Rugby Borough Council Emerging Local Plan:

Net Zero Carbon Policy Support

Evidence base report

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Rev 3

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Glossary of terms and acronyms

BREDEM	Buildings Research Establishment Domestic Energy Model. A methodology for estimate calculations of the energy use and fuel requirements of a home based on its characteristics. BREDEM is the basis for SAP (see elsewhere in this glossary) but BREDEM retains more flexibility by allowing the user to tailor some assumptions made in the calculations to better reflect the project.
Carbon	Short for 'carbon dioxide' but can also include several other gases that warm the climate. 'Carbon emissions' is when human activities emit these gases to the atmosphere.
Carbon budget	Amount of greenhouse gas that can be emitted by an individual, organisation or geographic area. Usually set to reflect a 'fair share' of the global amount that can be emitted before reaching a level of atmospheric carbon that causes severely harmful climate change.
Carbon intensity/ carbon factors	A measure of how much carbon was emitted to produce and distribute each kWh of grid energy at a certain point in time. For electricity, this has been falling as coal-fired power stations have been phased out over years. It also varies on an hourly basis: at times of high renewable energy generation, the carbon intensity is lower than at points where gas-fired electricity dominates the generation mix.
CO_2	Carbon dioxide. Often shortened to 'carbon'.
CO_2e	Carbon dioxide equivalent. The sum of a mixture of gases, in terms of their climate-changing impact in a 100-year period expressed as the amount of CO_2 that would have the same effect. Often shortened to 'carbon'.
DER	Dwelling Emission Rate. A metric from Part L of building regulations estimating the proposed home's annual CO_2 emissions per square metre of floor, from regulated energy use in the home. Must not exceed TER (see TER definition in this glossary).
Embodied carbon	Carbon that was emitted during the production, transport and assembly of a building, infrastructure, vehicle or other product, before the product is in use. As opposed to 'operational carbon' which is emitted due to energy use when operating the building / infrastructure / vehicle / other product.
EUI	Energy use intensity, a measure of how much energy a building uses per square metre of floor. Expressed in kilowatt-hours per square metre of floor space per year.
GHG	Greenhouse gas (CO_2 and several other gases: methane, nitrogen dioxide, and fluorinated refrigerant gases). Often collectively referred to as 'carbon'.
MVHR	Mechanical Ventilation with Heat Recovery
Part L	Building regulations section that sets basic legal requirements regarding buildings' energy and CO_2.
Performance gap	The 'energy performance gap' is the difference between the amount of energy a building is predicted to use during design, versus the actual amount of energy it uses. The gap is due to poor prediction methodologies, errors in construction, and unexpected building user behaviour.
PV	Photovoltaics: solar panels that generate electricity.
PHPP	Passivhaus Planning Package – a tool to accurately calculate a building's energy use. It is used to design buildings that seek Passivhaus certification, but can be used without pursuing certification.
Regulated energy or carbon	Carbon emissions associated with energy uses that are 'regulated' by Building Regulations Part L. This covers permanent energy uses in the building, (space heating, space cooling hot water, fixed lighting, ventilation, fans and pumps).
SAP	Standard Assessment Procedure – the national calculation method for residential buildings' energy and carbon, used to satisfy building regulations Part L. SAP is based on BREDEM model, but with fixed assumptions and thus less flexibility.
SBEM	Simplified Buildings Energy Model – the national calculation method for non-residential buildings' energy and carbon, used to satisfy building regulations Part L.
Sequestration	Removal and storage of carbon dioxide (or other GHGs) so that it cannot perform its harmful climate-changing role in the atmosphere. Currently only achieved by trees/plants and soil. May be achieved by technologies in future.
Space heat demand	Amount of energy needed to heat a building to a comfortable temperature. Expressed in in kilowatt-hours per square metre of floor space per year.
TER	Target Emission Rate – a limit set by Part L of building regulations on annual CO_2 emissions per square metre of floor, from regulated energy use in the building.
TPER	Target Primary Energy Rate – limit set by Part L of building regulations on 'primary energy' use per square metre of floor. Unlike metered energy,

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	‘primary energy’ takes into account energy lost to conversion inefficiencies during power generation and distribution.
TFEE	Target Fabric Energy Efficiency – limit on space heat energy demand per square metre of floor, set by Part L of building regulations. Based only on fabric performance; not affected by building services like heating system, lighting, ventilation[i].
TM54	A method to accurately calculate buildings’ energy use. Devised by Chartered Institution of Building Services Engineers (CIBSE).
UKNZCBS	UK Net Zero Carbon Buildings Standard. A set of energy and embodied carbon performance targets devised by a consortium of the UK’s main standard-setting bodies in the UK built environment sector. These targets become more stringent over time and are differentiated by different building types. Meeting the UKNZCBS does necessarily not make the building itself ‘net zero carbon’ - but rather its targets are designed to ensure that these buildings are *compatible with* the UK’s transition to net zero carbon
Unregulated energy or carbon	Carbon associated with energy use in a building or development but which is not covered by Building Regulations Part L. Includes plug-in appliances, lifts, escalators, external lighting, and any other use not covered by Part L.
WMS (and WMS2023)	Written Ministerial Statement. Made by a government minister, forming an official statement of national policy on a specific topic. ‘WMS2023’ specifically refers to a WMS made on 13th December 2023 about local plan energy efficiency policies.

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1. Introduction and executive summary

This document's key focus is to lay out the evidence that justifies the proposed policy on net zero carbon buildings in Rugby's emerging local plan.

This builds on prior work in 2024 with the Council to explore the range of powers, duties and precedents for promoting carbon reductions through a local plan.

1.1. Structure of this document

In order to lay out the evidence that justifies the policy, this document covers the following topics:

- **The local plan's mandate to act to achieve carbon reductions** – linked legislation, national policy and local commitments, and contextualised by the extent to which the necessary carbon reductions are, or are not, being achieved in the absence of local plan policy to reduce buildings' carbon emissions
- **The local plan's powers to enforce the kind of performance that is necessary** in buildings – again derived from legislation, including how these powers may be affected by national policy statements
- **Policy options that have been considered** in light of the above mandates and powers, taking into account the precedents of such policies in other local plans (which help to provide indication of the types of policy that may be considered sound)
- **The available evidence of the following for the proposed type of policy**, from existing robust sources in the public domain:
    - Feasibility of meeting the proposed policy standard, and
    - Cost uplift of meeting the proposed standard.

A table of contents is provided overleaf.

A glossary has also been provided at the start of this document.

An appendix at the end of this document provides bibliography/references.

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1.2. Overview of the proposed carbon reduction policies and rationale

The proposed policies are designed to bring forward the most vital elements of energy and carbon performance in new buildings that has been demonstrated to be necessary in order for those new developments to be compatible with the UK's carbon budgets (and the local area's share of those, especially in light of the local area's commitment to achieving net zero in 2030 ahead of the national 2050 goal). These policies will not only help to deliver Rugby's climate commitments (detailed in section 2.3.7) but also will ensure that new growth delivered in this local plan will play its necessary role in proactively supporting the UK's fulfilment of the Climate Change Act (see section 2.2.4), as expected by the National Planning Policy Framework 2024 (NPPF) (see section 2.2.1).

For this reason, the Rugby policies use metrics and calculation methods that cover the full scope of buildings' operational carbon emissions and have been proven to be accurate predictors of buildings' actual performance – as distinguished from the methods and metrics used in Building Regulations compliance today, which only cover part of buildings' energy use and are highly inaccurate at predicting actual performance of the building (see section 2.3.2). Another reason is that the calculation method used in Building Regulations today for homes (SAP) is soon to be replaced by a new national method, HEM, which is not yet finalised and thus not suitable to set robust targets in policy that will remain valid in the long term, nor does HEM yet have demonstrable evidence of accuracy as it is not yet in use. It is also not yet certain whether HEM will generate all the same metrics that SAP uses. Therefore, the rational choice for this local plan policy is to use separate metrics and calculation methods that are will remain relevant for the whole plan period, as well as being far more accurate than SAP.

The standards proposed in the policy are demonstrably feasible as shown through existing energy modelling evidence cited in section 5.1 of the report.

Similarly, the build cost uplifts of this standard are established in existing cost evidence cited in section 6.1.1 of this report. Cost uplifts sampled from one of those existing evidence sources informed the Rugby's March 2025 consultation Viability Study (the uplifts tested at that time were 5-7.5%). For any future viability study iterations, our current report suggests a slightly adjusted figure to use which is derived from a wider range of cost modelling studies including those used in the 2025 Viability Study. This new recommended figure of 2.3-6% is more robust as it reflects an average of a wider range of evidence sources, reducing the chance of error that can arise from relying on a single source. Furthermore, our current report further identifies tweaks to the policy targets that could bring cost uplifts down to 0.8-3%, according to the cited sources.

It is acknowledged that the policy diverges from one national policy statement from 2023 (WMS2023). However, section 3.3.4 discusses the ways in which that WMS2023 pulls against other more well-established and more recent national policy, and explains why it is considered necessary to diverge from the stipulations of the 2023 statement in order to fulfil the legal duty to mitigate climate change and the NPPF 2024 instruction to do so in line with the Climate Change Act, which includes the national carbon budgets.

The policy (CL1) as in the March 2025 consultation version can be summarised as:

- **Residential development** of 1 or more new dwellings is to achieve net zero carbon in operation via all of the following, calculated using an accurate prediction method:
    - Space heat demand of no more than 20kWh/m^2/year in bungalows or no more than 15kWh/m^2/year in other house types
    - Energy Use Intensity (total energy use) of no more than 35kWh/m^2/year (which may be a site-wide average subject to no dwelling having an EUI of more than 60kWh/m^2/year),
    - Renewable energy generation on site to equal the annual energy demand, or if that is not feasible then 120kWh/m^2 building footprint / year.
- **Non-residential development** of ≥100m^2 floorspace is to achieve net zero carbon in operation via all of the following, calculated using an accurate prediction method:
    - Space heat demand of no more than 20kWh/m^2/year
    - Energy Use Intensity of no more than the following:
        - Schools or offices: 70kWh/m^2/year (total energy use)
        - Warehouses or light industrial without refrigeration: 35kWh/m^2/year (total energy use)
        - Other buildings: 40kWh/m^2/year (regulated energy uses only).
    - Renewable energy generation on site to equal the annual energy demand, or if that is not feasible then 120kWh/m^2 building footprint / year.

Additionally, proposed Policy CL2 welcomes standalone renewable energy development subject to certain provisions around protection of the green belt and high-grade agricultural land. As the focus of our current report is on the buildings policy (CL1), we do not here go into detail on the justification for the renewables policy (CL2). However, parts of this report do also support the justification for Policy CL2; specifically:

- Section 2.2.4 on the necessary national carbon reduction trajectory and state of current progress towards that,
- section 3.1.1 on the existing emissions in Rugby and the key opportunities of the local plan to influence change in those
- section 2.2.1 citing NPPF instructions to achieve radical carbon reductions, especially via support for renewable energy in policies and decision-making.

2. Why must the local plan act on climate change?

2.1. Legal duty to mitigate climate change through the plan

The local plan's legal duty to reduce carbon emissions stems from two key pieces of legislation: The Planning & Compulsory Purchase Act 2004, and the Levelling Up & Regeneration Act 2023.

2.1.1. Planning & Compulsory Purchase Act 2004 (P&CP Act)

This is the key foundational legislation that enshrines the local plan's duty to act on climate change. Section 19, paragraph 1a, requires that:

> "Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority's area contribute to the mitigation of, and adaptation to, climate change".

2.1.2. Levelling Up & Regeneration Act 2023 (LURA).

The legal duty to mitigate climate change, which the Planning & Compulsory Purchase Act 2004 already applies to the local plan, is repeated in the Levelling Up & Regeneration Act 2023. The LURA applies that same climate duty to spatial development strategies, neighbourhood plans, minerals/waste plans, and supplementary plans. It also requires that Government must 'have regard to the need to mitigate climate change' when creating 'national development management policies'.

However, the LURA, like the P&CP Act, does not precisely define *how far* the local plan should be pursuing mitigation. Similarly, while the LURA broadly requires mitigation of climate change, it does not mention the Climate Change Act 2008 or net zero within its guidance.

Additionally, the LURA (Schedule 12) empowers national government to bring in a new 'Infrastructure Levy' that local plans may levy on development similarly to how Community Infrastructure Levy (CIL) and Section 106 (S106) payments have been used until now. The conditions that the LURA places on this new Infrastructure Levy include that it must be spent on infrastructure, whose definition includes "facilities and spaces for the mitigation of, and adaptation to, climate change." However, national government has confirmed[ii] in December 2024 that it would not bring in this new Infrastructure Levy and instead would focus on "improving" the existing system of developer contributions, i.e. CIL and S106.

2.1.3. Interpreting this legal duty set by these legislations

It is important to note that climate mitigation and climate adaptation are two distinct categories of action that achieve two distinct results:

- **Mitigation** of climate change means reduction in the impact of human activity on the climate by reducing greenhouse gas emissions[iii,iv]. It therefore logically cannot just mean 'reducing the *additional* emissions from *new* development' – rather it would mean an overall reduction in the net emissions from all activities in Rugby (to the extent that the local plan can influence). This has two parts: reducing emissions, and increasing sequestration (removal and storage of carbon by greenery or future technology).

- **Adaptation** to climate change means, in the NPPF[v], "Adjustments made … in response to the actual or anticipated impacts of climate change, to mitigate harm or exploit beneficial opportunities". The current report deals only with mitigation (carbon reductions). However, mitigation could help make adaptation more within reach, in that mitigating climate change will reduce the degree of climate change impacts that the local area will have to adapt to.

As the focus of this current document is carbon reduction policy, this falls within the category of *mitigation*.

Neither the P&CP Act nor the LURA define *the extent to which* the local plan should pursue that mitigation. Therefore, it is necessary to look to other pieces of national legislation and policy to guide the extent of mitigation.

Read on to section 2.2 "What degree of mitigation is justifiable?" which cites other relevant national policy from which the expected extent of mitigation may be determined, including where those reference further pieces of legislation. These include the National Planning Policy Framework, the Climate Change Act 2008, and the UK's commitment to the Paris Agreement on limiting climate change to ≤2˚C.

2.2. What degree of mitigation is justifiable in a local plan?

2.2.1 National Planning Policy Framework (NPPF) 2024

This document[vi] is the framework by which the whole planning system is guided and the soundness of local plans judged by the planning inspector. It reaffirms (and adds detail on) the duty of local plans (and whole planning system) to mitigate climate change:

- Paragraph 161: "The planning system should support the transition to net zero by 2050 … shape places in ways that contribute to radical reductions in greenhouse gas emissions … [and] encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure".
- Paragraph 162 & footnote 61: "Plans should take a proactive approach to mitigating and adapting to climate change … In line with the objectives and provisions of the Climate Change Act 2008".

To comply with the above imperative for carbon reductions 'in line with the Climate Change Act' (see section 2.2.3 for further details on the Climate Change Act 2008) must logically mean taking action to achieve the 5-yearly carbon budgets that the Climate Change Committee devises and parliament legislates under the aegis of that Act, as well as the eventual net zero 2050 goal 2050 that is now explicitly referred to in the 2024 version of the NPPF (as above). See section 2.2.3 for explanation of those nationally legislated carbon budgets and what is needed to achieve them.

Also, although the focus of this report is to provide evidence for the policy on *buildings* not standalone renewable energy, it is notable the December 2024 NPPF no longer contains the de facto block on onshore wind power, that had been enforced since 2015 (whereby onshore wind turbine development could not be permitted if there were even a single local objection, nor outside pre-identified suitable areas). The current NPPF only states that once a local plan has identified suitable areas for *any* renewable energy, any applications outside those areas should meet the same criteria used to identify those areas. Relatedly, a July 2024 Policy Statement on Onshore Wind[vii] explicitly states the Government's intent that onshore wind should be on an equal footing to other energy. Part of this, per a December 2024 consultation response[viii], is that onshore wind power developments of 100MW or more will return to the Nationally Significant Infrastructure Project (NSIP) consenting regime, meaning that they would go via national planning consent rather than local decisions. That consultation also proposes that solar power development would be NSIP if sized at 150MW or more, as opposed to 50MW today.

2.2.2 Planning Practice Guidance (PPG)

The National Planning Practice Guidance is an online resource that adds further context and interpretation to various sources of government policy regarding planning including ministerial statements and the NPPF. It is separated into a series of topics, including climate change, renewable energy, planning obligations and viability, among others.

Its climate change section reiterates local plans' climate mitigation duty per the Planning & Compulsory Purchase Act 2004, and that plan makers should be aware of the 2050 carbon goal and carbon budgets set via the Climate Change Act 2008. The NPPG's climate change section also confirms that local plans "are not restricted or limited in setting energy performance standards above the building regulations for *non-housing* developments." Finally, the NPPG emphasises that where local plan standards for buildings' sustainability or carbon are set, they must be "based on robust and credible evidence and pay careful attention to viability."

However, there are limitations to the NPPG as it is a guidance that is secondary to the NPPF and not updated as regularly as the NPPF. The NPPG climate change section[ix] was last updated in March 2019, making it outdated and not aligned with the current national net zero goal (which was set later, in June 2019), nor the Sixth Carbon Budget which was signed into law in 2021[x], nor current building regulations (which were updated in 2021/22[xi] and have since undergone consultation for further updates theoretically due to occur in 2025). Additionally, the NPPG still references limits from ministerial statements and legislations that have since been superseded:

- Written Ministerial Statement (WMS) 2015's supposed limit on energy/carbon policies as "up to the equivalent of Level 4 of the Code for Sustainable Homes" is now obsolete and superseded by WMS 2023 and has been overtaken by Building Regulations Part L 2021 as explained in detail in a later section.
- "National target to reduce the UK's greenhouse gas emissions by at least 80% in 2050 from 1990 levels" is no longer true as the 2019 update to the Climate Change Act established the new 2050 target of 100% reduction (net zero).

In light of the NPPF's explicit reference to the Climate Change Act, the next subsection (2.2.3) explores exactly what it would mean to mitigate climate change "in line with" the objectives of that Act.

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2.2.3 Carbon goals set by the Climate Change Act 2008 (2019 update)

Firstly, and most well-known, is the target it sets for net zero emissions from the UK by 2050.

Secondly, and sometimes neglected by plans and developers, are the carbon budgets.

A carbon budget is a limit on the amount of carbon that can be emitted within a given time period. The Act obliges government to legislate UK-wide carbon budgets for each five-year period between 2008-2050, at least 12 years in advance. Those legislated carbon budgets are therefore part of the Act's goals that the NPPF instructs the local plan to proactively support.

These carbon budgets are devised by the Committee on Climate Change (CCC), before being passed into law by Parliament. The CCC devises the carbon budgets informed by global climate science and analysis of what is technically possible in each sector (electricity, surface transport, homes, other buildings, industry, agriculture, aviation, shipping, refrigerant use, land use, and carbon capture). It also monitors progress against the targets and makes recommendations on what needs to occur in policy and practice to meet them.

Although the CCC is a body independent from central government, it was set up by government via the Climate Change Act to provide that advice with the aim of fulfilling the Act's carbon reduction commitments. Therefore, the functions of the CCC are also part of the provisions of the Act (therefore part of the goals that the NPPF instructs the local plan to proactively support). While government is not bound to follow every detail of the CCC's advice, the CCC's advice is the most credible route to the Act's legislated goals, noting that the national Government's own alternative published strategies for net zero have twice been found unlawful in that they did not credibly ensure the Act's goals would be met: in 2022 the Net Zero Strategy[xii] and in 2024 the Carbon Budget Delivery Plan[xiii].

So far, parliament has legislated the first 6 carbon budgets and has recently (February 2025) received the CCC's proposed 7th carbon budget, for approval by 30th June 2026.

The next section identifies the performance needed in each sector to achieve those carbon budgets, and the extent to which national initiatives are or are not delivering this. This provides a basis by which to identify which areas of action will need local plan support to act ahead of, or beyond, what national policy is already doing.

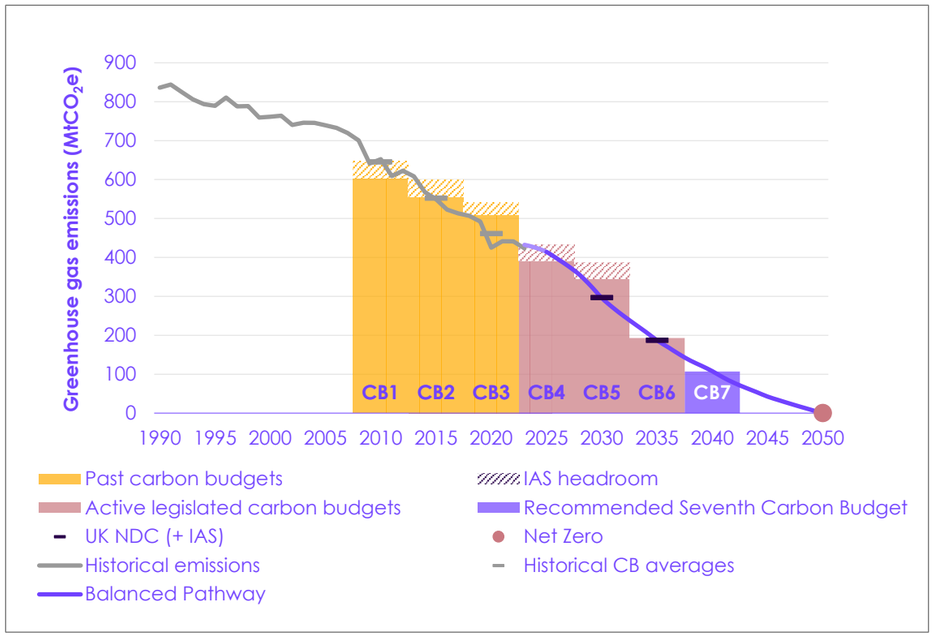


Figure 1: Existing legislated carbon budgets, and the 7th Carbon Budget recently put to Government by the Committee on Climate Change (2025). The diagram also shows the 'Balanced Pathway' (most realistic route) to achieving those. CB = Carbon Budget. IAS = International Aviation & Shipping. NDC = Nationally Determined Contribution (the UK's carbon target commitment made via the international Paris Agreement).

2.2.4 Sectoral performance needed for mitigation in line with the Climate Change Act 2008

The UK's five-yearly carbon budgets come with analysis detailing a combination of actions necessary to stay within the budgets[1]. These include wide and ambitious changes to buildings (new and existing), the energy system and transport, as well as agriculture/forestry, industry and waste. Most relevant to local planning are:

- New homes not to be connected to the gas grid from 2025 at latest[xiv] (and be zero carbon[xv]), instead using low-carbon heat (heat pump or gas-free network)
- New homes to have a very low space heat demand of only 15-20kWh/m²/year (compared to today's standard, in a semi-detached home this is a 31-48% reduction if calculated[xvi] via SAP10.2 or 64-73% via a more accurate method[xvii])
- Accelerate and scale-up rollout of low carbon heat to existing buildings, with 3.3 million heat pumps installed in existing homes by 2030, expansion of low carbon heat networks in the 2020s, and a limited role for hydrogen in the existing gas grid in some locations after 2030
- End the installation of any fossil fuel boilers by 2033 for all existing buildings including homes, commercial and public buildings, unless in hydrogen grid areas
- Rapid rollout of insulation and other energy efficiency measures to existing buildings, so that all existing homes for sale from 2028 have EPC rating of C or better, and 15 million homes to upgrade insulation by 2050, to include by 2025:
    - Loft insulations to reach 700,000 per year (from current 27,000/year)
    - Cavity wall insulations to reach 200,000/year (current level: 41,000/year)
    - Solid wall insulations to reach 250,000/year (current level: 11,000/year)
- Construction materials to be used more efficiently and switching to low carbon materials (e.g. timber and low-carbon cement) – albeit this has only a small role
- Fully decarbonise the electricity grid by 2035, by:
    - Scaling-up renewable electricity to represent 80% of generation by 2050 – primarily wind power but also solar, with much of the wind power being offshore – in step with greater electricity demand as buildings and transport switch away from fossil fuel
    - Adding energy storage to the system, including batteries, hydropower, and hydrogen
    - Maintaining or restoring existing nuclear power capacity by building new capacity in the 2030s to replace existing plants being retired in the 2020s
- Reduction in travel mileage by car, and phase out of new fossil fuel cars and vans from 2032 in favour of fully electric vehicles – and relatedly, decisions on investment in roads should be contingent on analysis justifying how they will contribute to the UK's pathway to net zero and not increase emissions[xviii]
- Increase woodland cover to 18% of UK land [xix], up from 13% today, and restore peatlands.

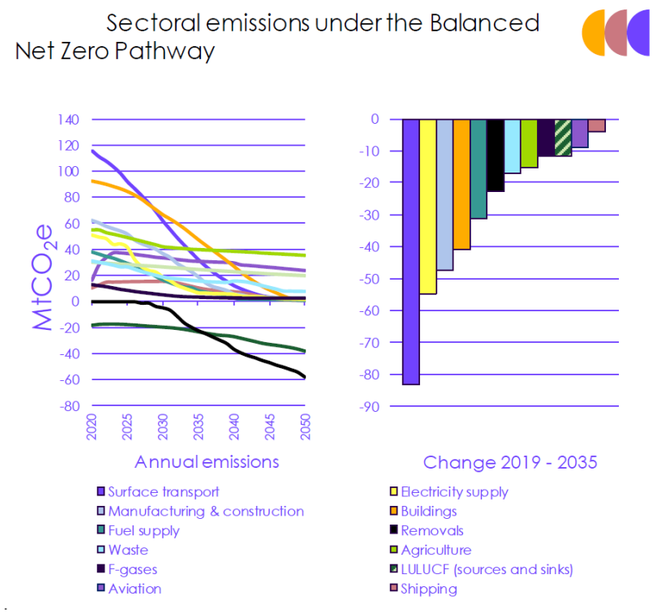


Figure 2: Diagram showing how the carbon emissions of each sector must fall to achieve the 'balanced' pathway to net zero carbon in 2050 and meet carbon budgets. LULUCF = Land use, Land Use Change and Forestrety. From Committee on Climate Change (2020), *The Sixth Carbon Budget: The UK's path to net zero*.

Together, these (and other) changes are termed the "balanced pathway to net zero" which is considered the most credible route to the UK's legislated carbon goals. **It is vital to note that to realise the 'balanced pathway' to net zero and the carbon budgets, all of the above changes must be achieved in combination, not either/or.** This is because there are many interdependencies, and each sector faces such a large challenge in addressing its own emissions that none of the sectors (buildings/ energy/ transport/ land use/ agriculture /waste) can be reasonably expected have the capacity to reliably pick up slack from others that underperform.

