqm commercial uses within Uses Class E and/or bar (Sui Generis Use). Reconfiguration and change of use of up to 5,866sqm remaining department store floorspace (Class E) to uses with within Use Class E and/or bar (SuiGeneris Use) and/or experiential leisure use (Sui Generis Use). Associated public realm, infrastructure works & external alterations to shopping centre, including creation of new shopping centre entrance (amended description)(accompanied by an Environmental Statement) The amendments include: amendments include: - Changes to layout, massing and appearance - Reduction in height of proposed Blocks D and E - Proposed number of residential units increased from 202 to 218 for application ref. 221916 - Proposed number of residential units reduced from 247 to 218 for application ref. 221917		than 50% as-built internal floor area)		
230613	Amethyst Lane Reading	Demolition and redevelopment of the Site at Amethyst Lane to deliver a new respite care facility alongside 21 new houses, soft and hard landscaping, parking and ancillary works	0.429	Major developments that are predominately residential (more than 50% as-built internal floor area)	0.25	PASS
231041	Portman Road Reading	Proposed residential development comprising 80 apartments including enabling works to the existing access and car park	0.21	Major developments that are predominately residential (more	0.25	FAIL

Application ref	Address	Proposed plans	UGF	UGF development type	UGF threshold	Pass or fail
				than 50% as-built internal floor area)		
240414	47 Parkside Road, Reading, RG30 2BT	Two proposed 3-bed four-person detached properties with associated parking and gardens.	0.4804	All other applications where the proposals will result in more than 30% of the site as building(s) or hard-surfacing	0.25	PASS
240415	Land to South Of 104 Berkeley Avenue Reading RG1 6HY	Erection of a detached dwelling with parking and amenity space	0.5619	Self-build and custom-build housing	0.5	PASS
240605	15 Woods Road Reading RG4 6NA	Extensive alteration and extension of existing dwelling, including new porch, side, rear and first floor extension and external cladding and single garage to the rear, including new landscaping and parking	0.34	Householder applications where the proposals will result in more than 30% of the site as building(s) or hard-surfacing	0.6	FAIL
240800	1 Arkwright Road Reading RG2 0LU	Proposed demolition and replacement of existing industrial unit with Associated parking and landscaping.	0.09	Major developments that are predominately commercial (more than 50% as-built internal floor area)	0.25	FAIL

Application ref	Address	Proposed plans	UGF	UGF development type	UGF threshold	Pass or fail
240846	Napier Court Napier Road Reading	Demolition of existing buildings and erection of new buildings of 11 and 12 storeys, with amenity space at roof level (part indoor and set back), to provide 576 build to rent residential dwellings (Class C3) with residential amenity space, parking, landscaping and associated engineering works.	0.21	Major developments that are predominately residential (more than 50% as-built internal floor area)	0.25	FAIL
240998	5 Stoneham Close, Tilehurst, Reading, RG30 4HB	Construction of Two Storey - 3 Bedroom house and demolition of existing garage.	0.2373	All other applications where the proposals will result in more than 30% of the site as building(s) or hard-surfacing	0.25	FAIL
241035	292 Henley Road, Caversham, Reading, RG4 6LS	"New 4 bedroom residential dwelling on the land to the Rear of 292 Henley Rd, RG4 6LS.				