[1] It is important to note that the carbon budgets, while challenging, are really the minimum degree of action logically necessary for the UK to achieve to play its proportionate role in preventing catastrophic climate change. Other expert analysis has found that, according to the equity principles that the UK commits to through the Paris Agreement, the UK's carbon budget should be about half the size that the CCC permits.

2.2.5 UK's commitment to the Paris Agreement

Although the Paris Agreement is not referred to directly within the NPPF (which refers solely to the Climate Change Act), it is relevant to note that the UK's carbon budgets and net zero goal are influenced by the UK's commitment to the international Paris Agreement. The Paris Agreement commits all signatories to **limit global average temperatures to 2˚Celsius** on pre-industrial levels, and to pursue a limit of 1.5˚C. This would require very fast and drastic cuts to global emissions, as there is a limited 'carbon budget'[xx] to be emitted before the 1.5°C and 2°C limits will be reached – and a rise of more than 1˚C has already happened[xxi]. If the 1.5 °C or 2 °C limits are breached, climate change impacts will be devastating worldwide, and the world is thought to be currently on track to breach 3 °C by the end of the century[xxii].

The Paris Agreement also commits that the extent of each country's carbon reductions is related to wealth and technological ability. As a rich and technologically advanced country, the UK is responsible for faster and deeper cuts. Given the speed and scale of carbon cuts needed in existing buildings, transport and other energy use, we cannot afford for new buildings to add to the burden.

It is also important to note that although the Climate Change Act legislated carbon targets are part of the UK's action towards its Paris Agreement commitment, there has been independent analysis suggesting that the UK's carbon budgets should be halved if the UK is to truly play its full committed role to fulfil the goals of the Paris Agreement[xxiii] taking account of the Agreement's equity principle of different countries' "respective capabilities". That independent analysis, linked to the Tyndall Centre (a network of climate experts across several UK universities) generates a much steeper carbon reduction curve than that legislated via the Climate Change Act. The Tyndall Centre tool[xxiv] generates Paris Agreement-aligned carbon budgets at local level as well as national level. Unlike the Committee on Climate Change analysis that sits behind the UK's legislated carbon budgets, the Tyndall Centre methodology clarifies how it interprets that equity principle to reflect different locations' needs and historical emissions.

In addition to the Tyndall Centre's more methodical approach to applying the Paris Agreement equity principle, there are also several other reasons why the Tyndall Centre's recommended carbon budgets are smaller than those set via the Climate Change Act. These include that they do not include non-CO_2 gases, they do not assume the future emergence of carbon capture technologies and that the Tyndall Centre also makes an allowance for unavoidable cement production and aviation/shipping from the global carbon budget before assigning the national and local-area carbon budgets.

Still, the difference between the Tyndall Centre results and the nationally legislated Climate Change Act carbon budgets does **illustrate that the Climate Change Act carbon budgets really are at the looser end of what could be seen as a justified degree of climate mitigation to contribute towards the national policy** in the form of the UK's Paris Agreement commitment. As the Tyndall Centre Paris-aligned carbon budgets are smaller, they would justify even more stringent policies at national and local level.

However, as the NPPF refers only to the Climate Change Act rather than the Paris Agreement, the next section emphasises what support is needed from local plan policy in order to achieve the UK's Climate Change Act legislated carbon goals, in light of the latest national progress reports by the Committee on Climate Change.

To what extent is the necessary mitigation being delivered by national regulation or the wider industry, thus negating the need for local plan policies?

As previously noted, the local plan has a legal duty to mitigate climate change (actively reduce carbon emissions) and the NPPF states this should be 'in line with the Climate Change Act'.

Where there are already robust, effective national programs or policies in place to reduce carbon emissions as far as necessary for the Climate Change Act carbon budgets, the local plan should support those or be compatible with them. It should also exercise its other powers to pursue carbon reductions in whatever ways are more suited to local rather than national decision-making (for example, setting a spatial strategy to direct growth to the locations most likely to reduce car use).

However and furthermore, the **extent to which local plan policy needs to go beyond those national interventions must logically depend on whether those national initiatives (and industry) are already on track to deliver the actions needed to fulfil the carbon budgets** of the Climate Change Act. Where those are lacking, this logically justifies local policy to set standards that go further or faster than national ones.

We therefore emphasise the latest available evidence on whether the UK is already delivering the type, scale, speed and degree of changes that the Committee on Climate Change has analysed to be necessary to fulfil those national carbon budgets. Here, we focus only on the changes that are relevant to the local plan's sphere of influence, i.e. buildings that require planning permission, and transport (we do not cover changes that the local plan cannot influence, such as changes to agricultural or industrial practices).

Please note that this section deals with the picture at national level. The local picture is later dealt with in the subsequent section 2.3.1. Committee on Climate Change overall commentary on insufficient progress towards legislated carbon targets

The Committee on Climate Change annual progress reports reveal the UK's progress towards emissions targets, including progress towards the necessary changes in each sector. Its analysis in 2022 found that the **government's policy plans were insufficient to deliver the full suite of necessary actions for the carbon budgets**[xxv]. The Committee's 2023 and 2024 reports also note a lack of progress on crucial issues. The 2024 headlines on the (former) Government's policies include that:

- **Of the carbon reductions that must be achieved by 2030, around half lack credible plans** for their delivery or carry significant risk to the plans in place
- **From 2024 onwards, the majority of reductions in coming years need to come from sectors other than electricity generation**, which carried the bulk of reductions achieved in 2008-23.

We next explore some of the specific areas of insufficient national progress that the local plan policies attempt to influence for the better, in the local area.

2.3.1 Operational energy and carbon: Building Regulations Part L

Building regulations (current and planned future) do not deliver the performance needed for the national carbon budgets.

The national Building Regulations on energy and carbon – Part L – sets three compliance metrics for new buildings: Target Emission Rate, Target Primary Energy Rate, and Target Fabric Energy Efficiency (the latter only applying to new homes). However, it fails to sufficiently mitigate climate change in that:

- It does not cover the entire scope of buildings' energy use, thus does not cover its full operational emissions.
- Its targets vary by building size and shape, whereas national carbon budgets are absolute and will need the setting of absolute targets
- It does not require its energy and carbon targets to be met in real life, only through estimation methods that have been repeatedly found[xxvi,xxvii,xxviii,xxix] to be inaccurate (SAP and SBEM; see glossary).
- Embodied carbon (glossary) is not addressed by current nor future Regulations
- The current Part L (2021) does not rule out gas, and many buildings granted under this regime will actually be completed post-2025.
- The Future Homes Standard (FHS), which will be the 2025-26 update to Part L, is expected to ensure that new homes are gas-free, but not net zero carbon from first operation, going against the Committee on Climate Change's recommended "rapid and forceful pursuit of zero-carbon new-build"[xxx]
- The FHS will not deliver a low enough space heat demand for the UK's carbon budgets. This is true whether calculated with SAP or a more accurate energy prediction method[xxxixxxii], in all three of the indicative FHS specifications that the Government has released to date.
    - To achieve the necessary 15-20kWh/m^2 limit, improved fabric is needed. Government's 2021 consultation had indicated that the FHS improve fabric (albeit not enough), but the 2023-2024 consultation[xxxiii] presented two options that both make little to no improvement on today's fabric. If modelled in SAP, a building fabric similar to the recent FHS consultation would have space heat demand of up to 54kWh depending on home type[xxxiv], even before adjusting for SAP's underestimation of this.

See separate report for Rugby BC "Carbon budget assessment" which illustrates how the Future Homes Standard (or a local policy that does not improve on it) would fail to keep Rugby's planned housing within its reasonable share of the national carbon budgets.

Link to glossary

2.3.2 Other parts of the necessary national mitigation pathway

Topic	UK-wide changes needed to hit legislated carbon goals (note: non-exhaustive)	CCC 2023 progress report[xxxv]	CCC 2024 progress report[xxxvi]	Therefore what local plan policies are logically needed to 'mitigate climate change in line with the Climate Change Act'?

Overarching	• Decrease emissions by 2.9% per year between 2014-22 (excluding aviation & shipping)
	• Decrease emissions by 5.6% per year in 2022-2030 (excluding aviation & shipping)
	• 68% emissions reduction by 2030 (from 1990 level)
		• The 2014-22 rate was achieved, but the bulk of this was via the electricity sector whose low-hanging fruit is now gone – therefore other sectors' decarbonisation needs to accelerate from now on (non-electricity sector emissions have only fallen by 1.2% per year in 2014-22; must be 4.4% per year from now on).
		• Government's plans (Carbon Budget Delivery Plan) are insufficient; about half of the necessary reductions from 2023-2037 lack credible plans for their delivery, especially in the sectors of buildings, industry, surface transport and agriculture.
		• Of the 50 key indicators, only 9 are on track; 11 are significantly off track; 14 are slightly off track. The remaining 16 are not yet assessable.
		• The planning system is identified as a particular barrier to rapid progress.
			• 2022-23 emissions dropped by 5.4%, which exceeds the average annual drop in 2015-22 but still short of the required 5.6%. The drop was mostly delivered by external factors including:
			  ○ A return to normal levels of electricity imports from France as their nuclear power came back online after a period of downtime
			  ○ Overall less gas use in buildings and industry, but this is likely due to high prices rather than efficiency or lasting behaviour change.
			• Emissions reduction excluding the electricity sector was only 3.2%
			  ○ This must rise to 4.6% per year in the period 2023-30 if the UK is to meet its 2030 target of 68% reduction on 1990 emissions – a goal set towards the UK's commitment to the Paris Agreement.
			• Of the emissions reductions that must be achieved by 2030, around half still lack credible plans for their delivery and/or the plans in place carry significant risk.
			• Of the 28 key indicators, only 5 are on track; 7 are significantly off track, and a further 7 are slightly off track. The remaining 9 are not yet assessable or not associated with a specific benchmark/target.
				Policies designed to accelerate the rate of carbon reduction overall beyond what is being achieved by national mechanisms—especially in sectors noted to have nationally fallen behind what is necessary, such as:
				• Expansion of renewable electricity generation – which could include requiring renewable energy generation capacity to be delivered as part of other types of development
				• Energy and carbon performance of buildings (beyond what national regulation already requires)
				• Spatial allocations to minimise car use
				• Take a positive stance towards infrastructure for public transport, electric vehicles and hydrogen vehicles (although the latter is unlikely to emerge except for heavy logistics)
				• Take a positive stance towards development of premises for specific industry or commercial sectors that are needed for the UK's low-carbon transition, such as research and manufacturing facilities for low-carbon technologies
				• Take a positive stance towards proposals for changes to existing buildings that would improve their energy / carbon performance.

Link to glossary

Topic	UK-wide changes needed to hit legislated carbon goals (non-exhaustive)	CCC 2023 progress report[xxxvii]	CCC 2024 progress report[xxxviii]	Therefore what local plan policies are logically needed to 'mitigate climate change in line with the Climate Change Act'?

Rollout of low carbon heating, and fabric improvements, to existing buildings	• Dramatically increase the rollout of heat pumps to existing buildings, so that installations reach 600,000/year by 20228 and 100% of heat system sales are low carbon ones from 2033
	• 3.3 million heat pumps into existing homes by 2030 and expand heat networks throughout 2020s
	• Hydrogen only plays a very limited role in the buildings sector trajectory of the 6th Carbon Budget devised in 2020. Its role dwindled further in 2023, as Government cancelled two village pilots and will decide in 2026 if hydrogen will have a role at all in heating[xxxix].
	• No installation of new gas boilers from 2033
		• Heat pump installation rates are very off-track, at one-ninth of what they should be
		• Energy efficiency retrofits to existing buildings are significantly off track, due to national policy failures.
		• Significant risk to market-based incentives for heat pump installations, as government has not balanced the cost of electricity vs gas.
		• Policy gaps remain for energy efficiency measures in buildings.
			• Heat pump installations remain very off-track, only 4% higher than the previous year and far behind other countries on this
			  ○ By 2030, 10% of existing homes should have heat pumps (currently only 1%)
			  ○ Installation rates in homes need to increase by a factor of 10 by 2028 (of which ~40% in new homes and ~60% in existing homes)
			  ○ A recommended priority action is to remove planning barriers to heat pump installations.
			• Energy efficiency retrofits are still significantly off-track:
			  ○ The rate of properties receiving Government-funded energy efficiency improvements fell, and is significantly off-track both for the CCC's trajectory and the Government's own plans.
			• Insufficient progress on policy & plans to support energy efficiency and clean heat in buildings:
			  ○ The (former) Government took several backward steps, exempting 20% of homes from the 2035 phase-out of gas boilers and not implementing the plans to require landlords to meet minimum energy efficiency standards
			  ○ The buildings policy outlook is therefore now worse than the previous year.
			• The buildings sector now lacks credible national delivery plans for almost 100% of the necessary emissions reductions up to 2030.
			• Buildings remain the second highest-emitting UK sector.
				• Take a permissive stance towards proposals relating to existing buildings that would improve their energy efficiency and carbon emissions, including where these changes are visible from the street, such as:
				  ○ Improvements to fabric, including external insulation, upgraded windows, and roof replacements
				  ○ Heat pump installation, including on front and side elevations, subject to an acceptable noise impact on neighbours
				  ○ Proposed connections to heat networks (subject to the network being gas-free)
				  ○ Where the proposal relates to a legally protected heritage asset such as a listed building or conservation area, work constructively with the applicant to identify ways that clean heat and improved fabric can be implemented in a way whose impacts would be acceptable
				• **Avoid new builds adding to the problem,** by devising policy for new buildings that would require them to be gas-free and use either a heat pump or other equally efficient low-carbon heat
				• **Take a positive stance towards proposals for business premises that manufacture, sell, install or maintain heat pumps or fabric retrofit products, including training facilities**

Link to glossary

Topic	UK-wide changes needed to hit legislated carbon goals (non-exhaustive)	CCC 2023 progress report[xl]	CCC 2024 progress report[xli]	Therefore what local plan policies are logically needed to 'mitigate climate change in line with the Climate Change Act'?

Renewable energy generation capacity	• Increase in renewable energy generation capacity to reach 60% of total grid electricity generation by 2030 and 80% by 2050, while catering for a doubling in the amount of electricity demand
	• Solar: increase generation by 3 GW per year on average (nationwide)
	• Wind (onshore & offshore combined): 3 GW of new generation per year, and repower older sites
		• Development of wind energy capacity is slightly off track – deployment rates will need to increase to meet the CCC's or the Government's own ambitious targets.
		• Development of solar energy capacity is significantly off track (far too low); has not been growing fast enough.
			• Wind power capacity (both offshore and onshore) remains slightly off-track. By 2030:
			  ○ Offshore wind installation rate needs to treble
			  ○ Onshore wind installation rate needs to double (noting that new government's intent to remove planning barriers is a positive first step)
			• Solar energy capacity still significantly off-track; the installation rate needs to quintuple by 2030.
				• Take a positive stance towards the development of specific types of standalone renewable energy generation facilities, including by explicitly identifying areas that are suitable for this
				  ○ This approach would need to take into account that onshore wind turbines are no longer under a national policy moratorium as of December 2024 (see this report's section on the NPPF 2024)
				• Require new development to include a certain proportion of renewable energy generation capacity
				• Take a permissive stance towards proposals for the addition of solar panels to existing premises

Topic	UK-wide changes needed to hit legislated carbon goals (non-exhaustive)	CCC 2023 progress report (link)	CCC 2024 progress report (link)	Therefore what local plan policies are logically needed to 'mitigate climate change in line with the Climate Change Act'?
Transport	• New cars/vans majority EV by 2030 and all EV by 2032 • Reduce average car mileage by 6% by 2030, reaching 17% by 2050 (from pre-2020 level) • Road investment should depend on evidence that this would not increase overall emissions, and should be accompanied by proportionate investment in EV charging, active & public transport[xlii] • Electrify 55% of rail network by 2050 (requires 200km/year) • Remove all diesel passenger trains from network by 2040	• The rate of EV car sales was positive (slightly higher than in the CCC pathway) ○ But: government's EV uptake goals from 2025 onwards are too low and the Government has delayed its 2030 target for 100% clean vehicle sales to 2035. • The rate of EV van sales is significantly too low and van traffic is increasing fast. • Government's Carbon Budget Delivery Plan does not sufficiently estimate the emissions savings that could be made through traffic reduction. • Transport is the highest-emitting sector in the UK.	• Rollout of public EV charge-points is on track (this is the only indicator of low-carbon technology uptake that is on-track) • Car traffic is still below pre-pandemic levels, putting 'total car km travelled' on track, but van km travelled is slightly off-track (still too high) • Uptake of EV cars is now off-track because sales stalled in the most recent year's data • Uptake of EV vans remains significantly off-track, and has been increasing much too slowly • Transport remains the UK's highest-emitting sector • There remain significant gaps in plans for reduction in transport demand (driving) • A recommended priority action is to remove planning barriers to installation of EV charge-points at existing premises	• **Set policies that require generous EV charging provision in development that has parking:** ○ Building Regulations Part S (in force since 2022) will largely take care of this for typical residential parking that is outdoors and directly associated with residences (whether new build or major refurbishment). ○ However, there are gaps to the reach of Part S as outlined in Section 2.3.5, therefore the local policy can aim to remedy these gaps by setting higher targets for the proportion of proposed spaces that must have EV charging provision and seeking higher speed chargers in development that proposes parking at short-stay locations • **Structure the approach to transport planning to reflect the CCC's point about not investing in roads without evidence that this would not increase emissions and balancing this with investment in active and public transport.** • **Take a positive stance towards proposals that are necessary to fully electrify the rail network,** if these should arise.

Link to glossary

Topic	UK-wide changes needed to hit legislated carbon goals (non-exhaustive)	CCC 2023 progress report (link)	CCC 2024 progress report (link)	Therefore where local plan policies are logically needed to 'mitigate climate change in line with the Climate Change Act'?
Land use	Forest cover to reach 18% of land use by 2050 (up from 13% in 2020)	• New woodland creation is significantly off track; today's rate must double by 2025. • Peatland restoration rates have been a factor of 5 less than recommended rate.	• New woodland creation remains significantly off-track. No improvement since the 2023 report, meaning there remains a need to more than double by 2025 and maintain that doubled rate in future. ○ This is a serious problem because tree's growth rate creates a long lag before they begin to remove significant amounts of greenhouse gas from the air – thus today's low afforestation rate is already curtailing the amount of carbon savings achievable in the 2040s and beyond • Peatland restoration rates remain significantly off-track.	• Take a generally negative stance to proposals that would result in the destruction of woodland, or where the benefits of the development outweigh that loss, require their like-for-like replacement elsewhere in Rugby (including plans and funding for long-term maintenance of that new woodland or that restored peatland) • Likewise take a stance that dissuades destruction or drainage of peatland.

To clarify: Please note that where the table above uses the term 'take a positive stance' towards certain types of proposal, it is an indication that the benefits of such proposals should be explicitly acknowledged as vital parts of the UK's transition to net zero, which the NPPF instructs the planning system, including the local plan, to proactively support. As such, these benefits should be given a significant amount of material weight in the planning decision in proportion to their carbon savings impact and crucial role in that net zero transition, especially if being weighed up against more subjective concerns. Yet all such proposals of course remain subject to legal constraints such as biodiversity protections and heritage protections, and all application decisions are the result of a balance of policy priorities. Taking a 'positive stance' to such proposals would mean that the proposal's compatibility with the net zero transition is a central consideration as opposed to a peripheral one, and only refusing such applications if they really do have an unavoidable detrimental impact on other vital policy priorities that are equally as objectively important as the legally binding national net zero transition.

To conclude: The 2023 and 2024 reports on national progress in reducing carbon emissions show that, although there has been some good progress in absolute emissions cuts overall, the majority of recent years' success have come from the phase-out of coal power and reductions in gas use due to high prices rather than to sustained improvements in efficiency. Moreover, key changes in relevant sectors to local planning (i.e. the built environment) are already behind where they need to be, and will need to accelerate in coming years in order to realise the UK's future legislated carbon budgets. In particular progress has been too slow on buildings energy efficiency, uptake of heat pumps, and embodied carbon in manufacturing / construction. In these points and overall, the reports have found that national government's current policies and plans are insufficient to drive forward large parts of this transition.

Therefore, this leaves a strong justification for local planning policy standards to be set to drive forward the necessary changes beyond or ahead of national standards, in order to compensate for the failure of national government action to do so. Without such action by the local plan, it would fail to mitigate climate change 'in line with the objectives and provisions of the Climate Change Act' as per the requirement set by the NPPF.

2.3.3 Further notes on progress towards national carbon targets, beyond commentary found in the Committee on Climate Change Progress Report 2024

Regarding transport: We note that the Government's introduction of the new Part S of Building Regulations, which requires electric vehicle charging provision at all development that has associated parking, will go a long way towards supporting increased uptake of electric vehicles. This requires at least one EV charging point of 7kW speed or more to be provided for each home that has associated parking, and for one EV charging point at each non-residential development that has at least 10 associated parking space. Both of the above are subject to some exceptions, such as covered car parking (although Part S does not explain its rationale for this exception).

However, Part S *non-residential* requirements are not optimal in that they *do not scale up in proportion to the number of non-residential parking spaces*. Part S requires one EV charging point to be provided where there are 10 or more parking spaces associated with non-residential development, but its wording does not appear to require more than 1 EV charging point even if there are far more than 10 (e.g. it appears to require just 1 space no matter how large the non-residential parking provision is).

This is concerning in that the Committee on Climate Change progress report cited above shows that electric *van* sales are behind where they need to be, and that *van* traffic is increasing fast. Vans are more likely to be business vehicles, thus likely to be parked in *non-residential* spaces, which as noted above is not ensured to have *proportional* provision of EV charging by Part S.

Part S also does not require any EV charging provision where parking spaces are not directly "associated with" a particular home or building. For example, where a developer proposes that residents or building users would use on-street parking or parking that is separated from the building by a highway or public footway, that parking appears not to be considered directly 'associated' with the development. Please note we do not find Part S completely clear on this.

Dense urban developments, which are more likely to be served only by on-street or covered car parking, are therefore less likely to be provided by Part S with sufficient EV charging provision to accelerate EV uptake needed for the UK's carbon goals.

Regarding embodied or whole-life carbon of buildings: An industry coalition in the development sector drafted and proposed a "Part Z" to building regulations. This was then put forward by a House of Lords member as an amendment to the Levelling Up & Regeneration Act but was never debated and thus never implemented.

In the absence of any action by national government to introduce mandatory standards for whole-life carbon, the industry has acted to develop these. There is a single formal established standard for the accounting of whole-life carbon (BS/EN15978) and this has been translated into a methodology or 'Whole Life Carbon Assessment' by RICS. In turn, leading bodies and coalitions within the industry have developed benchmarks and targets using that RICS methodology, differentiated by building type. The prominent examples are the RIBA and LETI aligned carbon targets[xliii] or the targets found in the UK Net Zero Carbon Buildings Standard (explained later). Given that target-setting policy is necessary on embodied carbon in order to fulfil the UK's carbon budgets, and given the absence of any national government standard with which local policy needs to be consistent, there is a clear role for the local plan to play and no reason why the LETI/RIBA targets could not be adopted if feasible and viable.

2.3.4 Progress at local level on the relevant parts of the mitigation pathway that need to occur nationwide

Rollout of renewable energy generation capacity in Rugby

Figure 3 shows Rugby's renewable electricity capacity over time[xliv]. The data shows an overall positive growth of renewable electricity, albeit this has only begun to achieve significant growth rates in the past 4 years, driven by sudden large increases in solar PV.

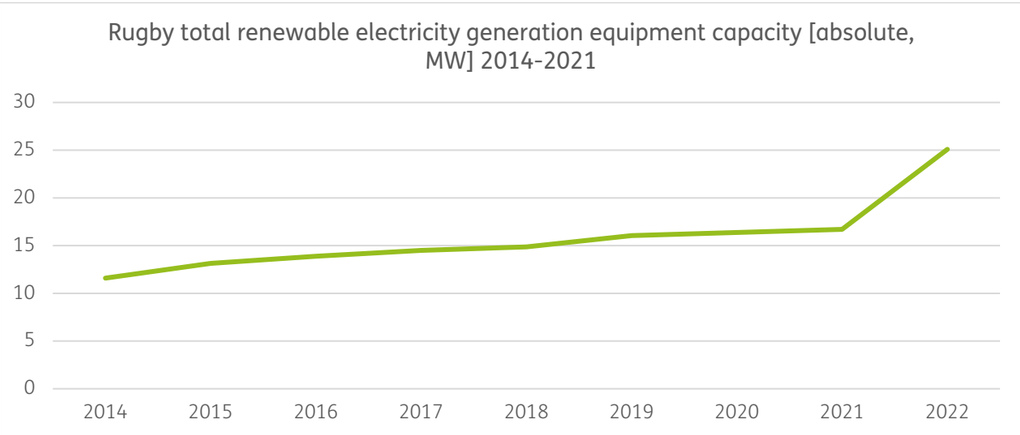


Figure 3: total renewable electricity generation from all sources in Rugby Borough Council administrative area *between the years 2014-2023.*

This can be compared to the Committee on Climate Change's most recent analysis of the proportional growth in renewable energy generation capacity that will be needed in order for the UK to follow the most likely route to its legislated carbon goals:

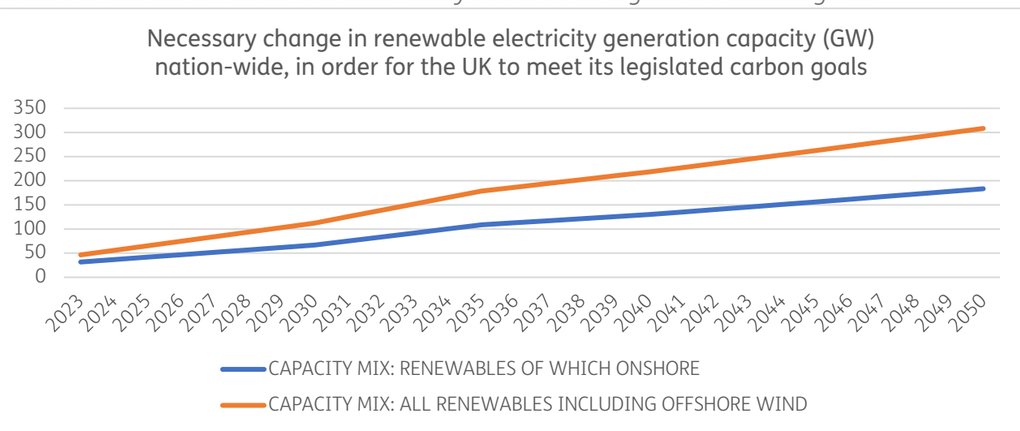


Figure 4: Necessary change in renewable electricity generation capacity for the UK to meet its Climate Change Act carbon budgets via the 'Balanced Pathway' to net zero. Adapted from CCC 7th Carbon Budget (2025) data download.

We next consider individually two main renewable energy types most relevant to the local plan: solar photovoltaics (PV) and on-shore wind.

In Figure 5. data from the Committee on Climate Change's seventh carbon budget was used to model the necessary absolute growth trajectory in MW for solar photovoltaic capacity between the years 2023-2050, in order to consider whether the growth rate in Rugby for PV is on track with what is needed. The CCC's recommended trajectory during Rugby's local plan period (2024-2045) represented an 8% annual growth:

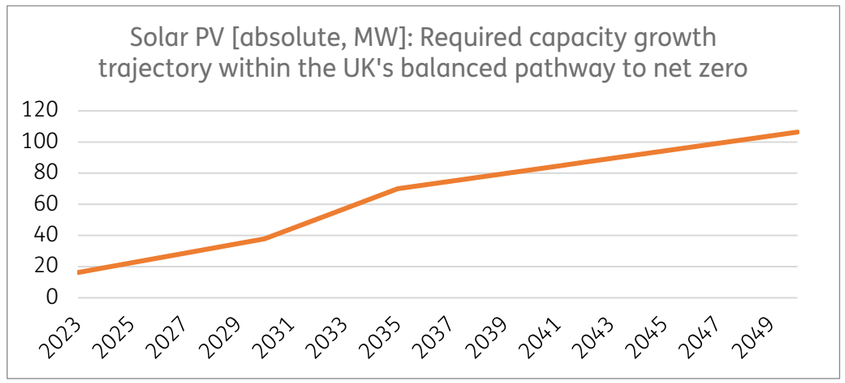


Figure 5: Required trajectory of PV capacity growth necessary within the Balanced Pathway to Net Zero and associated legislated carbon budgets, as derived from Committee on Climate Change 7th Carbon Budget analysis

Looking at Rugby's historical solar PV capacity trajectory, there was an upturn in growth of PV capacity for the years 2015, 2022 and 2023 where the year-on-year percentage increase came out as 32%, 96% and 376% respectively. The 2022-2023 increase might be associated with the implementation of the Building Regulations Part L introduced in 2021. Those latter two years were excluded from the graph below because it is not certain that the rate of these percentage increases would be maintained in the long-term (as it is still not known whether the next iteration of Part L, that is the Future Homes Standard, will continue increasing PV growth at that rate). That large growth for 2022 and 2023 also lead to the average year-on-year growth of PV (from 2014-2023) to be 60% which is also unlikely to be a representative rate of growth in the long-term. Excluding these two years, the average year-on-year percentage (Figure 5) was 10%.

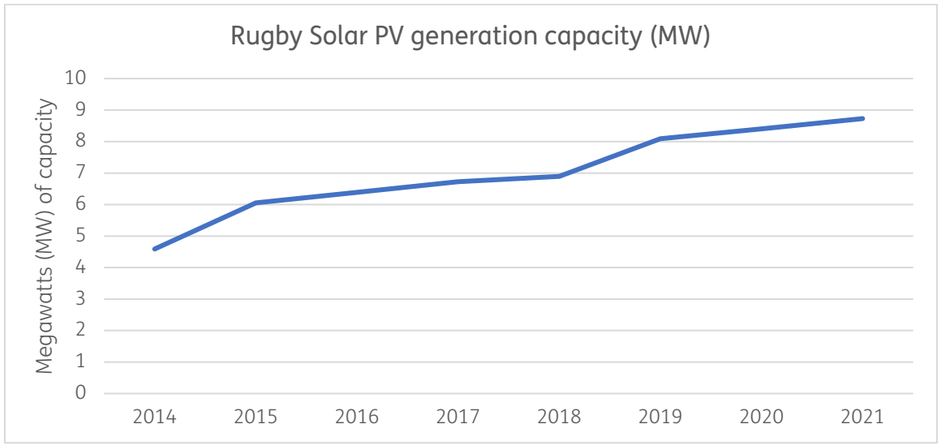


Figure 6: PV capacity change over time in Rugby. Source: HM Government DESNZ datasets on renewable electricity.

At first glance, these figures could be read that Rugby's PV growth in recent years has been in line with the national-level necessary growth as per CCC recommendations. However, the CCC's recommended renewable energy trajectory is UK-wide, therefore not every local area will be able to increase at precisely the same rate for all types of renewables – this will depend on the local area's characteristics and size. For example, most of the onshore wind growth would not be expected to happen in cities, but rather more rural areas, while offshore wind can only happen where there is a coastline.

Given that Rugby is a relatively more urban area, solar PV is the type of renewable energy that is by far the most suited to this area, and therefore Rugby's solar capacity trajectory should be even faster than that of the wider UK, if it were to take its fair share of renewable energy growth. In light of this. Rugby will need to at least continue its recent years' growth in PV, and this will need to include a policy stance to promote this.

We also looked at Rugby's capacity over time for on-shore wind. The data was very scattered where there was a large percentage increase for the year 2015 and a sudden decrease in 2016 before a flat line for the remaining years with minimal growth.

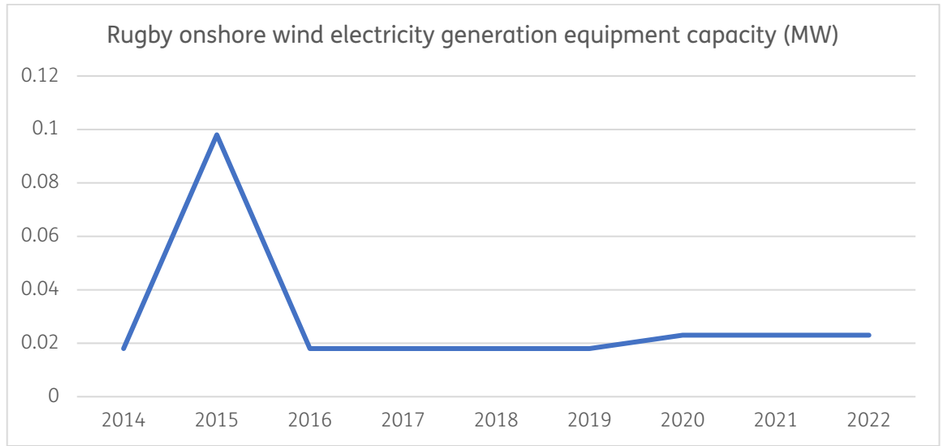


Figure 7: Solar PV generation capacity in Rugby according to HM Government DESNZ datasets on renewable electricity

The available historical data on Rugby's onshore wind generation capacity are presented above (Figure 7). However, this data does not look particularly realistic as it would seem to indicate that a significant windfarm came online for one year only (2015) and then was immediately shut down, which is only about 4-5% of a typical windfarm lifespan. This irregularity in this historical data indicate that this is unlikely to represent a reasonable way to understand Rugby's recent years' onshore wind capacity trajectory, nor to project Rugby's future overall growth and capacity for on-shore wind based on historical data. However as previously noted (see section on National Planning Policy Framework (NPPF) 2024), the December 2024 version of the NPPF removes previous barriers to onshore wind growth. Thus, there is potential to see growth in on-shore wind in coming years. However, this is not usually a suitable type of onsite renewable energy at most buildings, thus is unlikely to play a role in the net zero carbon buildings policy which is the main focus of this evidence base.

2.3.5 Conclusion on the need for local plan policies to mitigate climate change faster or further than existing or imminent national building regulations

- While Rugby's growth rate for PV has been positive in recent years, the recommended Rugby policy on net zero carbon buildings will help continue this rate of growth while avoiding conflict in different demands for land use in Rugby's limited available land area. This is because the recommended policy would require all new builds to come with on-site renewable energy to at least match annual energy demand for the new building. The recommended policy would ensure the ideal amount of PV will be delivered on new buildings' rooftops, and therefore, Rugby will not use up as much of its valuable land for PV or wind to keep up with the required renewable energy trajectory. The policy also minimises the energy demands of the new buildings, meaning that the need for new renewable energy generation capacity to service them is kept to a minimum.
- Based on the national progress summarised above regarding what needs to happen in order to meet the UK's carbon budgets and net zero by 2050, it is clear that certain key parts of the transition are not being driven fast enough by the national policies (especially on buildings' energy efficiency, given the inadequacies of existing and incoming building regulations) and market incentives that are in place – and some (like embodied carbon) are not being addressed at all
- Therefore, if the local plan is to 'mitigate climate change in line with the Climate Change Act' by 'proactively' acting to achieve 'radical reductions' and 'support the transition to net zero' as per the latest national policy (NPPF 2024), it is clear that local plan policies would be justified in seeking to go further or faster than what current and imminent future national building regulations are delivering, so long as this can be shown to be:
    - Feasible and viable
    - Not in contradiction of the constraints on powers granted to the local plan
    - Compatible with other duties laid on the local plan, or else that those other duties are less pressing than the climate mitigation duty.

2.3.6 What further commitments has Rugby Borough Council already made to achieving climate mitigation and how is its progress towards those stated aims?

Rugby Borough Council declares a Climate Emergency (2019)

In 2019, Rugby Borough council declared a Climate Emergency committing to:

- Establish a cross-party working group to advise on actions and timescales required to ensure the Council's activities are carbon neutral by 2030
- Engage with partner councils, local businesses, environmental groups, and residents to inform the Council's future actions
- Where required, call on the Government to provide powers and resources to enable the Council to deliver the UK's carbon reduction targets.

Since declaring a climate emergency, a dedicated website[xlv] has been launched to document Rugby's work to become carbon neutral by 2030.

Rugby Borough Council's Climate Change Strategy (2022)

The Rugby Climate Change Strategy (2022) is defined by a net zero vision that underlines the approaches and actions towards a net zero strategy and action plan to meet the Council's net zero target by 2030. This action plan references the UK's commitment to the Paris Agreement to meet net zero by 2050 and legal duty to mitigate against Climate change under the Climate Change Act (2008).

The Strategy establishes a framework of 7 themes: workplaces and economy; transport; natural environment; homes and energy; waste, resources and the circular economy; climate and nature positive communities; and adaptation. It also recognises three key roles the Council has in addressing the Climate Emergency:

- Delivering change – where Council has direct control and can lead by example
- Enabling Change- areas where the Council can facilitate in partnership with others such as using its policies and procurement practices
- Influencing Change – issues outside of the Council's direct control, where it will seek to influence and support delivery via partnerships and engagement.

The Strategy's integral action plan divides its actions by those three roles. Within those actions, the local plan is clearly a vital delivery mechanism for the following:

- Review how local plan policies could be used to "encourage better connected communities" in terms of sustainable transport,
- "Ensure that our planning policies support the council's commitment of net zero by 2030 and will support sustainable design and construction using low carbon materials",
- "Investigate and where appropriate take action to increase green energy production within the Borough".

The expression of these climate-related commitments therefore supports the local circumstances justification for local plan policies that help fulfil them.

The Action Plan's goal to create a Supplemental Planning Document (SPD) on sustainable design & construction was met in February 2023. That SPD was written in reference to the current Local Plan Policy SDC4, thus may be superseded the new local plan is adopted.

Further items with potential relevance to local plan carbon reduction policies are laid out below.

	Actions from Rugby Climate Strategy 2022	Relevance to local plan carbon policies
2.5	Maximising opportunities from the Town Centre regeneration work to deliver a sustainable transport network	Not relevant to *net zero carbon buildings policy formulation* (which is the focus of this evidence base), but instead relevant to site allocation/spatial choices, and developer contributions to infrastructure and the use of those contributions.
2.6	Local Transport plan agreed to encourage decrease of car use and increase active travel	
2.7	EV Charging Strategy developed and agreed	
4.1	Carbon Management plan agreed to reduce carbon impact on housing stock; develop an Energy Efficiency and Retrofit strategy to decarbonise the Council's housing stock; consider and where appropriate to act, opportunities for green energy supply for Council owned housing (i.e. solar PV)	Supports policy ambitions for new housing to exceed building regulation standards through fabric efficiency and on-site renewables. Provides evidence to inform a borough-wide energy efficiency strategy aligned with net zero targets, with ambitious time frame (by 2030) Note that in a later section "*What are the local plan's powers to mitigate climate change?*" will detail what the local plan carbon reduction policies could set requirements for.
4.2	Ensure council housing stock is built to be sustainable and low carbon beyond Building Regulation standards and supporting the Council's net zero vision where possible	
4.4	Sustainable design and construction SPD adopted to ensure planning policies support the Council's commitment to net zero by 2030	

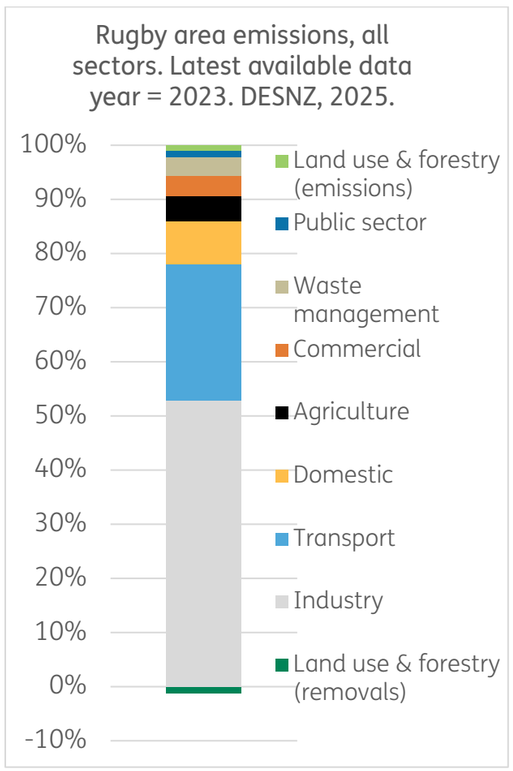
3. What are the local plan's powers to mitigate climate change?

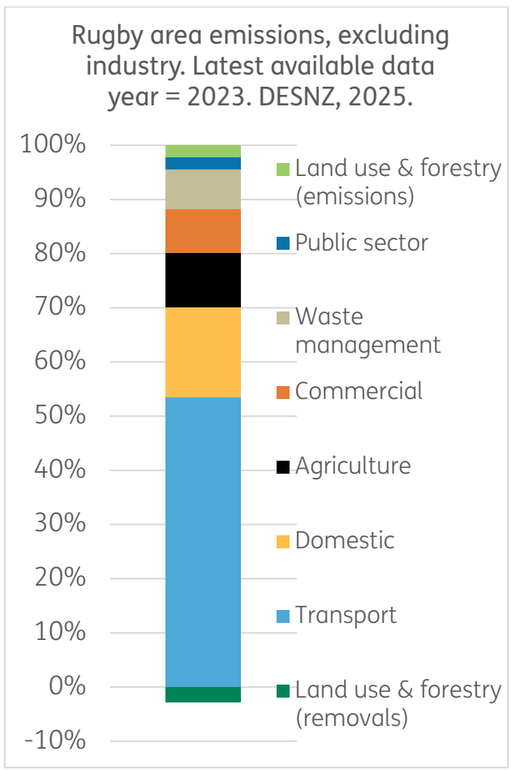
3.1 Rugby's current carbon emissions and the local plan's ability to influence them

3.1.1 What are the current sources of emissions in the Borough?

The current main sources of greenhouse gas emissions (and removals) in the Rugby area[xlvi] are shown below. These are dominated by industrial emissions. This is unusual among local authorities for the UK context and is likely to be due to the presence of major cement works in Rugby. If excluding the industrial sector, transport becomes the largest source of emissions, and domestic emissions are also a significant source.

Whether including or excluding the industrial sector, the data show that the small amount of carbon removal by forests & grassland is essentially insignificant in proportion to the emissions.





We note that the Council has committed to making the Council's own activities net zero carbon by 2030, as part of its 2019 climate emergency declaration[xlvii].

3.1.2 What are the local plan's best chances of enabling significant emissions reductions?

The local plan exerts influence almost exclusively through the granting or refusal of permission to develop land. It can only exert that influence where permission is needed. It cannot therefore proactively instigate changes to existing buildings or land use where no permission is required and no change is currently proposed by the owner or occupant of that building or land.

The sources of carbon emissions (and removals) that a local plan can influence are:

- New buildings – energy efficiency, renewable generation onsite, and embodied carbon – strongest area of influence.
- Transport – enabling the right type and location of development to reduce new and existing communities' car dependence, and bringing forward sustainable transport infrastructure
- Existing buildings – encouraging carbon-reducing renovations where permission is needed, but cannot instigate change where none is proposed, thus low influence
- Renewable energy – encouraging new large-scale renewable energy generation and distribution
- Natural environment – protecting or expanding landscape features that capture or store carbon
- Using the consenting process to raise funds for the above, where lacking.

As previously noted, the Borough's Climate Change Strategy[xlviii] (2022) sets intentions to:

- Review how local plan policies could be used to "encourage better connected communities" in terms of sustainable transport,
- "Ensure that our planning policies support the council's commitment of net zero by 2030 and will support sustainable design and construction using low carbon materials",
- "Investigate and where appropriate take action to increase green energy production within the Borough".

We here focus on planning powers towards net zero carbon in the *new buildings* and *energy* sectors as these are the foci for our appointment.

The next subsections summarise the key pieces of legislation that grant or limit powers, and official national policy statements that guide how those powers are expected to be used.

3.2 Legislation that defines powers that the local plan may use for carbon reduction

3.2.1 Planning & Energy Act 2008

The Planning & Energy Act is the source of the local plan's most important power to influence the energy and carbon performance of development.

It grants the local planning authority the power to set 'reasonable requirements' for:

- Energy efficiency standards higher than those set by building regulations
- Renewable or low carbon sources 'in the locality of the development' to supply a proportion of energy used at the development.

The Act notes that policies made using these powers "must not be inconsistent with relevant national policies for England". This means the NPPF, according to NPPF (2023) Paragraph 1[xlix].

The Act defines 'energy efficiency standards' as ones that are set out or endorsed by the Secretary of State. This may imply only the methods used to demonstrate compliance with Part L of Building Regulations (SAP or SBEM despite their aforementioned shortcomings, or TM54). As TM54 is one of the methods endorsed by Part L as of 2021, it appears the Act would therefore permit local energy efficiency to account for *total* energy use, not just regulated (see glossary).

The Act does not define 'energy used at the development'. It therefore appears to empower the local plan to set requirements for renewable energy to meet a proportion of the new building's *total* energy, not just 'regulated' energy (see glossary). In that case a method would need to be chosen to account for that unregulated energy, ideally in a way that works alongside the calculation for regulated energy. Several methods could be used: TM54 (as above), BREDEM, and SAP Appendix L. PHPP could also be used but may not directly plug into SAP/SBEM.

The Act stipulates that policies set using these powers "must not be inconsistent with the relevant national policies" for energy efficiency or for renewable/low carbon energy as applicable to the type of local plan policy proposed.

The Act does not define 'renewable energy', 'low carbon', or 'in the locality of development'. Presumably therefore the local planning authority is free to define these.

The Act furthermore does not specify whether these powers can be used in *new* or *existing* development. The implication therefore is that these powers could be used to set local plan policy that applies to proposals regarding existing buildings, not only new development. However, this would still be subject to the requirement to be 'reasonable'.

The Act does *not* define 'reasonable requirement'. A logical interpretation could be that the policies should be feasible, effective in fulfilling the climate mitigation duty (and/or other stated objectives set by the plan to fulfil local needs), and specific enough to be viability-tested to ensure they do not prevent the achievement of the Borough's stated housing targets.

We interpret this to mean that a policy could require renewable energy to supply a 'reasonable proportion' of the *total* energy use of the development, not just the share that is 'regulated' by Part L of building regulations. This could arguably be a 100% proportion, if it can be shown why this requirement is 'reasonable' – for example in its necessity or effectiveness to meet the duty for climate mitigation, with evidence of its technical feasibility and its cost for viability testing.

3.2.2 Town & Country Planning Act 1990

This Act grants various powers, two of which hold particular scope for climate mitigation goals:

- Section 106[l] enables the local plan to require payments from new development. These must be reasonable, proportional to the development, and necessary to make the development acceptable. This has sometimes been used in various precedent local plan policies as a mechanism to offset new developments' carbon emissions or energy use.
- Section 61[li] enables Local Development Orders (LDOs) – a tool used to achieve specific objectives by granting certain types of development fast-track permission (or certainty of permission). LDOs have been used to promote renewable and low-carbon energy.

3.2.3 Levelling Up & Regeneration Act 2023 (LU&R Act)

This Act will amend the planning system in various ways, of which the most relevant for carbon:

Section 106 & Community Infrastructure Levy (CIL) may be largely replaced by 'Infrastructure Levy' set by gross development value (GDV). The Act does not scrap Section 106 or CIL, but empowers the Secretary of State to do so and to make regulations for the new Levy. It was originally thought that these regulations might scale-back S106's role to limited purposes[lii], which could alter the ability to use Section 106 to raise carbon/energy offset funds (as it has been in several precedents). However, until the Secretary of State creates the new levy regulations. However, the new (current) government indicates[liii] it will not implement the new IL and instead "focus on improving the existing system of developer contributions". The form of those improvements has not yet been communicated, therefore at present S106 remains usable for the purpose of raising carbon offsetting funds, or for any other purposes related to reducing developments' carbon impact, as it has been in precedents as noted above.

New ‘national development management policies’ (NDMP) with which local plan policies must not be inconsistent. The Act does not confirm what they will cover but empowers the Secretary of State to create NDMPs by direction, in which process he or she must “Have regard to the need to mitigate … climate change”. As no relevant NDMPs have yet been designated as such, **at the time of writing this evidence, the incoming NDMP regime does not yet affect local plans’ ability to set their own carbon and energy performance standard**[liii]

A new ‘Environmental Outcomes Report’ to replace the existing system of Sustainability Appraisals, Strategic Environment Assessments and EU Environmental Impact Assessment. The outcome topics are yet to be clarified. Certain text within the Act could be interpreted to allow climate mitigation to be part of those outcomes, but neither climate nor carbon is specifically mentioned in Part 6. The previous government’s national consultation on the Environmental Outcomes regime[liv] was either vague or silent on carbon, and there has not yet been a national response to that consultation. **Therefore at the time of writing this evidence, the Act’s ‘Environmental Outcomes’ approach does not affect the local plan’s scope to require carbon reduction standards in developments.**

Supplementary Planning Documents (SPDs) to be replaced with “Supplementary Plans”

- Until the LURA, the production of supplementary documents with significant but less material weight than the local plan itself was established in the Town and Country Planning (Local Planning) (England) Regulations 2012. The LU&R Act provides for the creation of a new type of document, ‘Supplementary Plans’. The previous Government’s 2023 consultation[lv] explained that these would replace SPDs entirely and have the same weight as the rest of the local plan. However, the national response[lvi] (2025) to that consultation confirms that SPDs “will remain in force until planning authorities adopt a new style local plan or minerals and waste plan”. It also states that Government intended to “set out further details [on SPD transition] in spring 2025” but no such detail is apparent on the relevant government department’s recent policy papers index.
- At the time of writing this evidence report, the online text of the Town & Country Planning Regulations 2012 still refers to SPDs[lvii], and the new NPPF 2024 still retains existing references to SPDs.
- **It is therefore still uncertain whether SPDs will remain a useful tool to assist implementation of any local plan policies aimed at carbon reduction.**
    - As mentioned in an earlier section, we noted that the Rugby Borough’s Climate Change Strategy[lviii] (2022) set an intention to create an SPD on climate, sustainable design & construction by April 2023. The Council successfully adopted this in February 2023[lix]. As Government has confirmed that “[existing] SPDs will remain in force until planning authorities adopt a new style local plan or minerals and waste plan”, that SPD will remain implementable to the extent that its content remains consistent with policies adopted through the new emerging local plan (assuming this new local plan is adopted within the ‘old style’ planning regime, given that the latest available version of Rugby’s Local Development Scheme[lx] at the time of writing this evidence base states an intended submission date of June 2026, whereas the deadline for submission of plans under the ‘old style’ regime is[lxi] now December 2026).

3.3 National policy statements that define how those powers should be used (prior to WMS2023)

3.3.1 National Planning Policy Framework (NPPF)

The NPPF (2024) reaffirms various ways in which it is appropriate to pursue carbon reduction policies or other undefined sustainability improvements through the local plan. Beyond paragraphs 161-162 (explained previously in section 2.2.1), the following paragraphs help clarify which interventions are considered appropriate by the NPPF:

- Paragraph 165: "plans should … provide a positive strategy for energy from [renewable and low carbon] sources, that maximises [their] potential … [and] identify opportunities for development to draw its energy supply from [these]"
- Paragraph 168: Regarding applications for renewable energy development, "local planning authorities should not require applicants to demonstrate the overall need for renewable or low carbon energy, and recognise that even small-scale projects provide a valuable contribution to cutting greenhouse gas emissions".
- Paragraph 167: Application decisions "should give significant weight to the need to support energy efficiency and low carbon heating improvements to existing buildings [such as] heat pumps and solar panels where these do not already benefit from permitted development rights", albeit still applying heritage policies.

Specifically, the NPPF confirms several ways that are appropriate means for local planning to act towards climate mitigation, including:

- Paragraph 164-164b: "New development should be planned for in ways that: … help to reduce greenhouse gas emissions, such as through its location, orientation and design . Any local requirements for the sustainability of buildings in plans should reflect the Government's policy for national technical standards."."

However: While the NPPF forms the 'national planning policies for England' with which any local energy efficiency or renewable energy policies must be consistent (Planning & Energy Act), another national policy statement (2022) notes that the NPPF "does not set out an exhaustive list of the steps local authorities might take to meet the challenge of climate change and they can go beyond this".

Beyond the specific points on carbon, climate or energy, it is relevant to consider other NPPF provisions that the entire local plan will need to meet: Those are the four 'tests of soundness' shown in the table below. The entire current evidence document for Rugby is aimed at fulfilling those tests in this interpretation of their relevance to carbon policy:

NPPF test of soundness	How may this apply to a carbon policy?	Where is this addressed in Rugby evidence base?
a) Positively prepared: Aiming to meet objectively assessed housing need	That the policy will not be the cause of failure to deliver housing.	• Cost impacts *(see section 6)* which inform the Viability Study March 2025 • Cited evidence from similar policies' tracked impact on housing applications *(see section 5.2)*
b) Justified: Considering reasonable alternatives, with proportionate evidence.	Why the policy is necessary to fulfil the climate mitigation mandate, and more effective in this than potential alternative policies. Evidence that the proposed standard is feasible and what its costs are.	• NPPF citation on how far the climate mitigation should go *(see 2.2.1-2.2.3)* • Evidence of the standards needed in new buildings to fulfil that *(see 2.2.4)* and that national efforts are off track for this. hence local plan policy needs to go further and faster *(2.3.2-2.3.3 and cited local carbon budget report)*
c) Effective: Deliverable in the plan period.		• Cited publicly available evidence on feasibility of the policy standard *(see section 1)* • Shows why alternative standards would not remain effective *(3.3.4)*
d) Consistent with national policy: Enable "delivery of sustainable development in accordance with [NPPF] and other [relevant] statements of national planning policy".	How the policy is consistent with various national policies – or, if national policies contradict each other, then provide rationale for which is adhered to.	• Why the proposed policy is necessary to meet NPPF climate instructions as noted above *(2.3.2-2.3.3 and cited local carbon budget report)* • How NPPF climate instructions would be undermined by another national policy, and why the NPPF is the logical priority *(3.3.4)* as it aligns with legislated national carbon goals and legislated local plan climate duty.

3.3.2 Written Ministerial Statement of 25th March 2015 (WMS2015)

This WMS2015 was by the then-Secretary of State for Communities & Local Government. The Deregulation Act had made provision for the removal of the local plan's power to require improved energy standards (a power set via the Planning and Energy Act 2008). However, that part in the Deregulation Act was never commenced, thus the local plan still holds that power. The WMS2015 stated that there would be a new national policy standard requiring zero carbon homes from 2016 (which never happened) and that therefore local planning authorities should not "set conditions with requirements above a Code level 4 equivalent". Code Level 4 was equivalent to a 19% reduction on the carbon Target Emission Rate [TER] set by Building Regulations Part L 2013 (regarding TER, see previous section of this report entitled "Building Regulations Part L" and glossary).

That 19% limit has now been outstripped by Building Regulations Part L 2021 (which is equivalent to a 31% carbon reduction on Part L 2013), and Government confirmed that via the FHS Consultation Response 2021 that local planning authorities still hold the power to require higher standards than building regulations. Thus the **WMS2015 has been obsolete since 2021**, as per several inspectors' reports[lxii]. Furthermore, the WMS2023 (discussed later) specifies that the WMS2023 replaces the WMS2015 and that National Planning Policy Guidance (NPPG) should be updated to reflect this (yet Government has still not done the latter still as of August 2025).

3.3.3 National Planning Policy Guidance (NPPG)

As mentioned previously, the NPPG is guidance to help interpret various sources of government policies including written ministerial statements and the NPPF. The climate change section of the NPPG confirms the powers that local plans can use for carbon reduction as the following:

- Reiterates local plans' climate mitigation duty per the Planning & Compulsory Purchase Act 2004, and that plan makers should be aware of the 2050 net zero goal and carbon budgets set via the Climate Change Act
- Confirms that local plans "are not restricted … in setting energy performance standards above the building regulations for *non-housing* developments."
- Advises that any local standards for buildings' sustainability or carbon must be "based on robust and credible evidence and pay careful attention to viability."

The NPPG as currently published on the NPPG website references some limits on how far local plan energy efficiency policy should go. However, the cited limit is based on the aforementioned now-obsolete WMS2015 and therefore no longer relevant. As the NPPG has not been updated since March 2019, much of its content is now outdated as it reflects obsolete national policies (such as the WMS 2015 outlined above) and do not reflect newer/updated legislation (such as the Climate Change Act update of July 2019 which enshrined the national target of net zero carbon 2050) or newer policy (such as newer versions of the NPPF, or the WMS2023, explained next).

3.3.4 The Written Ministerial Statement of 13th December 2023 and how it affects previously established scope for local plan policy on carbon & energy

On 13th December 2023, the previous Government released a **Written Ministerial Statement (WMS2023)** by the then-housing minister and under-secretary for levelling up, housing and communities). Its topic is "Planning - Local Energy Efficiency Standards".

This WMS was released without prior consultation. Moreover, subsequent legal correspondence[2] confirms that this WMS was made without a basis in any evidence about the existence of the problem that the WMS purports to remedy, and without an Environmental Principles Assessment or Public Sector Equality Duty Assessment (both of which are mandatory for national policy, and were subsequently completed – albeit perhaps not rigorously – after pre-action legal letters were sent to the Secretary of State on behalf of a coalition of local authorities querying the WMS' lawfulness).

Content of the 13th December Written Ministerial Statement

The WMS2023 is worded as if purporting to place new limitations on the exercise of existing powers held by local planning authorities to require improvements in the **energy efficiency** of proposed new buildings in their area. The WMS does not remove the ability to set improved local standards, but purports to limit them in these ways:

- **Energy efficiency policies should be expressed as percentage reductions on the Building Regulations Part L TER (Target Emissions Rate)**, using a "specified version of SAP".
- Policies that exceed building regulations should be "**applied flexibly … where the applicant can demonstrate that meeting the higher standards is not technically feasible**, in relation to … local energy infrastructure … and access to … supply chains."

The above seeks to constrain how a local plan uses its Planning & Energy Act power to require energy efficiency standards beyond those of building regulations.

This WMS came shortly after several local plans in 2023 had used other more effective metrics to deliver buildings suitable for the UK's carbon goals, such as absolute limits on energy use intensity and space heat demand (Cornwall, Bath & North-East Somerset, and Central Lincolnshire) rather than the WMS' stipulated metric of TER % reduction.

This WMS also emphasises that any such policies **must have a "well-reasoned and robustly costed rationale that ensures that development remains viable, and the impact on housing supply and affordability is considered** in accordance with the [NPPF]". This is not new – we would expect any new plan policy to be accompanied by such justification, and there is extensive evidence in the public domain of the costs and feasibility of meeting enhanced energy standards (see 5.1 and 6.1.1 in current report).

Scope of the WMS2023

The WMS2023's focus is **strictly energy efficiency**. Therefore, it is **does not constrain any local plan policy standards for the separate issues of renewable energy, carbon emissions, or embodied carbon**, all of which are separate from energy efficiency although energy efficiency can impact on carbon emissions.

Although the WMS seems to use the terms "homes" and "buildings" interchangeably, its accompanying documentation (Environmental Principles Assessment and Public Sector Equalities Assessment) makes clear that **its focus is on homes specifically**. That limited focus is further evidenced by the fact that the WMS stipulates the use of SAP, which is a calculation methodology only available for residential buildings.

What is the relevance of the WMS in the current Rugby plan-making process?

Written Ministerial Statements are one of the 'statements of national policy' that local plan-making must take into account, according to the NPPF (as per previously noted 'tests of soundness'). The WMS of December 2023 includes a sentence self-confirming its own status as a relevant statement of national planning policy.

Alongside the 'four tests of soundness', the NPPF also instructs that:

- (Paragraph 5-6) "National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans" and "Other statements of government policy may be material when preparing plans … such as relevant Written Ministerial Statements".
- Requirements for the sustainability of buildings are expected to "reflect the Government's policy for national technical standards" (Paragraph 164b).

Therefore this WMS is a 'material consideration', i.e. one of the relevant considerations that the plan must *take into account* in order to be found sound, despite the fact that a WMS can be (and was in this case) made unilaterally without consultation. It is unclear whether it also counts as a "policy for national technical standards" as per NPPF 164b

However, a WMS is not an inviolable requirement. It can be 'sound' to deviate from a WMS if other identified material considerations hold more weight than the WMS (including legislation or more recent statements of national policy[3]) and/or if there are local circumstances that justify deviating from that WMS. This is explored next.

[2] This pre-action legal correspondence was shared with the authors of the current report by the recipient. It is not under any legal restrictions on its sharing, but has not yet been published by any entity as far as the current report's authors are aware. The authors are working with relevant parties to get that correspondence published along with a legal interpretation of it.

[3] For example, some Inspectors had found local plans unsound where those local plans went against the aforementioned WMS2015 (whose topic was similar to the WMS2023, but at least one such rejection was overturned in the High Court in 2024 on the basis of having unlawfully interpreted the that WMS2015, primarily because the WMS2015 had been overtaken by other pieces of policy, regulation and legislation.

What is the status of a WMS versus legislation?

Legislation, and the powers granted or duties imposed by it (such as the duty to mitigate climate change and the power to set higher energy standards), cannot legally be undone by national policy such as the WMS2023.

Relevant open legal advice[lxiii] notes that it has been established in case law that a WMS "cannot lawfully countermand or frustrate the effective operation of any … relevant statutory power" (such as the duty to mitigate climate change and the power to require higher local standards) and that "any WMS must lawfully be applied subject to relevant statutory powers, and … justifiable local exceptions, rather than in a blanket fashion".

What is the status of a WMS versus other national policy?

The NPPF is a well-established piece of national policy that typically undergoes consultation each time it is updated. By contrast, the WMS2023 was ad-hoc and did not undergo consultation. While the NPPF forms the 'national planning policies for England' with which any local energy efficiency or renewable energy policies must be consistent (Planning & Energy Act), there is another national policy statement (2022[lxiv]) noting that the NPPF "does not set out an exhaustive list of the steps local authorities might take to meet the challenge of climate change and they can go beyond this".

Where a WMS contradicts or inhibits the NPPF, it may be a matter of judgement on which holds more weight. However, the December 2024 NPPF is the more recent expression of national planning policy and contains a renewed focus on climate mitigation, directly citing the 2050 net zero goal (while continuing to emphasise the imperative to mitigate climate change in line with the Climate Change Act, which as we have previously explained includes the carbon budgets as well as the net zero goal).

What effect would the WMS2023's stipulations have on the local plan's fulfilment of legal duties and NPPF priorities on climate mitigation?

If interpreted literally and rigidly, the **WMS' stipulations would make it difficult or impossible fulfil the local plan's legal duty to mitigate climate change** (established in the Planning & Compulsory Act 2004, section 19) especially **to the extent that would be "in line with the objectives and provisions of the Climate Change Act 2008"** as per the NPPF instruction, let alone "radical reductions in greenhouse gas emissions … nor "a proactive approach" (NPPF 2024 paragraphs 161-162 and footnote 61).

This has been proven in separate Rugby 2025 local plan supporting report "Evidence base: Carbon budget assessment". In that, it was shown how a policy following the WMS2023's stipulations and general gist of following future national regulation (the FHS) would result in a significant exceedance of the national legislated carbon budgets share that can be reasonably assumed to be available for the new build housing sector.

[4] The more effective metrics for energy efficiency used in recent precedents local plans are Energy Use Intensity (EUI) and Space Heat Demand (SHD), which are reflected in Rugby emerging plan policy CL1.

Government has not indicated that there was any assessment of how the WMS would affect the ability to fulfil those mandates, nor advised which should take priority where they are demonstrated to be in conflict.

The main way the WMS inhibits or prevents the fulfilment of the climate mitigation duty (and other parts of the NPPF tests of soundness) is that:

- **Its stipulated metric and calculation method (TER and SAP) are not suitable to ensure a building has the energy efficiency performance needed for the UK's legally binding carbon goals** as previously described (see section 2.3.3). That unsuitability is why several recently adopted precedent local plans elsewhere (see section 4.1) had used alternative metrics that are much more effective for delivering energy efficiency[4] and for defining whether a building is 'net zero'.
- **Its stipulated metric is not fit for the stated purpose of energy efficiency:** The WMS2023 stipulates that any local policy energy efficiency improvement standards should be expressed in terms of TER (Target Emissions Rate), but TER is in fact a *carbon* metric not an *energy efficiency metric*. TER therefore logically is not a "standard for the purpose of energy efficiency" as per the Planning & Energy Act (2008) definitions, thus this WMS2023 may be argued to not be a national policy that would validly constrain the powers granted by that Act to the local plan to set energy efficiency standards.
- **Its stipulated calculation method is imminently outdated:** The WMS stipulates that any TER % target be expressed using "a specified version of SAP". But this would make the local policy obsolete in the next ~2 years, because SAP is being nationally replaced by a new calculation method named "HEM" when the Future Homes Standard (FHS) enters force (after a short transition period). The FHS is to be published[lxv] in Autumn 2025 and, assuming it follows the pattern of previous Building Regulations updates, should come into full force a year later. Even if SAP were not being discarded, it is updated every few years and thus any policy based on a "specified version" would be obsolete far before the end of the plan period.

Therefore, in addition to inhibiting the local plan's legal duty to mitigate climate change, local policy consistency with the WMS2023's stipulated metric and calculation method would fail NPPF tests of soundness in that it would:

- **make local policy ineffective across most of the plan period**, contrary to the test of soundness c) (that policy should be effective/deliverable in plan period)
- **inhibit local policy consistency with the more clearly stated NPPF policies** that the local plan should proactively achieve "radical" carbon emissions reductions "in line with the objectives … of the Climate Change Act", contrary to NPPF test of soundness d) (consistency with the suite of policies in the NPPF).

Further points on scope and reach of the WMS2023 and alternatives to its stipulated metrics

As previously noted, there is broad consensus in the low carbon building industry that the metrics needed for effective energy-efficient low carbon buildings standards are not TER or other metrics from Building Regulations Part L, but rather energy use intensity (EUI) and space heat demand (SHD). This consensus is evident in several forms: Beyond the previously cited evidence from the Climate Change Committee regarding the necessity of SHD limits in new homes, there is endorsement of EUI and SHD metrics by all relevant standard-setting bodies in the built environment, through their collaborative development and endorsement of the UK Net Zero Carbon Buildings Standard (UKNZBCS). That UKNZCBS was developed collaboratively by a consortium of leading professional bodies including[5] UKGBC, RIBA, RICS, IStructE, CIBSE, BRE, BBP, LETI, and the Carbon Trust. The UKNZCBs sets progressively tightening energy efficiency targets for SHD and EUI in coming years that vary by building type. A key reason for the endorsement of EUI limits is that the EUI metric covers total energy use (whereas Building Regulations metrics only cover regulated energy uses, as previously noted). While the UKNZCBS can only be verified via in-use energy meter data, building designers would need to use highly accurate energy use prediction methods in order to meet the standard. Building Regulations SAP method would not be suitable, due to its inaccuracy (underestimation) of energy use (previously noted; see 2.3.3).

SHD targets ensures that a building has good ability to hold onto its internal heat (by having good insulation, glazing and airtightness as well as an inherently thermally efficient form). Meanwhile, EUI targets can ensure that the building also has a highly efficient heating system type. Heat pumps deliver 3-to-5 units of heat for each unit of electricity they consume. By contrast, direct electric heaters deliver 1 unit, while an A-rated boiler only delivers approximately 0.9 units of heat per unit of gas. This means that a low EUI target can effectively ensure that new homes use heat pumps (while allowing for future emergence of any other technology as efficient as heat pumps).

As previously noted (see section 2.2.4), this rollout of heat pumps is a vital, urgent and currently off-track component of the UK achieving its national legislated carbon goals. While the incoming Future Homes Standard is expected to have a heat pump as its notional heating system type, FHS homes could instead comply with the FHS TER target by using direct electric heating and masking its inefficiency with an excessive amount of solar panels. This would not only fail to protect the occupant from excessive energy bills (as their energy use patterns may not coincide with the time when the solar panels are producing the most energy) but also would risk placing excessive strain on the grid to take the solar energy exports when the occupant is not using that energy.

In light of this, the WMS2023 is self-contradictory in that it states that any local enhanced energy efficiency standard should be "applied flexibly [if] the applicant demonstrate[s] that [it] is not technically feasible, in relation to … energy infrastructure (for example adequate … grid connections)". In fact, any energy efficiency policy using the WMS2023's stipulated metric of TER (and SAP calculation) would make the impact on energy infrastructure worse compared to a more effective policy using EUI and SHD metric limits calculated via an accurate method (e.g. PHPP[6] or CIBSE TM54[7]).

The WMS2023 does not actually *prohibit* the use of such alternative metrics and methods *alongside* TER and SAP. However, these metrics are in fact so different from each other as to not be directly comparable because:

- TER is affected by many factors other than energy efficiency (such as on-site renewable energy, and electricity grid carbon intensity which changes over time).
- The Part L TER is calculated using a methodology named SAP, which, as previously noted (section 2.3.3), drastically underestimates homes' energy usage and carbon emissions, partly because SAP ignores all plug-in devices and partly because SAP is simply poor at predicting actual thermal or total energy performance of the building. We are not aware of any existing method to consistently translate an SHD or EUI target into a % TER reduction or vice versa.

It is also relevant to note that several plans have passed examination despite using metrics other than those stipulated by the WMS2023. Those examined post-WMS2023:

- Warwick DPD NZC2(A) requires an improvement on the Part L TFEE (Target Fabric Energy Efficiency) metric. TFEE is an energy efficiency metric but comes from WMS' stipulated calculation method (SAP), thus reflects SAP's inaccuracies.
- West Berkshire Local Plan Review (examined 2024): Similar to Warwick DPD.
- Tendring Colchester Borders Garden Community DPD (examined 2024): Energy efficiency metrics in terms of absolute limits on EUI and SHD. This was the first plan to successfully pass examination with these metrics since the WMS2023.
- Uttlesford Local Plan (examined 2025): Identical or similar to Tendring/Colchester DPD above. Final report not yet available but Inspector's post-hearing note confirms no need for modifications to the energy policies.

Finally: The WMS' purported purpose is to avoid a "proliferation of multiple local standards" on the assumption that these will add costs and slow housing delivery. However, in response[lxvi] to pre-action legal correspondence[lxvii] in 2024, Government admitted that it had no evidence of either this proliferation or costs nor any other evidence to justify the stipulation that energy efficiency policies must use TER or SAP.

[5] Acronyms: UK Green Building Council, Royal Institute of British Architects, Royal Institute of Chartered Surveyors, Institute of Structural & Civil Engineers, Chartered Institute of Buildings Services Engineers, Buildings Research Establishment, Better Buildings Partnership.
[6] Passivhaus Planning Package – a publicly available spreadsheet-based tool for predicting the energy use of buildings, that has a proven track record of high accuracy in reflecting actual performance of the building in terms of thermal performance and overall energy use. This tool is used in the design and delivery of Passivhaus-certified buildings, but can also be used outside that certification process.
[7] CIBSE Technical Memorandum 54. A method for predicting non-residential buildings' energy use. This method is endorsed by government via Building Regulations Part L 2021 in non-residential buildings.

Recent legal challenges to the WMS2023 and implication of their outcomes

We note that has been an ongoing legal challenge to the WMS on the basis that it is unevidenced, purports to inhibit the use of the powers granted to the local planning authority by legislation, and was not subject to the environmental assessment required for new policy according to the Environment Act. This case was first heard at the High Court on 18 June 2024[lxviii] and then at the Court of Appeal in June 2025. The High Court judgement rejected all three grounds, upon which the case was taken to appeal at the Court of Appeal in June 2025.

The Court of Appeal's decision (2025) did not overturn the High Court's decision. However, the judgements merely confirm that the WMS2023 is not unlawful (in that it is not incompatible with the Planning & Energy Act and that it was acceptable that the required environmental assessment had been conducted retrospectively). The judgements do not increase the material weight of the WMS2023 versus other national policy. The latest judgement[lxix] (Court of Appeal) clarifies that this legal decision does not pass any judgement on the relative merit of the WMS' stipulated metrics versus others: "judicial review is not a proper forum for resolving the dispute as to whether one metric is preferable to another" and even that the judge was "left with the impression that the draftsman [of the WMS2023] did not think through the tension between the intention to use national measures to [restrict] how far a [local plan] may set standards exceeding building regulations and the well-established legal principle that a LPA can include in its DPD a local policy which conflicts with national policy [where] justified".

Neither of the judgements substantively engages with whether the WMS2023 inhibits local plans' ability to fulfil their legal duty to mitigate climate change in practice. Concerningly, the Court of Appeal judgement paragraph 37, when considering how the WMS2023 was made, makes a potentially misleading statement that "homes built to the FHS would be compatible with the UK's 2050 Net Zero Target for carbon emissions in the Climate Change Act 2008". This would indicate a lack of understanding that such homes would in fact not be compatible with the Act's legislated carbon budgets (as previously noted and as detailed in the separate Rugby evidence report on local carbon budgets); the lack of commentary on this may indicate that such evidence was not put before the courts. However, that wording could simply be the judge's explanation of the Government's purported rationale when making and assessing the WMS2023, rather than a statement of actual fact; this reading is supported by paragraph 95 which states that "The Government's view [when conducting its environmental assessment of the WMS2023] is that the forthcoming FHS will set national standards for residential development in line with the Climate Change Act 2008 … [and] It is not a matter for the court in an application for judicial review to say whether those conclusions are right or wrong". That paragraph (95) is in the section of the judgement relating to whether Government had met its legal duty to environmentally assess such policies, not the section on whether the WMS2023 interferes with the local plan's legal powers and duties.

Conclusion on the justification/necessity of diverging from the WMS2023's stipulated metric

Legislation holds far more weight than a WMS, and a WMS does not overrule the NPPF. Thus, it is sound to diverge from the WMS because the above cited carbon budget assessment evidence has demonstrated that using a typical WMS2023-style policy would prevent the local authority from fulfilling its legal obligation to 'contribute to the mitigation of climate change' set by the Planning & Compulsory Purchase Act, on the basis that the only definition of the required *extent* of that mitigation is expressed in the NPPF expectation for carbon reduction *in line with the Climate Change Act*.

There is clear evidence of the difference that would occur as a result of following the WMS stipulations (as opposed to using the more accurate energy metrics proposed by Rugby's draft policy CL1)– that is both of the following:

- Using a WMS-style policy, aligned to the Future Homes Standard, would move the buildings sector's carbon reduction trajectory even further from what it needs to be within the 'balanced pathway to net zero' as analysed by the Committee on Climate Change to comply with the UK's legislated carbon budgets (set under the aegis of the Climate Change Act); see Rugby's separate 'Carbon budget assessment' report cited above
- Failing to use a 'space heat demand' metric (instead using the WMS2023's stipulated TER % metric) would fail to ensure the level of energy efficiency that the Climate Change Committee has shown to be necessary as part of the UK's achievement of its legislated carbon budgets, (see previous sections 2.2.4-2.3.3).

As a result, following the WMS2023's stipulation to express energy efficiency policy using the ineffective metric of TER, calculated using the inaccurate method SAP, would result in a failure to sufficiently meet the plan's aforementioned legislated duty to mitigate climate change (Planning & Compulsory Purchase Act) and inconsistency with NPPF policy that this should be done 'in line with … the Climate Change Act'.

The WMS2023 applies these special restrictive stipulations to policies that go beyond 'existing or planned' building regulations. The WMS2023 therefore implies acceptance of policies that align to the Future Homes Standard (FHS), i.e. the building regulations update due to be published later in 2025. However, as previously noted, FHS will still not deliver the levels of energy efficiency that are a necessary component of the achievement of national carbon budgets as previously explained. Extensive primary evidence of the energy and carbon performance of homes built to the FHS, versus standards equivalent to Rugby's draft Policy CL1, is available from the evidence bases of other recent successful local plans, whose analysis includes development typologies similar to those likely in Rugby, and which share comparable climatic conditions (e.g. Central Lincolnshire). Those also evidence the feasibility of meeting energy performance standards equivalent to that of Rugby, and the associated build cost uplift that would be incurred by developers. See sections 5-6 of the current report in which this existing feasibility and cost evidence is summarised.

Alternative policy options considered by Rugby within the parameters set by the WMS23

Energy efficiency

There are ways that energy efficiency targets could be designed to comply with the WMS (albeit none of these would be sure to delivery energy efficiency performance in line with what is necessary for the achievement of the UK's carbon budgets, as previously noted, due to the inaccuracy of the SAP calculation method).

One option is to follow one of the examples set by certain precedent local plans – such as the London Plan 2021 – that have used the Part L TER for the purpose of energy efficiency:

- **Require a certain % reduction on the Part L TER to be made *through energy efficiency features*** (that is, before counting any further improvements to TER made by the addition of renewable energy). This follows the London precedent – where the requirement is 10% in homes, or 15% in non-residential (but see caveats below.

This presents a conceptual challenge about what counts as an 'energy efficiency' feature, as some technologies offer both energy efficiency and renewable energy delivery. For example, heat pumps typically deliver 3+ units of heat for every 1 unit of electricity consumed (making them 300% efficient, while a gas boiler is ~89% or direct electric heating is ~100%) – but also some of the pumped heat is 'renewable' as it is taken from outdoor air, ground or water.

To make this policy workable, the London Plan precedent therefore had to come with guidance on what counts as an 'energy efficiency' feature. It treats heat pumps as a 'renewable energy' feature rather than an 'energy efficiency' feature, to ensure that the required 10% improvement from 'energy efficiency measures' is instead delivered through fabric improvements and other system improvements. If heat pumps were instead categorised as an 'energy efficiency' feature, a local policy could set the required % TER improvement from energy efficiency to reflect the degree of improvement that could be made by a certain degree of fabric improvement combined with a heat pump. For example, Government's previous Future Homes Standard (FHS) Consultation Response[lxx] (2021) stated that the Future Homes Standard would achieve a 75% reduction on the TER set by Part L 2013 and showed, through the indicative FHS specification, that this was feasible through some significant improvements to building insulation at the same time as switching from a gas boiler to a heat pump. Part L 2013 was replaced by Part L 2021, which achieved a 31% reduction on the TER. Therefore the FHS TER would be 63.8% lower than the Part L 2021 TER. The local policy could align with that FHS specification by requiring that new buildings must achieve a 63.8% reduction on the Part L 2021 TER through energy efficiency improvements.

Justifying this sort of approach in terms of feasibility could draw on existing evidence from the London Plan (if the improvement is set to 10-15%) or from the FHS consultations (if the improvement is set to 63.8%). However, there are **caveats to this**:

- Feasibility in non-residential: London's requirement for a 15% TER improvement in non-residential buildings was originally set from the baseline of Part L 2013. Anecdotally, this 15% target has been challenging for the industry to achieve from the new baseline of Part L 2021 and so London has initially had to apply the policy flexibly.
- The approach described above would be unclear in its alignment with the legal duty to mitigate climate change:
    - Because TER is not actually an energy efficiency metric, and because its parent methodology SAP is so inaccurate at predicting buildings' actual energy performance, we are not aware of any existing available evidence that would robustly show exactly what %TER reduction would be justified by virtue of being aligned to new buildings' necessary contribution to the UK's legislated carbon goals and therefore a necessary way to fulfil the local plan's duty to mitigate climate change. By contrast, the metrics of space heat demand and energy use intensity can be clearly justified in that way.
    - A 10-15% TER improvement from 'energy efficiency features' may not be ambitious enough for climate-aligned best practice. London's 10% TER reduction target in homes is unlikely to be truly ambitious compared to what the industry can achieve today (via products and techniques that have advanced since London first set this policy) nor what is necessary within the UK's net zero carbon future (that is, a space heat demand of 15-20kWh/m2/year in new builds from 2025, and a heat pump or similarly efficient system). London's application monitoring[lxxi] shows an average 19.8% TER reduction via energy efficiency, but this is from a 2013 baseline and excludes heat pumps. A significant benchmarking exercise might be needed to evidence whether it is possible to specify a higher TER improvement from energy efficiency, unless categorising pumps as an energy efficiency feature, in which case there is evidence that a ~63%+ reduction can be achieved on Part L 2021 TER – in that this aligns with Government's 2021 FHS consultation response previously cited.
- Cost evidence: We are not aware of publicly available evidence on the build cost uplift of London's policy for a 10-15% TER reduction through efficiency features.
    - Alternatively, if heat pumps are treated as an 'efficiency' feature, there is cost evidence available from the Future Homes Standard, Future Homes

Hub and other recent local authorities' policy evidence bases looking at the cost to upgrade fabric and to switch from gas heating to heat pumps.

A further option could be to retain the Space Heat Demand and Energy Use Intensity metrics as outlined in the more ambitious precedents – but only **as secondary metrics that are used alongside the primary metric of % TER reduction** from energy efficiency measures, as above. However, as previously noted, we are not aware of any method to robustly and consistently identify what % TER reduction might typically be represented by a building that achieves those SHD and EUI metrics. This would be challenging not only because of the different methodological approaches but also because SHD and EUI are absolute metrics while TER is a 'relative' metric that is set at a different level depending on what shape, size and type the building is – and because TER is a carbon metric not an energy efficiency metric, as previously noted. Additionally, if SHD and EUI are used only as secondary metrics, it may prove unsuccessful to implement these in practice in getting developers to adhere to them and would inhibit policy clarity.

For all of the aforementioned reasons, there was no identified alternative policy option that would both comply with the WMS2023's stipulated metric/method while also sufficiently meeting the previously explained legal duty to mitigate climate change and remaining consistent with the aforementioned NPPF expectations on the extent of carbon reduction that the plan should pursue.

Renewable energy

The WMS2023 does not mention renewable energy at all. Therefore the WMS does not lay any constraints on the power of local plans to set 'reasonable requirements for a proportion of energy use at the development to be from renewable sources in the locality of the development' (Planning & Energy Act 2008, paraphrased).

Therefore, there is **nothing in the WMS or the legislation to prevent the adoption of a policy that requires energy use on site to be met with 100% renewable energy**, so long as this can be shown to be 'reasonable' as per the wording of the Planning & Energy Act (which grants the power to require renewable energy at new development through local plan policy).

The Planning & Energy Act does not define 'energy use at the development'. Therefore there is **nothing to prevent the interpretation that this logically means *total* energy use**, not just the fraction of energy use that is 'regulated' by building regulations.

The Planning & Energy Act does not define 'reasonable'. As previously outlined, we might interpret that this, in the planning context, should therefore mean:

- Feasible to achieve
- Within a cost uplift that still allows for necessary development to remain viable
- An effective and socially beneficial means of working towards the NPPF goal of *sustainable development*, in particular:
    - The plan's legal duty to ensure that development and use of land contributes to mitigating climate change (Planning & Compulsory Purchase Act 2004)
    - The imperative to achieve 'radical reductions in greenhouse gases … tak[ing] a proactive approach to mitigating … climate change … in line with the objectives and provisions of the Climate Change Act 2008' and 'provide a positive strategy [to increase the supply of] renewable and low carbon energy and heat' (NPPF as previously cited).

Policy necessity has been demonstrated through previous sections of this report (2.1, 2.2.4, 2.3.2, 2.3.3, 2.3.7) and the separate Rugby evidence report on local carbon budget assessment (which derives a local carbon budget from the legislated national ones).

Feasibility and cost uplifts can be demonstrated through the evidence bases of many adopted precedent plans cited previously, especially Cornwall, Bath, and Central Lincolnshire (and many other emerging plans). Their feasibility evidence shows that 100% on-site renewable energy is feasible *so long as sufficient energy efficiency improvements are made first* – therefore in these precedent policies (as in proposed Rugby policy CL1), the 100% renewable energy requirement is paired with energy efficiency targets in terms of energy use intensity (EUI) limits. The WMS does not prevent the setting of renewable energy targets that have the indirect effect of needing to design towards sensible EUI targets. These third-party evidence bases also further demonstrate the inadequacies of SAP in predicting building energy use and therefore in policy effectiveness if used to express policy.

An alternative approach could be to require a 100% reduction in TER by renewable energy generation on-site after the required reduction from energy efficiency has been achieved. This would follow the structure of earlier adopted precedents such as Milton Keynes Plan, which requires firstly a 19% reduction in TER, and then a further 20% reduction in TER via renewable energy (implying that the first 19% would be through energy efficiency). However, the way that Part L TER is calculated does not fully recognise the benefits made by on-site solar PV (the carbon savings it credits to solar PV generation per kWh are not as great as the carbon emissions it attributes to energy use per kWh). This means a 100% TER reduction target requires over-provision of renewable energy, compared to the amount of regulated energy use – but yet still an under-provision of renewable energy in relation to total energy use. A renewable energy policy framed around TER would also have to be calculated using building regulations calculation methods of SAP / SBEM, therefore would be vulnerable to the inherent inadequacies and inaccuracies of SAP/SBEM as previously described.

In light of the considerations above, Rugby proposed policy CL1 expresses its renewable energy requirement in terms of a 100% proportion of the development's predicted energy demand, not TER. The WMS2023 does not relate to renewable energy requirements and therefore does not affect this.

Link to glossary

Embodied carbon

Embodied carbon is not mentioned by the WMS2023 at all.

Nor is there any national legislation or regulation on embodied carbon.

We have been unable to identify any other relevant national policy statements (including public archives of written ministerial statements) that define a national policy approach to embodied carbon of buildings specifically.

The phrase 'embodied carbon' does appear in a separate WMS of 18th December 2023 stating that the Government intends to eventually "develop an embodied emissions reporting framework that could serve future carbon leakage and decarbonisation policies". That WMS' focus is on imposing conditions for imported goods, not on how to account for UK construction embodied carbon, in planning policy or otherwise.

Thus it appears there is still no relevant national approach with which local policy would need to be consistent in order to meet the NPPF tests of soundness previously explained. The scope of action available to the local plan with regards to embodied carbon therefore remains the same as it was before. Rugby local plan policy development team did therefore consider the option to the approach of previously noted adopted or emerging plans elsewhere that require embodied carbon reporting or compliance with specific embodied carbon targets. **However, a decision was made not to include any embodied carbon policy in light of Rugby's estimation of its own existing internal necessary expertise to implement such a policy**. This could change in future subject to the creation of resources, training or recruitment to expand the Council's capacity to validate planning applications' performance against an embodied carbon standard.

Existing buildings

The WMS' rationale is heavily focussed on new builds, not existing buildings. Yet, its exact wording about metrics and viability could be interpreted to apply to *any* building. This may mean that any local policy energy efficiency standards for existing buildings would need to be expressed as % TER reduction. A defensible policy approach could therefore avoid setting any specific targets (as the feasibility of meeting these will vary dramatically between existing buildings) but could rather recognise and reward proposals that would improve this, and require reporting of the improvements made in major proposals (which could potentially use the WMS' stipulated metric). This policy approach was considered by the Rugby local planning team but **a decision was made not to pursue this as it was preferred not to create policies that merely 'encourage' improvements,** as Rugby local plan team felt it would be impossible to assess whether a planning application complies with a vague 'encouragement'. Rather the decision was to only create policies that can be expressed in terms of specific required standards against which development's performance could be clearly assessed.

4. Policy options considered

4.1 Considering precedents: Two main types of approach to net zero carbon buildings policy – and their variations, strengths and weaknesses

As recognised in Rugby's Issues and Options plan consultation (October 2023), there are two broad categories of policy that extant and emerging local plans elsewhere fit into with regards to requiring enhanced energy and carbon performance in new buildings:

- **Policy type 1, Using building regulations metrics:** Policies that require a % improvement on Building Regulations Part L Target Emissions Rate (in some cases is a 100% reduction) and/or improvements in other Part L metrics.
    - Adopted examples: London Plan 2021 policy SI 2; Milton Keynes 2019 policy SC1; Reading 2019 Policy H5, Warwick Net Zero Carbon DPD 2024; West Berkshire Local Plan Review 2025 Policy DM4; many others.
- **Policy type 2, 'True net zero operational carbon' using energy-based metrics:** Policies set fixed energy efficiency targets in terms of 'space heat demand' and 'total energy use intensity' (EUI), and renewable energy provision to match 100% of the development's total annual energy use. This follows the recommendations of expert green building coalitions LETI and UKGBC..
    - Adopted examples: Cornwall, Bath & North East Somerset; Central Lincolnshire, Tendring & Colchester Borders Garden Community DPD.
    - Rugby's Regulation 18 draft policy CL1 follows this model.

There is variation within these categories. The table (opposite) outlines typical variations.

In addition to the operational carbon policy types described above, there is one adopted and several emerging local plans that require reporting and/or specific targets in **embodied carbon**. That is the carbon emitted in order to construct the building (including material extraction, product manufacturing, transport of materials to site, use of energy during construction). In some cases the 'embodied carbon' can also include the maintenance and eventual demolition/disposal of the building at end of life – in which case the scope is termed 'whole life embodied carbon'.

As previously noted, there is no current national building regulation that regulates embodied carbon, nor any nationally described standard for reporting it. However, the industry has developed its own standards for reporting on embodied carbon (the RICS Whole Life Carbon Assessment methodology). Two pioneering bodies in the industry[lxxii] have also collaborated to develop a range of targets (for up-front or whole-life embodied carbon) that define current 'business as usual' ranging to ambitious pioneering practice at the cutting edge of what is feasible today. Some of the emerging local plans elsewhere are basing their policies around those industry targets. However, as also previously noted, Rugby decided against an embodied carbon policy due to its own assessment of its own current lack of capacity to assess embodied carbon, hence embodied carbon policy options are not further considered in this section.

Topic of variation	Policy type 1 (Using building regulations metrics)	Policy type 2 (True net zero in operation as per green experts)
Energy efficiency	• Either a % reduction on Part L Target Emission Rate to be achieved through 'energy efficiency measures' (e.g. London Plan; Warwick DPD) • And/or a % or fixed improvement over Part L Fabric Energy Efficiency (e.g. Warwick DPD; West Berkshire emerging)	• Space heat demand target either 15, 20 or 30 kWh/m²/year, (varying by building type and each local plan area's viability pressures) • Total energy use intensity targets of 35 to 45 kWh/m²/year in homes (varying by cost/ viability situation) or higher in non-residential (varying by different non-residential uses)
Renewable energy	• Either renewable energy provision on-site to meet a specified % of the building's energy demand (may be regulated-only, or total energy)	• Provision of renewable energy annual generation capacity on-site equal to the building's predicted total annual energy demand. (thus 'net zero').
Offsetting	Where compliance with the above are not feasible/viable: • Either an S106 payment per tonne of operational carbon emissions over a 30-year period • Or an S106 payment per kWh of energy demand not matched by on-site renewable generation. Ringfenced to deliver projects to generate that energy or otherwise save an equal amount of carbon. Typically in the local plan area, but in some cases a county-wide scheme (e.g. Warwick DPD, via Warwickshire Ecosystem Services Trading Protocol).	Where the renewable energy requirement is not feasible: An S106 payment per kWh of energy demand not matched by on-site renewable generation. Ringfenced for the local authority to deliver renewable energy projects generate the equivalent amount of renewable energy. To be spent typically within the local plan area, but in some cases a county-wide energy offsetting scheme (e.g. Uttlesford emerging, linked to Essex model policies).

Link to glossary

4.1.1 Pros and cons of the approaches

Policy type 1 (Using building regulations metrics)	Policy type 2 (True net zero operational carbon as defined by green building bodies)
Pros: • Uses metrics and calculations that all developers are already proficient with as they must already perform these calculations to pass building control • Can be made fully consistent with the WMS2023 (discussed previously; see section 3.3.4)	**Pros:** • Fixed energy targets that align with the necessary changes for the UK's carbon budgets – thus demonstrably fulfils the plan's legal duty to mitigate climate change (see section 0 on this) • Includes all energy, not just regulated • Incentivises not only good fabric and efficient heat systems, but also inherently thermally efficient building forms • Effectively reduces occupant energy bills • Can be measured in use, as the targets are meant to reflect actual metered energy use • Incentivises the industry to learn how to use these vital metrics for the UK's future
Cons: • Cannot ensure the energy efficiency standards necessary for the UK's carbon budgets (due to inaccurate metrics and limited scope) • Neglects the carbon associated with unregulated energy use in the building and is subject to the weaknesses of the building regulations calculation methods. (Although this could be partially addressed via a 100% renewable energy requirement separate from Building Regulations metrics – but this would need other calculations to establish what that total energy use is, as SAP and SBEM are either unable or inaccurate at this) – See section 0 on why this would fail the local plan's climate mitigation mandate set by the NPPF and law • Although the metrics used are ones that Building Control officers will be familiar with, implementation will require Development Management officers to gain understanding of these • Burden on local authority to implement offsetting projects to some extent. • Currently the only method available to express such a policy is Building Regulations Part L SAP 10.2 method, but if the policy is tied to that then it will quickly become obsolete as Part L SAP is being replaced by a new calculation model (HEM) some time between 2025-27. As HEM is not yet available in a usable form, it is not known whether a SAP-based policy will be able to be assessed when HEM replaces SAP. This creates a high risk of policy ineffectiveness.	**Cons:** • Will require the local authority development management officers to become familiar with the metrics that would be used and how to assess compliance with these in applications (albeit this is also true for the other type of net zero carbon policy, as Rugby existing local plan does not currently require any specific carbon reduction standard) • Burden on local authority to implement offsetting projects to some extent (albeit this is also true for the other type of net zero carbon policy) • Some learning required by the development industry to utilise the right calculation methods for the required metrics – although some major developers (Landsec and Barratt) are already using these metrics and/or committing to standards similar to those expressed in the Rugby policy.

4.1.2 Examples of inspectors' rationale in approving policies like that proposed for Rugby draft policy CL1

Inspectors have had highly diverse reactions to precedent local plans in both aforementioned categories of 'buildings carbon reduction' policy, even between similar policies. The main success factor in common across the plans that were approved – of either type – appears to be that these plans came with robust evidence that the policies were necessarily, feasible and were costed so that they could be shown to be viable. However, a further major factor in success appears to be the strength and clarity of arguments made at the examination itself, even where policies and evidence bases are similar. This current evidence base for the Rugby proposed policy CL1 emulates the rationale of those approved policies and draws directly on their evidence where relevant.

We here summarise Inspectors' reasoning on approving relevant policies with similar or identical metrics to Rugby's proposed policy CL1.

Policy example	Net zero carbon new build policy requirements	Inspector rationale

Bath & North-East Somerset (B&NES): Policy SCR6
(Examined 2022; adopted January 2023)
	New build homes must be net zero carbon in operation, via:
	• Space heat demand (SHD) limit: <30kWh/m²/year
	• Energy use intensity (EUI) limit: <40kWh/m²/year
	• Onsite renewable energy to match total energy use.
	• Offset payment if the above cannot be met:
	  ○ B&NES: £373/tonne of carbon in 30 year period, plus 10% admin fee (in SPD)
	  ○ Cornwall: £117/MWh of energy use not matched by onsite renewable energy generation (in guidance).
	B&NES shared the same evidence base with Cornwall, on feasibility (energy modelling) and cost.
	These SHD and EUI targets are slightly looser than other later adopted plans (e.g. Central Lincolnshire and Tendring, below) and many emerging plans. This is because this local plan's energy modelling evidence identified a "cost optimised net zero carbon" buildings specification – matching these EUI and SHD limits – which placed less pressure on viability compared to what stricter EUI/SHD targets would do, while still keeping buildings' energy use low enough that it can still be matched by solar panels fitting on the building's roof.
		Inspector Philip Lewis' examination report (December 2022) included:
		• Noted that "The Policy includes limits on space heating and total energy use, taking an energy based approach, rather than being based upon carbon reduction as per the Building Regulations. The [Policy] applies to both regulated and non-regulated energy use, which is a further difference to … Building Regulations"
		• Noted that "The Planning and Energy Act 2008 includes provisions for local planning authorities to exceed the minimum energy efficiency requirements of the Building Regulations where they are not inconsistent with relevant national policies for England", and that "One of the tests of soundness is that local plans are consistent with national policy – enabling the delivery of sustainable development in accordance with the policies in the NPPF and other statements of national planning policy", and that one of the extant national policies was the WMS2015 which would block B&NES proposed policy – but also that the WMS2015 did "not reflect [the new] Building Regulations, the Future Homes Standard, or the [Climate Change Act goal of] net zero by 2050" which led to reduced relevance for the WMS2015 and the parts of the NPPG linked to it.
		• Concludes that "The NPPF is clear that mitigating … climate change … is one of the key elements of sustainable development, and that the planning system should support the transition to a … low carbon future … Whilst [the] NPPF… sets out that any local requirements for the sustainability of buildings should reflect the Government's policy for national technical standards … any inconsistency with [WMS2015] does not [mean] that Policy SCR6 is unsound, nor inconsistent with relevant national policies." … "I am satisfied that the [proposed] standards … are justified and … would not threaten [housing] deliverability or viability".

Cornwall policy SEC1; (Examined 2022; adopted February 2023)		Inspector Paul Griffiths' examination report (January 2023) concluded that: • The requirements "are justified in the light of the aim of this Plan to achieve net zero by 2030" • "Provisions to allow Councils to go beyond the minimum energy efficiency requirements of the Building Regulations are part of the Planning and Energy Act 2008" • Echoed the B&NES inspector (above) about the WMS2015 not reflecting the FHS or net zero 2050 and thus of "limited relevance" especially in light of NPPF instructions to pursue "the transition to a low carbon future" • Noted that the costs evidence had informed viability assessment to show that the policy "will have little effect on housing delivery, …. [and] where the evidence shows that there might be an impact … in parts of Cornwall, the policy includes a viability clause." Resultingly, "this approach is soundly based and justified", only amending Cornwall's draft approach of "carbon offset" (payment £ per tonne of carbon) to instead be "energy offset" in £ per kWh of renewable energy generation shortfall versus onsite energy use).

Policy example	Net zero carbon new build policy requirements	Inspector rationale

Central Lincolnshire Policy S7 & S8
 	
(examined 2022; adopted April 2023)
	New buildings must be net zero carbon in operation, via:
	
	• Space heat demand (SHD) limit, all buildings: 15-20kWh/m²/year
	• Energy use intensity (EUI) limits:
	  ○ Homes: 35kWh/m²/year site-wide, within which no dwelling over 60kWh/m²/year
	  ○ Non-residential: 70kWh/m²/year site-wide, within which no unit over 90kWh/m²/year
	• Onsite renewable energy to match total energy use.
	• Offset payment* if the above cannot be met, (only in proposals of ≥10 units or ≥1,000m²):
	  ○ Residential: £5-15k per dwelling unit
	  ○ Non-residential: £5-100k per 1,000 square metres of floor space
	• Viability exception clause for residential in specific low-value locations that the viability assessment had identified as marginal
	• Clarifies exceptional circumstances whereby the offsetting route would be an acceptable route to compliance (e.g. heritage, overshadowing, unique purposes of nonresidential buildings, or other technical reasons outside the developer's control).
	• Allows Passivhaus certification as a route to compliance with the SHD and EUI targets.
	
	*Neither the policy, nor the Planning Obligations SPD, nor the Energy Efficiency Guidance suite detail how the exact offset payment is calculated for each specific scheme.
		Inspector Matthew Birkenshaw's examination report (March 2023) key points:
		
		• "The Plan is supported by a suite of comprehensive evidence … identify[ing] the need to reduce energy consumption and generate more renewable energy and test[ing] ways in which [local plans can meet these] objectives … [This] evidence shows that existing buildings in Central Lincolnshire account for around 43% of all greenhouse gas emissions. Because a Local Plan has a limited influence on retrofitting existing buildings, in order to reach both national and local targets for carbon reductions, significant reductions in the energy requirements of new buildings are needed now."
		• Notes that the policy's primary aim is to make buildings 'net zero' onsite by meeting energy use with renewable power, while the SHD and EUI are secondary targets designed to make the primary aim feasible.
		• Notes that policy exceeds Building Regulations and affirms the plan's power to do so via the Planning and Energy Act. Notes that that Planning & Energy Act and NPPF both have clauses on consistency with national policies including the WMS2015 at the time – but that the WMS was overtaken by new policy and regulation.
		• Therefore the policy was "not inconsistent with national planning policy for the purposes of the Planning and Energy Act 2008" and was also consistent with the NPPF "when read as a whole" including "that the planning system should support the transition to a low carbon future [and] … radical changes in [carbon] emissions".
		• Noted that the extant national policy on limits to local energy efficiency standards were only expressed in relation to residential, and that therefore local plans are not restricted in such standards for non-residential..
		• Noted that the plan's evidence gave "a comprehensive assessment of issues from the need for carbon reductions to their feasibility and cost" including "a technical feasibility study which assesses different policy options" which had acknowledged that this kind of energy target (EUI and SHD) were ambitious but had proven they were "feasible, and [ensure] occupants will be less exposed to volatile energy price[s]"
		• Noted that the policy took "a justified and proportionate approach to … [flexibility for] areas where viability is already challenging", but a modification was needed to extend this to brownfield sites too.
		• Objectors had claimed that this region's development industry was not ready to meet the standard, but "no convincing evidence [had] been provided to substantiate these concerns" in contrast to the plan's credible evidence of feasibility and viability. Objections that "[in contrast to] Building Regulations, [the proposed policy sets] no gradual implementation or phasing of the standards" were not valid because the policy would not apply to existing permissions which would continue to be built out over many years.
		• Noted that the Council could monitor policy impact on delivery and address this if necessary via future plans.
		• Appraised that the offsetting mechanism and the "per unit"/ "site-wide" EUI limits mean that the policy approach "therefore strikes an appropriate balance between requiring … the prescribed targets but offering adequate flexibility in circumstances where technical reasons prevent this". Noted that while valid reasons for noncompliance may arise other than those listed in the plan, it is not necessary to list every possible scenario.

Policy example	Net zero carbon new build policy requirements	Inspector rationale
Tendring & Colchester Borders Garden Community DPD, GC Policy 8 (Examined 2024, adopted June 2025) Please note: This was the first EUI-based policy to be approved at examination since the WMS2023 (albeit not the only; see Uttlesford and Salt Cross, both outlined below).	All buildings shall be net zero in operation at occupation or, in exceptional circumstances, have an agreed strategy to achieve net zero within five years of occupation, and achieve net zero operational energy balance across the Garden Community. In new homes, this includes: • Space heat demand (SHD) limit: <30kWh/m²/year • Energy use intensity (EUI) limit: <40kWh/m²/year • Onsite renewable energy to match total energy use. • Offset payment if the renewable energy requirement is not met (but the DPD does not specify the offset pricing or formula). Non-residential buildings are not given any EUI or SHD targets but would still be subject to the requirement for "all buildings [to] be net zero". This policy relied on evidence produced at County Council level (Essex) on the feasibility and cost uplift of these energy targets, as the settlement would straddle the border of two local councils.	Inspector Graham Wyatt's examination report, March 2025 key points include: • "The Councils confirm that [their energy performance targets are] in line with the current definition of Net Zero carbon in operation and is supported by the Low Energy Transformation Initiative and is fully considered within the Essex Design Guide which contains the Essex Net Zero Policy Study". • Acknowledgement that the proposed policy uses "uses three metrics to separately measure each of the key attributes needed to achieve Net Zero. This is in comparison to the single performance metric of the Target Emissions Rate, which amalgamates into one metric a buildings effort in terms of energy efficiency, low carbon, heat, and renewable energy generation. Consequently, GC Policy 8 does go further than current or planned Building Regulations" but that the respective Councils had "agreed a Statement of Common Ground … with the lead developer" of the proposed Garden Community and also that this proposed policy "builds upon all the work that has been done by the Councils and ECC, such as the Essex Net Zero Policy Study, and accords with the shared vision of the Council and developer. The aim to meet Net Zero throughout the Garden Community has also been subject to site specific viability testing" • "In reaching this decision I have had regard to the 2023 Written Ministerial Statement [WMS2023] … However, whilst the [WMS2023] is a material consideration of significant weight, the [plan] must … in accordance with … the [Planning & Compulsory Purchase] Act, include policies which contribute to the mitigation of … climate change. Additionally … the Planning and Energy Act 2008 states that [local plans] may [impose] reasonable … energy efficiency standards that exceed the energy requirements of building regulations. Consequently … GC Policy 8 Part A is appropriate and justified". • The policy "has been tested and demonstrated to be viable and is supported by a lead developer with shared aspirations to deliver an exemplar mixed-use development", and it provides the detail to a new garden community" which has been a long-standing aspiration for the respective Councils including the intention to "secure the highest standards of energy efficiency and innovation in technology to reduce the impact of climate change across the Garden Community".

Link to glossary

Policy example	Net zero carbon new build policy requirements	Inspector rationale

Uttlesford Local Plan Policy CP22
 	
(examined June 2025; inspectors' indicative approval July 2025)
	All new buildings of 1 dwelling or ≥100m² floorspace must be net zero in operation, via:
	• Space heat demand (SHD) limit:
	  ○ Bungalows: ≤20kWh/m²/year
	  ○ All other buildings: ≤15kWh/m²/year
	• Energy use intensity (EUI) limit in homes:
	  ○ Homes: ≤35kWh/m²/year site-wide, within which none over 60kWh/m²/year
	• EUI limit in non-residential, where feasible:
	  ○ Offices: ≤70kWh/m²/year
	  ○ Schools: ≤65kWh/m²/year
	  ○ Light industrial: ≤35kWh/m²/year
	  ○ … unless exceedance is due to high unregulated energy that is unavoidable for the specific proposed building use
	  ○ Other: Submit the predicted the EUI and compare to relevant EUI target in UK Net Zero Carbon Buildings Standard.
	• Onsite renewable energy to match total energy use, or if unfeasible then 80-120kWh/m²footprint/year
	• Offset payment if the renewable energy requirement is not met (for Council to install solar PV elsewhere, but price is unspecified)
	• Buildings must not use fossil fuels on site.
	
	This Uttlesford local plan relied on the same Essex-level feasibility and cost evidence as the previously approved Tendring & Colchester DPD above, plus similar evidence of policy need as this current evidence base for Rugby.
		Inspectors Guy Davies and William Cooper post-hearings note to the Council, July 2025: This note shows that the Inspectors have no intent to remove the energy targets nor the net zero carbon policy approach as a whole:
		• The note discusses firstly several issues unrelated to the net zero carbon policy including housing land supply calculations, proposed road links, protection of countryside and Stansted airport, safeguarding land for schools, reasons for development capacity constraints in specific locations, and accessibility standards.
		• The note also continues that: "At the hearing we said we would be giving further thought to a number of … issues including … net zero housing standards … Having considered those issues in more detail, we have decided not to require any further main modifications beyond those already proposed by the Council or discussed at the hearing. We will set out our reasoning on these issues in our examination report"
		• The only modification relevant to the targets shown here was to amend the bungalow space heat target to be "no more than" instead of "less than" 20 kWh/m²/year.
		• The Main Modifications consultation is instructed to run for no less than 6 weeks. The date of that is as yet unknown.

Policy example	Net zero carbon new build policy requirements	Inspector rationale

Salt Cross Area Action Plan AAP, Policy 2 (and March 2025 modification versions "ed9d" and "ed9e")
 	
First examination: 2021 (but decision on this policy was overturned)
 	
Second examination (with positive outcome for this policy): 2025
	All new buildings must be net zero carbon in operation via:
	
	• Space heat demand (SHD) limit: 15-20kWh/m²/year
	• Energy use intensity (EUI) limits:
	  ○ Homes: <35kWh/m²/year
	  ○ Offices: ≤70kWh/m²/year
	  ○ Schools: ≤65kWh/m²/year
	  ○ All others: EUI limit to be discussed and agreed with the council during pre-application meetings.
	• Onsite renewable energy to match total energy use
	• Buildings must not use fossil fuels on site.
	
	Notably: Unlike all other examples shown in the table above, the Salt Cross AAP does not include a mechanism to allow developers to make offset payments in lieu of not meeting renewable energy requirement on site. This is presumably because it is stated that this AAP relates to a specific site whose conditions are known and for which the feasibility studies have shown it should be feasible to meet the renewables requirement on site thus no need for the flexibility that an offsetting mechanism would offer.
	
	Additionally, embodied carbon should be calculated and shown to meet the relevant limit on up-front embodied carbon as specified for the relevant building type in the UK Net Zero Carbon Buildings Standard.
		Inspectors Darren McCreery and David Spence (2022) rejected this policy on the view that it could not be justified to depart from nationally described energy efficiency standards (Building Regulations), due to the WMS2015. This rejection was found unlawful at High Court[lxxiii] (2024) as the Inspectors had misinterpreted the relevance of the WMS2015.
		
		The AAP was re-examined in Summer 2025 in the new context of the WMS2023. Inspector Helen Hockenhull's post-hearings note (August 2025) includes the following key points:
		
		• Observes that the AAP uses the EUI metric instead of the WMS2023's stipulated metric of TER and stipulated calculation method of SAP. However, Hockenhull observes that while the WMS2023's purported goal was to prevent proliferation of standards, national government was already introducing new standards (e.g. HEM to replace SAP) and that the Council's evidence of feasibility and cost showed that "the EUI metric is suitable and feasible to assess energy use".
		• "I acknowledge that the WMS is a material consideration, but it should also be read in the context of wider national policy and legislative considerations. Reducing carbon emissions and supporting the transition to net zero forms a central part of the [NPPF] in line with the objectives and provisions of the Climate Change Act 2008. However, no matter how energy efficiency is proposed to be measured, the environmental outcome, to mitigate climate change and contribute to meeting the net zero obligation, will remain the same. Based on the evidence before me, I conclude the Council's approach is consistent with national policy."
		• The Inspector's note establishes there is a need for several modifications, but none of these are to remove any of the EUI or SHD targets nor the overall 'net zero' requirement. Rather, the modifications are:
		  ○ Modifications for the purpose of clarity, including:
		  ○ Removing the "less than" from the space heat demand target of 15-20kWh
		  ○ A need to explain when the pre-application discussions would occur to establish EUI targets for the uses where the policy does already not specify an EUI target
		  ○ A need to explain whether the renewable energy requirement must be met on-plot or simply across the wider Salt Cross village, in light of the energy modelling evidence showing that some taller buildings may struggle to meet the requirement on the building itself.
		  ○ Policy implementation detail; specifically, a need to explain how the required energy calculation requirements would apply across phased development built out by different developers.
		  ○ Modifications to avoid duplicating building regulation – but this related to overheating assessment, not energy and carbon performance targets summarised here.
		  ○ Removal of the reference to the UK Net Zero Carbon Buildings Standard embodied carbon targets, because that "is currently a pilot and could be superseded" which would undermine policy effectiveness.
		  ○ Removal of an in-use energy monitoring requirement because it had not been shown that this would be enforceable or implementable.
		
		As with Uttlesford (noted above), this Inspector's note requires the Council to next propose modifications in response to the note, and then to arrange a consultation on those modifications lasting at least 6 weeks.

Policy example	Net zero carbon new build policy requirements	Inspector rationale

Winchester Local Plan Policy CN3.
 	
(examined April – June 2025; inspectors' indicative approval September 2025)
	All new residential development (excluding conversion and change of use) must be net-zero carbon in operation via:
	• Space heat demand (SHD) limit: 15-20kWh/m²/year
	• Energy use intensity (EUI) limit: <35kWh/m²/year
	• Onsite renewable energy to match total energy use, specifically:
	  • "The total kWh/yr of energy consumption of the buildings on the site and the total kWh/yr of energy generation by renewables to show that the balance is met", and
	  • "Onsite renewables to provide 100% of the energy consumption that is required by residential buildings, for example … photovoltaic solar panels or other suitable forms of renewable energy generating schemes that are appropriate for the location or the setting."
	• Buildings must not use fossil fuels on site.
	
	In non-residential buildings, the policy requires BREEAM Excellent and that they should "maximize on-site renewable energy generation" but does not require them to reach net zero nor does it set any specific required energy efficiency targets/limits for non-residential.
	
	Notably: Like the Salt Cross AAP shown above, the Winchester policy does not include a mechanism to allow developers to make offset payments in lieu of not meeting renewable energy requirement on site. This is not explicitly explained in the plan document, but we note the policy is worded in a way that appears to imply that the renewable energy standard is expected to be met entirely on-site (see direct quotes above) which would mean no need for offsetting.
		Inspector R Barrett's post-hearings note to the council, 10th September 2025, indicatively approved the proposed policy standards on the basis of very similar reasoning to the Salt Cross case cited above. In that note, the Inspector:
		• Acknowledges the type of metric used (energy use intensity) and the Council's rationale for doing so (to meet the Council's 2030 net zero target, which is in advance of the national 2050 goal, and to reduce energy bills for residents)
		• Notes that "Reducing carbon emissions and supporting the transition to net zero forms a central part of national policy as expressed at NPPF8c, 157 and 159b, in line with the objectives and provisions of the Climate Change Act 2008"
		• Notes the powers granted to the local authority by the Planning & Energy Act to set higher energy efficiency standards than those of building regulations, while also acknowledging the Act's provisions around consistency with relevant national policies and the use of standards that are nationally endorsed
		• Acknowledges the content of the WMS2023 including the need to ensure development remains viable and the stipulation that local standards should use the Building Regulations Part L TER metric
		• Finds that the Council's viability evidence was sufficiently robust to show that the application of the proposed net zero carbon policy "would be unlikely to impose a significant financial burden on the Plan's planned development or have a significant effect on its affordability" and furthermore that viability is further protected by another one of the Council's proposed policies, H6 (affordable housing), which "includes the potential for an exception to that policy on the basis of viability evidence"
		• Acknowledges that the Council's proposed net zero carbon policy uses the EUI metric and that this deviates from what the WMS2023 prescribes – but also notes that the Council had "sets out a number of advantages of its use [of the EUI metric]" including that it covers total energy use not just regulated, it represents actual predictive modelling, it focusses on minimising energy use and "overall … is a simpler metric, easy to understand [including by] residents … and can be used as a proxy for energy costs".
		• Concludes that "The WMS is a material consideration but needs to be read in the context of national policy and legislation. Evidence is presented to indicate that [the proposed standard is] technically and financially feasible. I recognise that one of the objectives of the WMS is to prevent the proliferation of varied local standards [and that] National … standards provide clarity and consistency for the development industry … However, no matter how energy efficiency is proposed to be measured, the environmental outcome, to mitigate climate change and contribute to the net zero obligation, will remain the same and it will meet the over arching aim of national policy. Therefore … I find the Council's approach … subject to the [modifications] proposed consistent with national policy, justified and effective. It is therefore sound."
		
		The proposed modifications did not involve any change to the energy efficiency metrics and kept the net zero new buildings approach as a whole, but included:
		• A clarification that "requirements should be met at a 'building' level rather than per dwelling". This is a subtle change that would only affect blocks of flats, not affect individual houses.
		• A clarification on the required demonstration of policy compliance, i.e. that this should be "**predictive** energy modelling / energy use intensity" (bold/underline to show the word that was inserted by the modification).

4.1.3 To recap, the following are the key ingredients for a policy that would ensure it thoroughly fulfils the local plan's legal duty to mitigate climate change to an extent that would be in line with the Climate Change Act (as instructed by the NPPF):

- **New development's energy demand must be minimised** so as to minimise the needed amount of new renewable energy generation and grid reinforcement, given that all other sectors' net zero transition (e.g. transport and industry) will also place high demands on the UK's finite capacity for renewable energy, and other land uses (e.g. afforestation and farming) – considering the limited land supply and the embodied carbon of new energy equipment. This energy efficiency is also vital to protect people from excessive energy bills in the ongoing cost of living crisis.
    - To be certain of alignment with the UK's legislated carbon budgets, this needs to include a space heat demand target of no more than 15-20kWh/m^2/year.
    - To be effective in minimising total energy use to the point where this can be met with on-site renewable energy, this will need to include limits on total energy use intensity (EUI). While this would diverge from the WMS2023's stipulated energy efficiency metric, it would help ameliorate the WMS2023's concern about impact on local energy infrastructure. EUI limits would also be effective in protecting occupants from future volatility in energy prices (as experienced by the UK and internationally in 2022-23).
    - To be an effective policy, this will need to be calculated with an accurate energy prediction method.
- **New development should not use fossil fuel on site** given that the UK needs to transition its building stock away from gas, not add new gas users to the grid – and also given that heat pump technology exists that is three times as efficient as gas.
- **New development should come with enough new renewable energy generation to 'wash its own face'**, so that it does not worsen the existing huge challenge of weaning existing buildings, transport and industry off fossil fuel to electricity. When this condition is met, the building is 'net zero carbon in operation'. Evidence found in other existing and emerging local plan precedents elsewhere (Uttlesford/Tendring/Essex, Greater Cambridge, South Oxfordshire & Vale of White Horse, Central Lincolnshire, Cornwall, Bath & North East Somerset) showed this is feasible in an array of typical types of building, so long as the building is energy efficient as above (See further detail in Section 5.1 and 5.2)
- **The energy/carbon metrics used in Building Regulations are unsuited to deliver the performance described above** therefore other more accurate methods are needed. As the national carbon budgets are absolute, the performance standards for new buildings should also be absolute limits, not percentage improvements on standard practice.
- **Therefore the ideal policy for climate purposes would adopt absolute targets** for space heat demand, total energy use intensity per square metre, and 100% renewable energy on site (or payment towards off-site installation), and that all of the above should be demonstrated using an energy modelling approach known to be typically accurate in predicting the building's total energy performance. This approach has been taken in several successfully examined and adopted local plan precedents (Central Lincolnshire, Cornwall, Bath & North East Somerset) albeit these were examined and adopted prior to the Written Ministerial Statement 2023.
- **In light of the Written Ministerial Statement of December 2023, policies that follow the above approach will need robust evidence on feasibility and viability.**
- **A truly comprehensive plan for buildings' climate mitigation would also include mandatory reporting and targets for embodied carbon.** Embodied carbon policies are not affected by the Written Ministerial Statement 2023. However, such a policy should still be carefully designed to ensure the viability headroom to cover the cost of an embodied carbon assessment, by carefully selecting the development characteristics where either the targets or the reporting requirement should apply (in terms of development type and size, taking into account that larger developments of repeated dwelling types can achieve economies of scale as they may only need a single assessment for a large number of units, whereas the assessment itself could represent a proportionally larger burden in smaller developments).

These ingredients informed the criteria by which policy options were identified and assessed, as outlined in the next section (0).

4.2 Model policies assessed

Rugby previously commissioned Bioregional in 2024 to identify and comparatively evaluate a range of potential policy options in light of the WMS2023 (previously explained in section 3.3.4). This was part of the fulfilment of NPPF test of soundness b: Plan should be 'Justified … taking into account the reasonable alternatives' (see previous section 3.3.1). We here briefly summarise that policy evaluation process.

In light of the range of precedent policies identified and the impacts of the WMS2023, three policy options for operational net zero carbon[8] were identified ranging from least to most ambitious in terms of their climate effectiveness and the extent to which they would require special justification due to divergence from national policy:

'Net zero' policy option	1. Fully WMS-compliant	2. Testing WMS boundaries	3. True net zero; Overcome the WMS
Energy efficiency requirement	63% improvement on Part L 2021 TER through energy efficiency measures (categorising heat pumps as an energy efficiency measure)	As per Option 1, but also 15-20kWh/m²/year target in SAP fabric metric (DFEE) as a proxy for space heat demand	Absolute limits on space heat and EUI (as per draft Rugby policy CL1 previously outlined).
Renewable energy requirement	On-site renewable energy to match regulated energy use, calculated using SAP	On-site renewable energy to match TOTAL energy use, but still calculated using SAP	On-site renewable energy to TOTAL energy use, calculated via an accurate energy prediction method
Offsetting approach if net zero not met on site	Offset 30 years' worth of regulated emissions at (erstwhile) national value of £269/tonne	Offset per kWh of renewable energy shortfall if the renewable energy requirement is not met on site	As per Option 2.

Option 1 is the least ambitious. Examples of relatively recent precedents include Warwick Net Zero Carbon DPD (examined 2023; adopted 2024).

Option 2: A recent precedent example is West Berkshire, examined and adopted 2025 (other than the expression of the offsetting approach).

Option 3 represents the definition of 'true operational net zero' as established by well-respected industry bodies like LETI and UKNZCBS, and is aligned directly with the UK's carbon budgets. Recent precedents have been previously outlined in the current report (see section 4.1.2); at the time of the policy evaluation for Rugby the only adopted precedents were Cornwall, B&NES, and Central Lincolnshire

These policy options were then assessed for their relative merits. It was identified that that such a policy would have implications for a wide range of issues that could be relevant to the sustainability of local plan outcomes, including:

- Climate duty: How effectively the policy would reduce carbon emissions, whether at all or to the extent needed to be in line with the Climate Change Act?
- Energy bills: How effectively the policy would protect occupants against events like the 2022-23 energy price crisis and thus fuel poverty?
- Retrofit risk: What magnitude of cost and disruption would occupants incur in any necessary future retrofit before 2050 to align with national carbon budgets?
- Electrical grid: Will this building minimise the stress they place on the local grid, whether from energy use or export of excess at times of peak solar generation?
- Sector readiness: How readily available are the materials and skills (including design) needed to meet this policy, compared to the imminent national FHS?
- Build cost uplift: How much would it cost to comply with this policy? (Drawing on build cost estimates from national government and other recent local plans)
- Planning powers & precedents: To what extent does this policy utilise powers that are clearly expressed in legislation and/or demonstrated by recent successful adoption of other local plans?
- Compatibility with national approach: To what extent would this policy use existing endorsed national methodologies or metrics, and separately to what extend would it help or hinder broader national policy priorities relating to carbon and energy (such as for example a fully decarbonised electricity grid by 2035)?

All three options were scored for their relative merit in each of the above criteria.

[8] Please note: In addition to the operational energy policy options above, a series of embodied carbon policy options were also considered in terms of lowest to highest ambition: Ranging from purely a requirement to report embodied carbon using a specific methodology, through to fairly lax targets to meet for upfront embodied carbon in large-scale development only, through to ambitious embodied carbon targets aligned with the industry best-practice guidance. However, we do not detail those here because Rugby decided not to insert any embodied carbon policy into the most recent consultation (regulation 18) due to Rugby's own assessment of its existing capacity to assess development applications against embodied carbon standards. As no such policy is proposed by Rugby, there is no need to here justify it through comparison of different ways such a policy could be formulated.

Approach 1- Fully WMS-compliant represented a safe route to compliance with the WMS2023, whilst exceeding Building Regulations standards to an extent, yet does not go far enough to create true net zero buildings that are needed to align with the UK's legally-binding carbon budgets. Because all of its targets are calculated using SAP as per the WMS2023, there is little reflection of real life performance. The energy efficiency targets are therefore not guaranteed to fully protect occupants from energy price rises, nor protect the electricity grid from unnecessarily high energy demands. This option therefore represented the safest option in terms of alignment with the WMS2023's stipulated metrics and individual NPPF paragraph on 'national technical standards', but poses significant risk to the climate and could cause future disruption to occupants and the electricity grid, thus diverging from NPPF paragraphs on 'radical reductions' in carbon emissions 'in line with the objectives of the Climate Change Act'.

Approach 2- Testing WMS boundaries represented a strong middle ground between compliance with the WMS and showing additional ambition to create robust net zero policy. The standards suggested, if achieved on-site, may create true net zero buildings due to the requirement that on-site renewable energy matches both regulated and unregulated energy use. However, a performance gap (between energy prediction and actual energy use) will occur due to the use of SAP to calculate the policy metrics. SAP both underestimates regulated energy demand and overestimates unregulated energy demand. Therefore the energy used within the building will be higher than the optimal efficiency level for the UK's climate goals. As a result of this failure to optimise energy efficiency, and due to overestimation of unregulated energy demand, quite a large amount of solar panels would be needed to ensure that the (inaccurately) predicted total energy demand is matched annually. The peak solar panel output would occur at times that tend to coincide with lower energy use in homes, i.e. midday in summer, and this excess energy would likely be exported to the grid. The avoidably high energy demand, and the peak solar export, would raise the risk of additional strain on local grid infrastructure compared to Approach 3 or the imminent Future Homes Standard.

Approach 3- Overcome the WMS was the ambitious best practice approach that aligns with the scale of action needed in the new build sector for the UK's carbon budgets, and importantly has the lowest risk for occupant bills and future retrofit disruption/costs. Importantly, Approach 3 utilises accurate methods (PHPP or CIBSE TM54) to predict energy use and space heating demand that will better align with real performance. It strongly fulfils the climate mitigation duty and the carbon reduction priorities in the NPPF, but this is necessarily achieved by diverging from the stipulated metrics of the WMS2023. However, this policy option also minimises actual total energy use (thus reducing grid demand) which means that a smaller amount of solar panels are needed to make the building 'net zero', thus helping reduce the likelihood excessive solar export and therefore avoiding excess stress on the electricity grid (or grid upgrade costs). This helps avoid the WMS2023's stated concern about policy impacts on local energy infrastructure, and means that build cost uplifts in Approach 3 are similar or lower than Approach 2 and minimal compared to the incoming Future Homes Standard.

In light of this evaluation, Rugby Borough Council set an intent to pursue Approach 3. The reason for not preferring Approaches 1 or 2 was that they were not aligned with the performance needed for the Climate Change Act carbon budgets and therefore not aligned with the NPPF carbon reduction priorities. There was no way to achieve that alignment without diverging from the WMS2023's stipulations about metrics, because the WMS2023 stipulates an inherently flawed metric and calculation method that is not suitable for the purpose of ensuring energy efficiency to the required degree. Additionally, Approach 3 was likely to have the lowest impact on grid capacity and best impact on occupants' energy bills and the risk of future retrofit needs.

Please also note that in the decision to pursue Approach 3, it was considered whether to simply follow the UKNZCBS targets for EUI, SHD and renewables, which ramp up slowly over time, but that this idea was discarded because it would not be practical to conduct assessments of feasibility and cost uplift for each individual different year's targets between now and the end of the plan period and also it was felt that this sort of moving target could be complicated for developers and DM officers or could present confusion where a development is granted outline permission but is built many years later. Therefore a single set of targets is selected, for which the proposed Rugby policy CL1's EUI and SHD targets are approximately aligned with the UKNZCBS targets for circa 2040 (homes), 2030 (offices) or 2025 (light industrial, if assuming this reflects the UKNZCBS category "unconditioned storage"). These targets are supported by feasibility and cost evidence summarised in section 1 and 6 of this report.

4.3 Local justification: Analysis of impact on Rugby's necessary contribution to the nationally legislated carbon budgets

As previously noted, there is a legal duty on the local plan to ensure its policies mitigate climate change, and the NPPF instructs that the extent of this mitigation should be proactive, radical and in line with the objectives and provisions of the Climate Change Act, ultimately leading to net zero.

Therefore in order to understand whether the proposed policy is necessary to fulfil that mandate, an exercise was carried out to establish what degree of emissions reduction in Rugby would be necessary in order to be compatible with the national transition to net zero carbon including the Climate Change Act legislated national carbon budgets. That full exercise and analysis is provided in a separate 2025 report titled "Evidence base: Carbon budget assessment". We here summarise the findings as follows:

- The national carbon budget to 2050 is approximately 4,651.2megatonnes CO_2e
- Rugby's reasonable share of this, based on Rugby's existing emissions as a share of UK-wide existing emissions, is 0.48% (22.42 $MtCO_2e$ megatons CO_2e)
- The housing sector's reasonable share of that total Rugby carbon budget, based on the housing sector's emissions as a share of the local area's total emissions in the last 10 years, is 8.6% (1,926 $ktCO_2e$). This needs to cover all housing: both existing homes and new homes completed in the carbon budget period.[9]

Additionally, while the national net zero carbon date is 2050, the Council has expressed a local ambition to reach net zero by 2030. Therefore the analysis also considered what the equivalent carbon budget would be to 2030, starting with the currently active legislated national carbon budget and diminishing this on a linear trajectory through to 2030. The analysis shows the 2030 option and the 2050 option throughout.

The analysis then looked at the reasonably anticipated emissions of existing and new housing as follows:

- New housing in Rugby (618 homes/year from 2025 onwards as per delivery trajectory stated in the Rugby Borough Local Plan Preferred Options Consultation Document[lxxiv]) if built to the anticipated FHS building regulations (or equivalent policy scenario based on the FHS to placate the Written Ministerial Statement 2023 as previously outlined), would emit : 1.34kilotonnes of emissions to 2030 or 5.3 kilotonnes to 2050.
- Existing housing in Rugby (47,013 Existing homes) currently emits 119.35ktCO2e per year (with 2025 grid carbon intensity). Its future emissions through to the respective net zero carbon target dates, taking into account the decarbonisation of the electricity grid, are 667.45 ktCO2e (2030) or2,701.12 ktCO2e (2050). **This already exceeds the available total carbon budget for both respective net zero carbon dates**. (see Figure 8).

[9] Please note the units to express the carbon emissions above switches from megatonnes to kilotonnes because megatonne value would be too small to be expressed clearly. 1 megatonne = 1,000 kilotonnes.

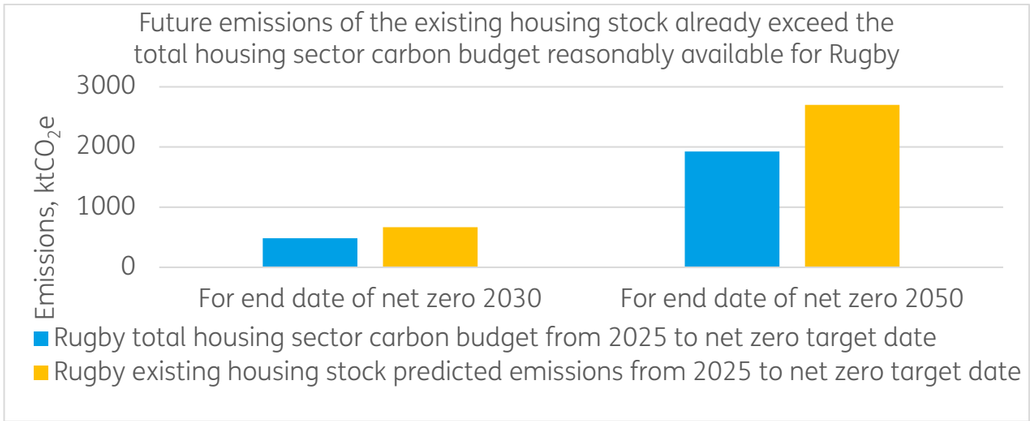


Figure 8

The above *prediction* did not assume that existing homes undergo any future retrofit work to improve existing stock energy efficiency or switch away from gas heat. Therefore, to free up some of this carbon budget to make room for new homes:

- The existing housing sector carbon budget for Rugby was divided between existing and new homes based on their respective % of *predicted* emissions

The 'freed-up' carbon budget allocated for new homes is therefore reliant on the very optimistic assumption that the existing housing stock will in fact undergo further future improvements, such it stays within its available carbon budget. The available carbon budget for new housing was thus 0.97 $ktCO_2e$ to 2030 or 3.78 $ktCO_2e$ to 2050. Unfortunately, the **predicted emissions of the new housing, in a policy scenario that follows the WMS2023 by aligning with the FHS, still exceed this** (Figure 9).

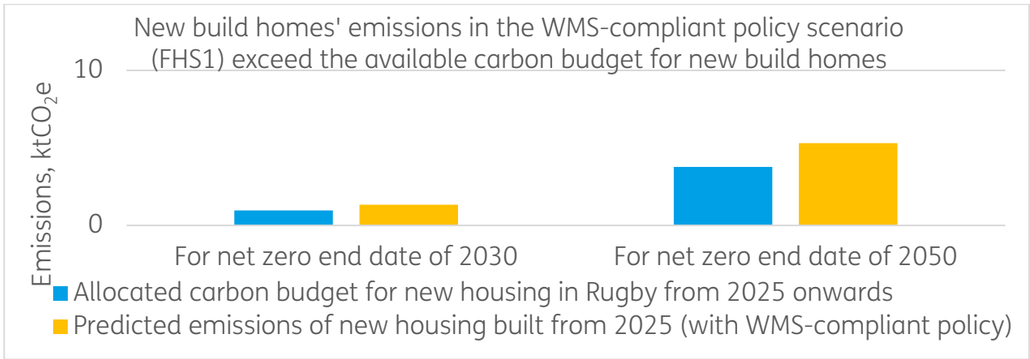


Figure 9

By contrast, with a 'true net zero' policy like Rugby's proposed policy CL1, the emissions of new housing would be zero because the policy would make the homes so energy efficient that their annual *total* energy use would be equalled by on-site generation of zero-carbon electricity (and because they are so efficient, this required amount of renewable energy would often be less than that required by current building regulations or the anticipated FHS). This can only be achieved where the policy uses absolute energy efficiency metrics for *total* energy use calculated using an accurate methodology, not the WMS2023's stipulated metric of relative % reduction on TER, which does not cover total energy use and is calculated using SAP which is not an accurate prediction method.

Furthermore: As previously noted, the share of available total housing sector carbon budget in Rugby that was allocated to *new* housing was reliant on the very optimistic assumption that the existing housing stock will in fact undergo further future improvements, such it stays within its available carbon budget. In fact, as previously noted in 2.3.2 the nationwide rate of energy efficiency improvement and clean heat rollout in existing homes has been far slower than it needs to be for the achievement of the current and future legislated carbon budgets. This problem is even worse in Rugby, which has[lxxv] a higher proportion of homes with fossil fuel central heating, and a lower proportion of homes with electric heating, than the average across England and Wales, thus lagging behind the already too-slow national rate of heat pump rollout. This presents a huge challenge for the prospect of Rugby achieving a carbon emissions reduction trajectory compatible with the legislated national one.

Logically therefore, this proves **it is necessary to have a policy that ensures new homes have truly net zero emissions from *total* operational energy use**, so as to:

- Prevent them adding to the existing emissions burden
- Leave as much time and 'manoeuvring room' in the carbon budget as possible, for the existing housing stock to catch up to where it needs to be
- Thus ensure that the local plan does not fail to mitigate climate change to the extent necessary to be in line with the objectives and provisions of the climate change act as the NPPF instructs.

As previously noted in Section 3.3.4 a policy based on the Building Regulations Part L 'TER' metric would be incapable of ensuring that buildings truly have net zero emissions – because of the limited scope of TER, the inaccuracy of its calculation method (SAP) to predict actual energy performance, and the fact that TER is not an energy efficiency metric and thus not suitable to make a building energy-efficient enough that its total energy use can be met on site with renewable energy (thus making the building net zero carbon).

Thus this exercise demonstrates the local circumstances that make it necessary to diverge from the WMS2023's stipulation of the TER metric and SAP calculation, in favour of the EUI metric and accurate calculation methods such as PHPP or CIBSE TM54.

The findings from this carbon budget exercise would also justify having a policy that actively welcomes energy retrofit improvements to existing building stock. However, such a policy on retrofit cannot be *relied upon* to delivery the necessary carbon reductions – because planning policy cannot *ensure* that these changes occur in existing buildings, as the plan can only exert influence through the granting or refusal of permissions where permissions are sought. Rugby local plan policy team decided against a retrofit policy because it could only be expressed in terms of a general encouragement to delivery energy performance improvements (at least unless there were extensive additional analysis to justify standards that could be applied across all planning applications relating to existing buildings).

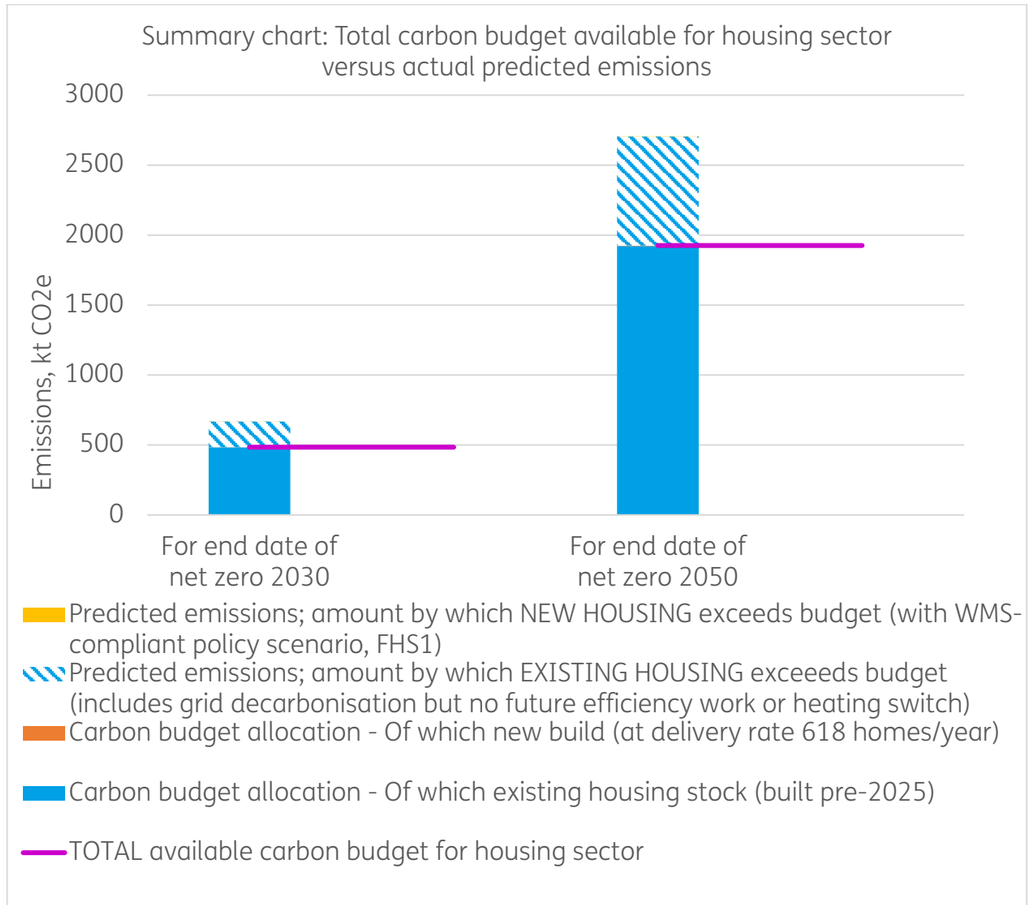


Figure 10

5. Feasibility

In this section we collate and explore existing published evidence of the feasibility and impact on housing delivery from studies relating to similar or identical policies to those now proposed in the new Rugby Local Plan. This includes:

- Energy modelling evidence regarding whether and how the proposed performance targets can be met in new buildings (section 5.1)
- Available analysis of whether such policies may impact housing supply (5.2).

5.1 Existing primary evidence of feasibility to meet the energy targets, from energy modelling in existing / emerging local plans elsewhere

The feasibility of the identified measures in the policy have been evidenced through the case studies of several recent and emerging local plans. We summarise those here.

5.1.1 Cornwall Climate Emergency DPD (2023) [lxxvi] and Bath & North East Somerset Local Plan Partial Update (2023)[lxxvii]

The requirements for on-site energy performance are as follows:

- Space heating demand less than **30 kWh/m²/annum**
- Total energy consumption less than **40kWh/m²/annum**
- On-site renewable generation to match the total energy consumption, with a preference for roof-mounted solar PV
- (However, the technical evidence reports for this policy also tested tighter energy standards even closer to those of the proposed Rugby policy CL1).

These requirements were supported by technical evidence reports[lxxviii,lxxix] of energy and cost modelling for six home types (semi-detached, terraced, bungalow, detached, low-rise flats, mid-rise flats). The reports used accurate energy modelling method (PHPP - which is considered best practice for the design and energy modelling of high-performance, ultra-low energy buildings). The energy modelling identified a range of energy performance targets that were feasible in Cornwall and outline different pathways for meeting the net zero carbon target (i.e. through different combinations of fabric / energy efficiency and renewable energy measures). This evidence piece also benchmarked the proposed 'net zero carbon' building performance options against how a building would perform if it simply met the Future Homes Standard.

The viability assessment found that most residential development scenarios remained viable with the policies applied. The costs analysis also showed that a significant proportion of the policy cost uplifts over the 2013 building regulations (in place at the time) would be incurred by developers to meet the new 2021 building regulations (in place now), even without the local plan carbon policy.

The analysis identified two different 'true net zero' standards that were both technically feasible for all home types modelled: A 'true net zero with optimal targets' (similar to Rugby's proposed policy CL1), and a 'cost-optimised net zero', i.e. slightly laxer EUI and SHD targets that could be achieved for significantly less cost uplift while still being able to achieve a net zero energy balance via onsite renewables that fit on the building's roof. Cornwall's adopted policy reflects this 'cost-optimised net zero' standard, to reduce the risk of slowing housing delivery.

Both policies require compliance to be demonstrated at application stage using accurate energy calculation methods – either using the method PHPP, or using a 'SAP conversion tool' that Cornwall's consultants developed for it which converts SAP inputs into more accurate outputs than SAP itself can achieve.

The analysis also shows the maximum power that can be generated by solar PV fitting on the buildings' roofs, in kWh/m² floorspace/year, with the homes' actual orientation (e.g. north/south or east/west; not always optimally oriented for PV). Multiplying the 'per floorspace' figure by number of storeys, it is approximately:

- Semi-detached (north/south roof thus only 1 roofplane suitable for PV): 152 kWh/m²footprint/year
- Terraced (east/west roof, thus PV on both sides): 252kWh/m²footprint/year
- Bungalow (north/south roof thus only 1 roofplane suitable for PV): >140kWh/m²footprint/year
- Detached (north/south main roof): 140kWh/m²footprint/year
- Flats, Low-rise (mansard roof with small flat area for east/west concertina-pattern panels): 150 kWh/m²footprint/year
- Flats, Mid-rise (flat roof without mansard, allowing larger area of east/west concertina-pattern PV) 162 kWh/m²footprint/year

As previously noted, both the Cornwall and B&NES policies successfully passed examination with this evidence, assessed against the WMS 2015 on soundness, and were adopted in 2023. See previous section 4.1.2 for the respective Inspectors' reasoning on the robustness of these evidence bases and thus the soundness of these policies. **Therefore**, this evidence can be considered **robust enough** to support policy.

While the *adopted* EUI and SHD targets are slightly laxer than in Rugby draft policy CL1, their adoption proves the principle of using such targets, and in fact the cited *evidence* base did show that targets like those in Rugby CL1 were feasible. Similarly, the fact that the 100% renewables requirement can still be met on site despite slightly higher energy use than in Rugby's policy proves that Rugby's equivalent renewable energy target is feasible in the modelled home types . Additionally, the maximum solar generation figures demonstrated in the modelling are all comfortably above Rugby's proposed minimum of 120/kWh/m²footprint/year. See also section 5.1.5 for discussion on the impact of regional climatic differences on solar generation.

5.1.2 Central Lincolnshire Local Plan (adopted 2023)

Policy S7 (Reducing Energy Consumption- residential) and S8 (Reducing Energy Consumption- non-residential buildings)[lxxx] align with recommendations from LETI and the Committee on Climate Change. These policies' energy performance standards are similar or identical to those of Rugby proposed policy CL1.

Policy S7 requires the following (with m^2 referring to *floor space*):

- a site average space heating demand of **15-20kWh/m²/yr**
- a site average total energy demand (EUI, energy use intensity) of **35kWh/m²/yr**, achieved through a 'fabric first' approach to construction.
- No single dwelling unit to have an EUI in excess **of 60kWh/m²/yr**, irrespective of amount of on-site renewable energy production.

Policy S8 requires the following for non-residential buildings:

- a site average space heating demand of around **15-20kWh/m²/yr**
- a site average total energy demand of **70 kWh/m²/yr**.
- No unit to have a total energy demand in excess of **90 kWh/m²/yr**, irrespective of amount of on-site renewable energy production.

Policies S7 and S8 both also require that the proposed development annually generates at least the same amount of **renewable electricity** as it annually uses.

The policy includes flexibility in several ways – including clauses for viability in specific locations, and for feasibility reasons outside the developer's control. In the latter case, offsetting offers an alternative route to compliance.

Central Lincolnshire's consultants produced in-depth robust evidence on the feasibility[lxxxi] and costs[lxxxii] of these standards. In that evidence, the two policies' energy performance requirements were assessed for feasibility by conducting energy modelling using PHPP across five building typologies (detached house, semi-detached house, bungalow, primary school, and light industrial unit) that represented the most common type likely to be built in Central Lincolnshire. The analysis demonstrated that the policy targets for all the modelled building typologies is technically feasible in Central Lincolnshire. For building types that were not modelled, the analysis provided case studies with researched and suggested provisional energy targets for these building types, noting that further work would be required to confirm appropriate targets for those other types.

Regarding renewable energy, the energy modelling report discusses the possibility of a 120kWh/m^2footprint/year generation target as an alternative to the policies' actual requirement of simply matching 100% of annual energy demand. However, none of the modelled home types were found to need this amount in order to get to net zero so long as they firstly stay within the policy's EUI energy efficiency target, whether the actual adopted EUI limit of 35kWh/m^2/year or the alternative slightly laxer EUI limit of 40kWh/m^2/year that was considered as an alternative policy option.

All homes modelled were low-rise with pitched roofs, thus strongly affected by orientation. In the models, up to 154kWh/$m^{2footprint}$/year electricity was generated with PV panels fitting on the home's own roof. This was in a semi-detached house with a pitched roof oriented east/west, meaning solar panels can be fitted on both sides, although a dormer window reduced the space available. Lower figures were achieved on roofs oriented north-south (because the northern roof plane is unsuitable for solar); however, this was still enough to match their annual energy use (reaching net zero) thanks to the policy's energy use intensity (EUI) limits. Rugby's proposed policy target of minimum 120kWh/$m^{2footprint}$/year would only kick in where the maximum feasible rooftop solar PV cannot match annual energy use, therefore would only be likely to kick in on mid-to-high-rise, which have higher total energy use per m^2 of footprint, due to having more storeys. Such blocks tend to have flat roofs and thus can accommodate a higher density of solar panels via an east-west concertina layout. The Central Lincolnshire modelling showed that this 120kWh target can be met and excelled (up to 154kWh) with panels oriented east-west, whereas the cases where the maximum amount of solar was lower were only where a developer chose to have a north-south pitched roof, which is highly unlikely on mid-to-high rise blocks.

As previously cited in section 4.1.2, this feasibility and cost evidence was accepted as robust enough to support the policy. In the Inspector's report[lxxxiii]:

- Paragraph 178: "Where space heating demand, energy use and renewable energy generation is concerned, the evidence shows that the Local Plan option (Option 1) is the most ambitious. Nevertheless, the technical analysis indicates that the targets are feasible, and because the efficiencies are concerned with the core of a building's operation, potential future occupants will be less exposed to volatile energy price changes."
- Paragraph 187: "In our view the policy therefore strikes an appropriate balance between requiring new development to meet the prescribed targets but offering adequate flexibility in circumstances where technical reasons prevent this. The values cited in the policy reflect the average costs in the supporting evidence and have been viability tested."

For Policy S8, the inspector determined that as its approach is similar to Policy S7 justified by tested feasibility and viability and a summary that distinguishes between residential and non-residential development, the policy is sound.

We note that Central Lincolnshire is slightly further north than Rugby therefore may have a slightly colder average annual outdoor temperature. Resultantly, as these standards for space heat demand and renewables have been proven technically feasible in Central Lincolnshire, then they also are in Rugby.

Hence, **this Central Lincolnshire evidence of feasibility of these standards can be reasonably applied to Rugby** as both share similar climatic conditions.

5.1.3 Essex Net Zero Policy Study 2023

This energy and cost modelling evidence has been relied upon to justify two local plans in 2025, one of which has been confirmed sound and adopted (Tendring & Colchester DPD), and the other of which has received preliminary approval via an inspector's post-hearing note (Uttlesford).

Essex Net Zero Policy Study[lxxxiv] was produced by the Essex County Council in 2023 to provide technical evidence on feasibility and cost uplift, to support the creation of 'model' policies for adoption by any local plan in Essex. This technical evidence base included modelling for 6 building typologies for domestic new buildings using PHPP and 3 non-domestic new building typologies using Integrated Environmental Solutions Virtual Environment (IESVE)[10]. These building types were: Terraced house, bungalow, semi-detached house, low/mid/high rise blocks of flats, office, school and industrial (distribution/warehouse).

The findings from this Essex Net Zero Policy Study showed that the modelled building types for both domestic and non-domestic demonstrated the feasibility of meeting EUI and SHD targets like those of Rugby (SHD 15kWh/$m^{2floorspace}$/year or 20kWh/$m^{2floorspace}$/year in bungalows; EUI of 35kWh/$m^{2floorspace}$/year in homes, 70 in offices, 65 in schools, or 35 in light industrial; energy generation either equal to demand or else 80-120kWh/$m^{2footprint}$/year depending on building type).

Essex' study also demonstrates that in the modelled building types, feasible solar electricity generation amounts per m^2footprint per year were 120kWh (on flat roofs with panels in east-west concertina-layout), 160kWh (on a symmetrical pitched roof with east-west orientation) or even 260kWh (on a 'monopitch' roof which is entirely south-facing). On a symmetrical pitched roof oriented north-south (thus no PV on the north side), the generation figure was 100kWh, but this does not mean the 120kWh target is unfeasible, as it is the developer's choice how the roof is oriented and there is nothing to stop the developer rotating the roof to face east-west, enabling the aforementioned figure of 160kWh to be met.

Tendring & Colchester Borders Garden Community DPD relates to a new settlement of 7,500 new homes on land that overlapping the boundary between Tendring District Council and Colchester City Council. The DPD successfully passed examination in 2025 and was adopted by both councils in May-June 2025. In that adopted DPD[lxxxv], the energy targets in Policy 8 Part A- Net Zero Carbon are:

- Space heating demand ≤**30kWh/$m^{2floorspace}$/per annum.**
- Total energy consumption (EUI) ≤**40kWh/$m^{2floorspace}$/annum.**
- Onsite renewable generation to match or exceed the total energy use
- (However: The evidence supporting this policy did also test tighter energy performance targets in line with those set in Rugby policy CL1).

It has not been identified why the adopted Tendring & Colchester DPD uses laxer targets than those that the Essex energy modelling had proved feasible, but it is likely to be because of costs (and the Tendring supporting text specifically mentions the Cornwall case previously outlined). This might have been necessary in order to get the developer's Statement of Common Ground.

By contrast, the Uttlesford local plan adopted the tighter targets that reflect those of the Essex evidence base and associated Essex model policy.

Essex' 2023 study also found that the cost uplift for meeting the net zero policy was similar or possibly slightly lower than the cost uplift previously modelled for the county by a different set of consultants, and therefore viability should be improved when using the cost estimates from the 2023 study versus what was previously calculated. Additionally, this evidence base was supplemented by open legal advice from Estelle Dehon KC, Cornerstone Barristers[lxxxvi]. One of the main points identified in that advice was how the costs from this study could be used for local plan viability assessments across Essex to provide a consistent approach.

As a result, Tendring & Colchester's Policy 8 Part A successfully passed examination in April 2025[lxxxvii], concluding that the evidence submitted by the Council(s) demonstrated that the policy targets would not impact viability or feasibility. In particular, the inspector noted:

- Paragraph 77 & 79 : "There is no evidence to suggest that … the highest standards of sustainable design [would] make the development unviable or undevelopable over the plan period …The policy provides the detail to a new garden community, which … has been tested and demonstrated to be viable and is supported by a lead developer with shared aspirations to deliver an exemplar mixed-use development."

Tendring & Colchester Borders Garden is our first example where the inspector acknowledged the WMS2023 but concluded that the policy is justified. The Uttlesford policy also received indicative approval in July 2025 in the form of an Inspector's note confirming they see no need to amend that policy. **Therefore**, these successes demonstrate that this feasibility evidence **must be considered as robust enough for the current planning regime. The standards tested in that evidence were equivalent to those in Rugby's proposed policy CL1 and can therefore be reasonably assumed to support Rugby's feasibility.**

[10] Integrated Environmental Solutions Virtual Environment. Energy modelling software for non-residential buildings, preferred for its ability to model a wide range of HVAC components and occupancy patterns.

5.1.4 South Oxfordshire & Vale of White Horse Joint Local Plan (2024)

South & Vale Joint Local Plan evidence included a Net Zero Carbon Study[lxxxviii] for its policy options that covered operational energy and embodied carbon. This included feasibility (energy modelling) and cost uplift in 8 building types: 4 domestic (detached, semi-detached, home, terraced, and medium rise flats) and 4 non-domestic (primary school, warehouse, retail, office). Each was modelled using PHPP to identify the energy performance. Embodied carbon targets were also set but not detailed here as they are not relevant to Rugby's proposed policy.

The net zero operational energy requirements for which feasibility and viability was tested in South & Vale were as follows, i.e. similar or identical to Rugby's CL1:

Residential

- Total energy use **35 kWh/m²/yr**
- Space heating demand **15 kWh/m²/yr (or 20 kWh/m²/yr for bungalows)**
- On-site renewable energy generation capacity to at least equal the predicted annual total energy use.

Non- residential

- Total Energy use
  - Warehouses - **≤ 35kWh/m2/year** (flexible if unavoidable high unregulated energy use e.g. server farm)
  - Offices - **≤ 55 kWh/m2/year**
  - Schools - **≤ 55 kWh/m2/year**
  - Retail - **≤ 35 kWh/m2/year** (flexible if refrigerated goods)
- Space heating demand **≤ 15 kWh/m²/year**
- On-site renewable energy generation capacity to at least equal the predicted annual total energy use.

The energy modelling demonstrated that the operational energy and embodied carbon requirements proposed in the policy are feasible, and the policy offers flexibility by allowing offsetting as a route to compliance where the renewable energy target cannot be met. The analysis found that the cost uplifts of achieving net zero operational energy ranged from <1% for warehouses to over 6% for flats. While the embodied carbon targets increased the uplift in all archetypes, it was also noted that the net zero energy standard strongly reduces running costs.

The modelling showed that 120-122kWh/m^{2footprint}/year solar generation is feasible with the "reasonable maximum" area of PV (equal to ~70% of a building's footprint area). The only exception was in the detached house, likely due to pitched roof orientation, but in that home only 66kWh/m^{2footprint}/year was needed to reach net zero and so the 'maximum PV' target would not kick in.

South & Vale is currently undergoing examination, thus the Inspector's verdict on the robustness of its evidence is yet to be confirmed.

Summary Table of cited plans & inspectors' view on robustness

Points of policy soundness	Local authority and planning document	Why it was successful
1. Policy sound and in line with national policy	Cornwall Climate Emergency DPD (2023) (B&NES)	The inspectors at examination cited the soundness of the policy exceeding Building Regulations Part L as events have overtaken WMS2015 and the NPPG. Additionally, that the policy is in line with provisions of the Planning and Energy Act and Planning & Compulsory Purchase Act for local policies to exceed national standards if robustly evidenced.
	Bath & North East Somerset Local Plan Partial Update (2023)	
	Central Lincolnshire Local Plan (2023)	
	Tendring & Colchester Borders Garden Community DPD (2025)	While the WMS23 was considered after the DPD was submitted, the policy was sound in light of the relevant legislated powers and duties.
2. Impact on housing delivery	Cornwall DPD (2023) (as above)	The inspector found that the evidence demonstrated that housing delivery and employment will not be impacted in achieving the net zero standards in the proposed policy.
	Tendring & Colchester as above	The inspector found that the robust feasibility evidence demonstrated that the policy would not make the scheme undevelopable; a key factor in the decision.
3. Technical feasibility	Cornwall DPD (2023) (as above)	The inspectors at examination concluded that the evidence provided was robust enough and tested to prove the feasibility of meeting the net zero energy performance standards.
	B&NES (2023, as above)	
	Central Lincolnshire (2023)	
	Tendring & Colchester as above	
4. Viability	Cornwall DPD (2023) (as above)	The policies were found viable through testing and therefore justified.
	B&NES (2023, as above)	
	Central Lincolnshire (2023)	
	Tendring & Colchester as above	

5.1.5 Other feasibility evidence to consider

There are other factors that we took into consideration for the feasibility of the proposed net zero policy in Rugby including existing models and geographical differences.

Existing models

The UK Net Zero Carbon Building Standard (UKNZCBS) is the first unified approach to defining the performance in all major building types in the UK, ensuring that the built environment supports the UK 2050 net zero goal and the carbon budgets aligned to the Paris Agreement. The UKNZCBS has a set of targets which includes operational energy and embodied carbon and they become more stringent over time. The evidence for these targets was developed collaboratively by industry representatives. However, the standards set by the UKNZCBS confusingly do not necessarily mean a building *is net zero carbon*, rather that it is *in line with the transition to net zero*. The UKNZCBS is currently still in a pilot phase and a cost evidence base is not provided, reducing its suitability for policy use. Future Rugby local plan iterations could revisit this if this changes.

Considering climatic variation between Rugby and other locations on feasibility

We acknowledge that there are possibilities of the feasibility varying in Rugby compared to the other local authorities referenced above due to the potential variance in average temperatures experienced or sunlight availability. First, we have taken considered if any of the referenced locations had a colder or warmer climate than Rugby.

Second, we considered if there were any major differences in annual sunlight between Rugby and the referenced exemplar locations that might affect the ability of achieving net zero with rooftop PV in Rugby versus the locations that the modelling evidence was done for. Using data from the Global Solar Atlas[lxxxix], it was confirmed that Rugby's specific solar voltaic power output is 1002.8 kWh/m^2 while Bath & North East Somerset is 1011.7 kWh/m^2 and Central Lincolnshire is 1019.4 kWh/m^2. A 10-20 mWh/m^2 (1%) difference is not significant enough for there to be a considerable variance in PV performance. Therefore, Rugby's solar voltaic power output is close enough to the values of the cited evidence locations that there would not be a large impact on the achievability of net zero with rooftop PV in Rugby unless buildings are above 4 storeys (for which the offsetting element of the policy offers flexibility in any case). As the difference in solar output noted above is only 1%, and as solar PV is only a small part of the cost uplift components incurred through meeting such standards (see section 6), overall cost uplifts differences in Rugby versus the cited locations would be insignificant.

We have also taken into consideration whether some of the modelled locations experience a different climate from Rugby which might vary the feasibility of the EUI or SHD requirements in Rugby. Although Central Lincolnshire is located further north and may experience slightly colder temperatures, the climatic differences are minimal. The similarity in degree days - Rugby (2158) and Central Lincolnshire (2136)- indicates that any impact on energy modelling outcomes would be negligible[xc] and if anything, this difference would make the SHD targets easier to meet in Rugby because a higher outdoor temperature means less need for space heating. Therefore, building typologies that have been demonstrated to feasibly meet EUI and SHD requirements in Central Lincolnshire can be expected to feasibly perform similarly or better in Rugby.

In conclusion, the evidence from recent and upcoming local plans can be considered as robust enough to demonstrate the feasibility of Rugby's net zero policy requirements as there are no major circumstantial differences to consider variances in feasibility and the sampled local authorities have successfully passed examination.

5.2 Existing evidence of similar policies' impact on housing supply

Not only are there other recent and emerging local authorities that have successfully passed policies with similar energy performance requirements as Rugby, but there have been studies to evidence that these policies will not impact housing delivery.

A study[xci] by Bioregional in 2024 examined three local authorities (Bath & Northeast Somerset, Cornwall, and Central Lincolnshire) that set ambitious net zero targets similar to those proposed in Rugby policy CL1, as previously outlined. This compared the rate of development applications before and after the policy adoption, on the assumption that developers would not make applications for schemes that they cannot deliver.

The overall indication from that study was that stronger energy efficiency standards does not negatively impact housing delivery via the proxy of applications. In fact, Bath & Northeast Somerset observed a 7.7% increase in accepted residential planning application after the Council adopted the DPD in January 2023. Similarly, Cornwall adopted a progressive DPD in June 2023 and observed an 8.5% increase in applications in the Q3 of 2023 from Q2 pf 2023. The study also noted that there is normally a surge in applications prior to the adoption of new and improved policy standards, but this was not the case in Cornwall, further evidencing the minimal impact that such ambitious policy standards are likely to have on housing delivery. Finally, Central Lincolnshire adopted its new DPD in June 2023 which observed no big change in the number of housing applications received for major developments. The study did note that there was a reduction in minor housing applications which could be a result of Central Lincolnshire's higher energy use intensity and space heating demand standards than B&NES and Cornwall. However, the study noted that it could not conclude if the higher standards inhibit minor housing applications because it was only observed in one of the local authorities studied; also representatives from Central Lincolnshire have observed that there is often a brief dip in applications after any new plan is adopted. At the time of the study, it was recommended that further research was needed to be conducted across a larger sample size to increase the confidence of our preliminary findings. However, overall, the study found indications that energy-based net zero policies should not be a barrier to delivering housing at scale.

A similar study was conducted by the University of Bath[xcii] in partnership with Bath & Northeast Somerset, and technical advisors to examine the industry implementation of and influence from B&NES's new adopted planning policies (Jan 2023) that covered operational energy and embodied carbon standards. This study did not compare the rate of applications or delivery (therefore should not be considered a direct indicator of actual delivery) but rather considered the *rate of compliance with the new policy* within applications that were received. 38 applications were studied and mostly for minor developments. As the study was conducted six months after implementation of the policy, the initial findings included challenges in the awareness of the new standard and negative reception of the policy. However, the study noted that there was a general agreement among applicants that the policy was effective in reducing operational and embodied emission, supporting the intentions of the policy. Thus, the study signalled for a need for further research conducted on a wider scale and long-term to monitor the evolving industry response to this policy, measuring the real emissions savings from construction and occupation, and further engaging with stakeholders.

Apart from the feasibility of the measures in the proposed policy, it is also noted in the WMS23 to consider the feasibility of accessing the necessary supply chains. It is not possible to isolate the specific supply chains that would be different for this policy in comparison to what will already be needed for the incoming new national building regulations Future Homes Standard. This is because , compared to today's Building Regulations Part L, the main difference will be the use of a heat pump (which is also present in the Future Homes Standard), whereas the other building elements to meet local policy would simply remain the same in terms of insulation, air tightness, and solar panels. However, it is worth noting that the impact of specialist skills to meet net zero targets is minimal compared to the current construction overarching skills shortage experienced throughout the industry[xciii] (e.g. bricklayers) which constrains the delivery of construction unrelated to this policy. Therefore, there is no reason to believe that the proposed policy will slow down construction any further. In fact, a policy like this will stimulate regional growth in the kind of skills necessary for the FHS and the UK's net zero carbon future as a whole. This was demonstrated by evidence of greater proliferation of heat pump engineers in areas where policies similar to the one being proposed have been adopted, such as in the South West of England.

We acknowledge that the above cited studies are not nation-wide and that the evidence they provide is relatively limited. However, it must be compared against the complete lack of evidence of the purported concern about the impact of policies like these on housing delivery that is often put forward by objectors to any policy standard (whether the policy uses Building Regulations metrics or 'true net zero' standards like Rugby CL1).

In conclusion, the impact achieving Rugby's net zero policy requirements on housing delivery have been considered, but deemed negligible as the available existing evidence indicates the minimal impact similar policies have had on housing delivery.

6. Cost uplift

6.1 Existing primary evidence of cost uplift to meet proposed policy

We here establish an assumed cost uplift for Rugby proposed CL1 policies, by deriving this from existing costs evidence of similar or identical policy standards in robust evidence bases that are established to be robust on the basis that they formed the costs basis for several adopted and approved local plans as previously cited.

6.1.1 Sources of cost uplift data to meet Rugby proposed policy standard

There are various recent studies in the public domain which estimate the cost uplifts to reach standards similar, or identical, to those proposed in the Rugby policy (as cited in the feasibility section 3 above). Those that provide relevant costs to feed into this Rugby study are provided in the table below. Where these were not given as a % in the original source data, the % uplift has been calculated from stated absolute costs.

For what plan was this evidence made?	Study date	What standards does this evidence base cost for?	Costs uplift on Part L 2021 baseline
Cornwall Climate Emergency DPD (and Bath & North East Somerset) (link to evidence)	2021	Residential: • Space heat demand: 15 kwh/m²/year • EUI 35kwh/m²/year • Renewables: To match use (Note: This evidence also costed SHD 30 / EUI 40, but we here cite the costs for the tighter targets)	• Flats: 3.6% (Low rise 4%; mid rise 3.1%;) • Terraced: 5.1% • Semi detached: 2.7% • Detached: 0.5% • Bungalow: 4.1%
Any in Essex (link) Of which Inspector approved to date: Tendring Colchester Borders Garden Community DPD; adopted 2025 Uttlesford Local Plan approved 2025	2023	Space heat demand kWh/m²/year: • Bungalows: 20 • All other builds: 15 EUI (kWh/m²/year) • Homes: 35 • Offices: 70 • School: 65 • Industrial: 35 Renewables: To match use	• Flats: low rise 7%; mid rise 4%; high rise 3%; av. 4.7% • Terraced: 7% • Semi detached: 6% • Bungalow: 5% • Office: 2% • School: 2% • Light industrial: 12%
South Oxfordshire & Vale of White Horse (at examination Summer 2025; link)		Space heat demand kWh/m²/year: • All buildings: 15 EUI (kWh/m²/year) • Office: 55 • School: 55 • Warehouse (industrial): 35 • Retail: 35 Renewables: To match use	• Flats, low-rise: 6.2% • Terrace: 4.9% • Semi-detached: 4.6% • Detached: 4.1% • Office: 6.1% • School: 4.3% • Light industrial: 0% • Retail: 1.2%

Please note there are also other studies in existence that have estimated cost uplifts for these standards, such as that of Greater Cambridge (study 2021; plan not yet examined) and Central Lincolnshire (study February 2021; plan examined 2022 and adopted 2023). However, cost data from those is not used here because these studies' stated costs were as uplifts over the erstwhile baseline of Building Regulations Part L 2013. That baseline is no longer relevant because Building Regulations was updated with Part L 2021, which forms the basis for the viability study costs baseline sample.

6.1.2 Applicability to today's Rugby context

The evidence bases cited are from varying years. However, our conversion of the cited cost uplifts to percentages rather than absolute amounts makes the resulting uplift more generally applicable across geographies: while build costs vary regionally, this variation is likely to apply to the baseline as well as the uplift. If Rugby has lower build costs in general, then this is likely to also apply to the 'extras' needed to meet the policy. Similarly, there is no need to apply inflation, given that the baseline build cost would have risen at least in line with the policy 'uplift', and house prices have also risen in that time. See also previous commentary on how the minimal climate differences in Rugby should not make a significant difference to build costs for these policy standards.

6.2 Resulting recommended cost uplift for testing

An cost uplift of 5-7.5% was already tested in Rugby's March 2025 viability study[xciv]. That uplift was our recommendation based on a quick review of one of the primary data sources noted above, as it was necessary to provide that figure before it had been possible to review a greater number of sources. Now that we have the wider range of data sources, in recognition of the potential for error in any one of these and the principle of meta-analysis to smooth out such errors, **we would now recommend using the following averages of the primary source figures for each archetype as follows:**

- **Flats: 4.8%**
- **Terraced houses: 5.7%**
- **Semi detached houses: 4.4%**
- **Detached houses: 2.3%**
- **Bungalows: 4.6%**
- **Office: 4.1%**
- **School: 3.2%**
- **Light industrial: 6.0%**
- **Retail: 1.2%.**

The above figures remain below the level tested in the March 2025 viability study. Thus if development was viable in that study, it would still be viable now. However, **any further iteration of the viability testing should now use these lower cost uplifts**.

6.2.1 Potential policy revisions to reduce build cost uplift if needed

As noted in various places in this report, some of the previously cited adopted precedent local plans' evidence bases have also explored slightly laxer targets for energy efficiency (energy use intensity – EUI and space heat demand – SHD) while maintaining the requirement for onsite renewable energy to still annually match that slightly higher energy use figure. While the optimal / tighter targets are EUI 35kwh/m^2/year and SHD 15-20kwh/m^2/year (as in Rugby's most recent consultation plan), the evidence bases have *also* explored targets of EUI 40 kwh/m^2/year and SHD 30kwh/m^2/year. The cited evidence showed that although this means slightly more rooftop PV is needed for that annual energy balance (because lower energy efficiency = higher energy use), it was still feasible to fit this amount of PV on the rooftops of the home types that were modelled.

Some of these adopted precedent local plans utilise those laxer targets, instead of the tighter ones, because their evidence found that it resulted in a lower overall cost uplift (as the savings from somewhat lower energy efficiency investment were greater than the increased cost from the higher amount of solar PV needed to match that slightly higher annual energy usage).

In case Rugby finds that the local viability landscape cannot bear the cost of meeting a net zero policy with the originally proposed tight / optimal EUI and SHD targets, we here cite the available source of cost uplift data for a slightly adjusted policy that still reaches 'net zero' but with slightly laxer EUI and SHD targets.

For what plan was this evidence made?	Study date	What relaxed standards does this evidence base cost for?	Costs uplift on Part L 2021 baseline
Cornwall Climate Emergency DPD (and Bath & North East Somerset) (link to evidence)	2021	Residential: • Space heat demand: 30kwh/m^2/year • EUI 40kwh/m^2/year • Renewables: To match use	• Flats: 2.7% (Low rise 2.8%; mid rise 2.6%;) • Terraced: 2.2% • Semi detached: 0.8% • Detached: 3.2% • Bungalow: 1.2%

Please note: There are two other source of cost uplift data for these same or similar performance levels (EUI of 40kwh/m^2/year and SHD of 30kwh/m^2/year): Greater Cambridge (study 2021; plan not yet examined) and Central Lincolnshire (study February 2021; plan examined 2022 and adopted 2023). However, we do not quote those here because their costs were provided as uplifts over the erstwhile baseline of Building Regulations Part L 2013. That baseline is no longer relevant because Building Regulations was updated with Part L 2021, which forms the baseline for today's viability study. The Cornwall study is the only example we have been able to identify that estimates costs of EUI 40 and SHD 30 as an uplift from today's Part L 2021 baseline.

If Rugby's viability study identifies a need to reduce policy costs associated with buildings' carbon/energy standards, we would recommend adjusting Rugby's EUI target to ≤40kwh/m2/year and its space heat demand target to ≤30kwh/m2/year, and re-running the viability assessment to reflect the reduced cost uplift as quoted here from the Cornwall study (0.8% to 3.2 % as per the table shown on the left).

The renewable energy generation target can still be kept at 100% of annual energy use.

The Cornwall study does not include non-residential performance standards, therefore there is no equivalent recommendation to give regarding adjustment to Rugby's non-residential EUI and SHD targets.

6.2.2 Note: Cost 'uplifts' are likely to be significantly less in real terms from 2026 onwards

As noted, all of the stated cost uplifts cited above are from a baseline of Building Regulations Part L 2021 which is in place today. This is necessary for the purpose of use in viability assessment, whose baseline is typically a sample of recent years' build costs, therefore cannot reflect future building regulations.

However, as noted earlier in this report, Part L 2021 is imminently to be replaced by the Future Homes Standard or Future Buildings Standard. A comparison of the key differences in these standards is provided as follows:

Building element	Part L 2021 (today's standard)	Part L 2025 / Future Homes Standard	What is needed for the policy standard according to the cited feasibility studies?
Fabric (insulation and glazing	Basic, but includes wastewater heat recovery.	Most recent consultation (2023-24) indicates this is unlikely to include any improvement to insulation or glazing, but may include a small improvement to airtightness.	Significant improvement to insulation, glazing and/or airtightness.
Ventilation	Natural	Natural	Mechanical ventilation with heat recovery.
Heating system	Gas boiler	Air-source heat pump	Air-source heat pump.
Solar PV provision	Solar panel area to be circa 40% of ground floor area	Will include solar panels according to recent Government communique, albeit amount not yet confirmed	Must include solar panels; amount will be more than Part L 2021 in flats but less than Part L 2021 in large detached homes / bungalows. Other homes likely broadly similar to Part L 2021.

Due to the Future Homes Standard specification, it is therefore clear that much of the "policy cost uplift" would be incurred by developers even without the policy, as major parts of the cost uplift are for the use of a heat pump which will be the standard heating system type from when the Future Homes Standard comes into force. That FHS is due to be published in Autumn 2025 which means it is likely to come into full force from late 2026 or early 2027. According to Rugby's latest local development scheme (most recently updated in 2024), the local plan is envisioned to be adopted in mid-2027 which means that the FHS will be in force by the first implementation of this plan.

Typically, when new national regulations bring cost uplifts like the FHS, the market responds in that these are typically compensated for by reductions in the sale value of pre-development land (as acknowledged in national policy source such as the FHS Impact Assessment 2023 which notes that "Historically, [capital and installation] costs have been factored into land prices and passed onto landowners".

In addition to this likelihood that these costs will be somewhat mitigated by shifts in land value that will occur anyway due to the FHS, there is also evidence that homes with higher energy efficiency sell for higher prices (as buyers know they will recoup this in lower energy bills). One in-depth study[xcv] by Halifax noted home sale value increases of between 1.8% to 3.8% per EPC band. And when looking at the social rental market, more energy-efficient homes benefit[xcvi] from lower void periods and lower amounts of arrears, thus achieving financial and administrative benefits for the landlord.

Rugby's March 2025 viability assessment did not include any assumption of increased sale or rental value as a result of these effects, although it did note that "it is possible that homes with higher sustainability credentials will have lower running costs … and this may be reflected in property values". It is up to the Council's viability consultants to decide whether either of the above effects should be included in any future iterations of the viability assessment.

7. Appendix: References and endnotes

[i] AECOM & Zero Carbon Hub (2012), *Fabric energy efficiency for Part L 2013*. https://www.zerocarbonhub.org/sites/default/files/resources/reports/Fabric_Standards_for_2013-Worked_Examples_and_Fabric_Specification.pdf

[ii] HM Government Ministry of Housing, Communities & Local Government (2024), *https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system*. https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system#:~:text=Delivering%20affordable%20housing-,Improving%20the%20existing%20system%20of%20developer%20contributions,-3.%20We%20want

[iii] HM Government (December 2024), National Planning Policy Framework. https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

[iv] Intergovernmental Panel on Climate Change (2022), AR6 Synthesis Report Glossary. https://apps.ipcc.ch/glossary/

[v] National Planning Policy Framework (2024). https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

[vi] HM Government (December 2024) National Planning Policy Framework. National Planning Policy Framework

[vii] HM Government, various departments (July 2024), *Policy statement on onshore wind*. https://www.gov.uk/government/publications/policy-statement-on-onshore-wind/policy-statement-on-onshore-wind

[viii] HM Government Ministry of Housing, Communities & Local Government (2024), *Government response to the proposed reforms to the National Planning Policy Framework and other changes to the planning system consultation*. https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/outcome/government-response-to-the-proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system-consultation

[ix] Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (2019), *Guidance: Climate Change*. https://www.gov.uk/guidance/climate-change

[x] Department for Energy Security and Net Zero and Department for Business, Energy & Industrial Strategy (2021), *Guidance: Carbon Budgets*. https://www.gov.uk/guidance/carbon-budgets#setting-of-the-sixth-carbon-budget-2033-2037

[xi] Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (2023), *Statutory guidance: Conservation of fuel and power: Approved Document L. 2021 editions incorporating 2023 amendments*. https://www.gov.uk/government/publications/conservation-of-fuel-and-power-approved-document-l

[xii] ClientEarth (2022), *Historic High Court ruling finds UK government's climate strategy 'unlawful'*. https://www.clientearth.org/latest/press-office/press/historic-high-court-ruling-finds-uk-government-s-climate-strategy-unlawful/

[xiii] ClientEarth (2024), *We've won in court against the UK government for the second time*. https://www.clientearth.org/latest/news/we-re-taking-the-uk-government-over-its-net-zero-strategy/

[xiv] Committee on Climate Change (2019), *UK Housing: Fit for the future?* https://www.theccc.org.uk/publication/uk-housing-fit-for-the-future/

[xv] Committee on Climate Change (2020), *The Sixth Carbon Budget: The UK's path to Net Zero*. See table 3.2.c., page 119. https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero.pdf

[xvi] Future Homes Hub (2023), *Ready for Zero: Appendix F - SAP10.2 modelling results*. https://irp.cdn-website.com/bdbb2d99/files/uploaded/Ready_for_Zero_2025_-_Appedix_F_-_final.pdf

[xvii] Etude and Currie & Brown on behalf of Cornwall Council (2021), *Cornwall Council Climate Emergency DPD: Eb042.1 Technical Evidence Base For Policy Sec 1 - New Housing Technical Appendices*. https://www.cornwall.gov.uk/media/dxchs1xq/eb042-1-20200359-climate-emergency-dpd-residential-energy-technical-evidence-base-appendices-rev-g.pdf

[xviii] Committee on Climate Change (2021), *2021 Progress Report to Parliament: Joint recommendations*. https://www.theccc.org.uk/publication/2021-progress-report-to-parliament/

[xix] Committee on Climate Change (2020), *The Sixth Carbon Budget Sector Summaries: Agriculture and land use, land use change and forestry*. https://www.theccc.org.uk/wp-content/uploads/2020/12/Sector-summary-Agriculture-land-use-land-use-change-forestry.pdf#page=39

[xx] Intergovernmental Panel on Climate Change (2018), *Special Report: Global Warming of 1.5C*. https://www.ipcc.ch/sr15/

[xxi] Carbon Brief (2025), *State of the climate: 2025 on track to be second or third warmest year on record*. https://www.carbonbrief.org/state-of-the-climate-2025-on-track-to-be-second-or-third-warmest-year-on-record/

[xxii] Intergovernmental Panel on Climate Change (2022) *IPCC Sixth Assessment Report: Summary for Policymakers – Headline statements*. https://www.ipcc.ch/report/ar6/wg3/resources/spm-headline-statements/ . See paragraph C.1: "Without a strengthening of policies beyond those that are implemented by the end of 2020, GHG emissions are projected to rise beyond 2025, leading to a median global warming of 3.2 [2.2 to 3.5] °C by 2100".

[xxiii] Anderson, K., J.F. Broderick, and I. Stoddard. (2019). *A factor of two: how the mitigation plans of 'climate progressive' nations fall far short of Paris-compliant pathways.* *https://www.tandfonline.com/doi/full/10.1080/14693062.2020.1728209*

[xxiv] Tyndall Centre for Climate Change hosted by University of Manchester https://carbonbudget.manchester.ac.uk/reports/

[xxv] Committee on Climate Change (2022), *News: Current programmes will not deliver Net Zero (29 June 2022).* https://www.theccc.org.uk/2022/06/29/current-programmes-will-not-deliver-net-zero/

[xxvi] Kelly, S., Crawford-Brown, D. and Pollitt, M.G. (2012), "Building performance evaluation and certification in the UK: Is SAP fit for purpose?" in: *Renewable and Sustainable Energy Reviews*. Volume 16, Issue 9, https://www.sciencedirect.com/science/article/abs/pii/S1364032112004595

[xxvii] Etude, CIBSE, Levitt Bernstein, Elementa, WSP, Clarion Housing Group and UCL on behalf of HM Government Department for Business, Energy & Industrial Strategy (2021), Making SAP and RdSAP 11 fit for net zero. https://etude.co.uk/wp-content/uploads/2022/06/Making-SAP-and-RdSAP-11-fit-for-Net-Zero-Full-report.pdf

[xxviii] Syntegra Group via CIBSE (no date), *Building Compliance VS Performance* https://www.cibse.org/media/ebnc4zuo/umer-uzair-syntegra-cpd-compliance-vs-performance.pdf

[xxix] Andy Lewry via BRE Group (2015), *Bridging the performance gap: Understanding predicted and actual energy use of buildings.* https://bregroup.com/store/bookshop/bridging-the-performance-gap-understanding-predicted-and-actual-energy-use-of-buildings-ip-1/15-download

[xxx] Committee on Climate Change (2023), 2023 Progress Report to Parliament. Chapter 4: The urgent need for action and strategy. https://www.theccc.org.uk/wp-content/uploads/2023/06/Progress-in-reducing-UK-emissions-2023-Report-to-Parliament-1.pdf#page=27

[xxxi] Currie & Brown and Etude on behalf of Cornwall Council (2021), *Technical evidence base for policy sec 1 - new housing technical appendices*. https://www.cornwall.gov.uk/media/dxchs1xq/eb042-1-20200359-climate-emergency-dpd-residential-energy-technical-evidence-base-appendices-rev-g.pdf

[xxxii] Bioregional and Transition by Design on behalf of South Oxfordshire & Vale of the White Horse District Councils (2023), *Feasibility Study: Energy modelling.* https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2024/01/NZCS_Task_3_accessible_Dec_2023.pdf#page=26

[xxxiii] HM Government Department for Levelling Up, Housing and Communities (2023), *The Future Homes and Buildings Standards: 2023 consultation*. See Table 4.2 for cost increase to occupant energy bills and to developer build cost. https://www.gov.uk/government/consultations/the-future-homes-and-buildings-standards-2023-consultation/the-future-homes-and-buildings-standards-2023-consultation

[xxxiv] Future Homes Hub (2023) *Ready for Zero: Evidence to inform the 2025 Future Homes Standard Task Group Report. Appendix F - SAP10.2 modelling results.* https://irp.cdn-website.com/bdbb2d99/files/uploaded/Appedix%20F%20-%20final.pdf

[xxxv] Committee on Climate Change (2023), *2023 Progress Report to Parliament*. https://www.theccc.org.uk/publication/2023-progress-report-to-parliament/

[xxxvi] Committee on Climate Change (2024), *2024 Progress Report to Parliament*. https://www.theccc.org.uk/publication/progress-in-reducing-emissions-2024-report-to-parliament/

[xxxvii] Committee on Climate Change (2023), *2023 Progress Report to Parliament*. https://www.theccc.org.uk/publication/2023-progress-report-to-parliament/

[xxxviii] Committee on Climate Change (2024), *2024 Progress Report to Parliament*. https://www.theccc.org.uk/publication/progress-in-reducing-emissions-2024-report-to-parliament/

[xxxix] HM Government Department for Energy Security & Net Zero (2024) *Hydrogen Heating Town pilot: letter to Gas Distribution Networks – update*. https://www.gov.uk/government/publications/hydrogen-heating-town-pilot-open-letter-to-gas-distribution-networks

[xl] Committee on Climate Change (2023), *2023 Progress Report to Parliament*. https://www.theccc.org.uk/publication/2023-progress-report-to-parliament/

[xli] Committee on Climate Change (2024), *2024 Progress Report to Parliament*. https://www.theccc.org.uk/publication/progress-in-reducing-emissions-2024-report-to-parliament/

[xlii] Committee on Climate Change (2021), *Joint Recommendations: 2021 Report to Parliament*. https://www.theccc.org.uk/wp-content/uploads/2021/06/CCC-Joint-Recommendations-2021-Report-to-Parliament.pdf

[xliii] LETI and RIBA (no date), *Defining and Aligning: Whole Life Carbon & Embodied Carbon*. https://www.leti.uk/carbonalignment

[xliv] HM Government Department for Energy Security &Net Zero (2024), *Renewable electricity by local authority, 2014 to 2023*. Used the most recent data release available which was October 2024, and provides data up to data year 2023. Regional Renewable Statistics - GOV.UK

[xlv] Rugby Borough Council (no date). Rugby Net Zero https://www.rugbynetzero.co.uk/

[xlvi] HM Government Department for Energy Security & Net Zero (2024), *UK local authority and regional greenhouse gas emissions national statistics*. Used the most recent data release available, which was June 2024 and provides data up to data year 2022. UK local authority and regional greenhouse gas emissions statistics, 2005 to 2022 - GOV.UK

[xlvii] Rugby Borough Council (no date), *Becoming carbon neutral*. https://www.rugby.gov.uk/w/becoming-carbon-neutral#:~:text=The%20council%20adopted%20a%20motion,become%20carbon%20neutral%20by%202030.

[xlviii] Rugby Borough Council (2022), *Climate Change Strategy #RightForRugby*. https://www.rugbynetzero.co.uk/climate-strategy

[xlix] HM Government (December 2023) National Planning Policy Framework. https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf#page=4

[l] Town & Country Planning Act 1990, Part III: Control over development – other controls over development. https://www.legislation.gov.uk/ukpga/1990/8/section/106

[li] Town & Country Planning Act 1990, Part III: Control over development; Section 61: Local development orders. https://www.legislation.gov.uk/ukpga/1990/8/part/III/crossheading/local-development-orders

[lii] Local Government Association Planning Advisory Service (no date). *Levelling-up and Regeneration Bill: Delivering Infrastructure*. https://www.local.gov.uk/pas/our-work/levelling-and-regeneration-bill#:~:text=The%20Levelling%20Up%20and%20Regeneration,a%20charge%20on%20development%20for

[liii] HM Government Ministry of Housing, Communities and Local Government (2024), *Open consultation: Proposed reforms to the National Planning Policy Framework and other changes to the planning system.* https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system

[liv] HM Government Department for Levelling Up, Housing & Communities (2023), *Environmental Outcomes Reports: a new approach to environmental assessment*. https://www.gov.uk/government/consultations/environmental-outcomes-reports-a-new-approach-to-environmental-assessment/environmental-outcomes-report-a-new-approach-to-environmental-assessment

[lv] HM Government Department for Levelling Up, Housing & Communities (2023), *Levelling-up and Regeneration Bill: consultation on implementation of plan-making reforms.* https://www.gov.uk/government/consultations/plan-making-reforms-consultation-on-implementation/levelling-up-and-regeneration-bill-consultation-on-implementation-of-plan-making-reforms

[lvi] HM Government Ministry of Housing, Communities and Local Government / Department for Levelling Up, Housing & Communities (2025), *Consultation outcome: Government response to the proposed plan-making reforms: consultation on implementation.* https://www.gov.uk/government/consultations/plan-making-reforms-consultation-on-implementation/outcome/government-response-to-the-proposed-plan-making-reforms-consultation-on-implementation

[lvii] Town & Country Planning Act (2012), "Latest available version", Part 5. https://www.legislation.gov.uk/uksi/2012/767/part/5

[lviii] Rugby Borough Council (2022), *Climate Change Strategy #RightForRugby*. https://www.rugbynetzero.co.uk/climate-strategy

[lix] Rugby Borough Council (2023), *Climate Change & Sustainable Design and Construction: Supplementary Planning Document February 2023*. https://www.rugby.gov.uk/documents/20124/6987732/Climate_Change_and_Sustainable_Design_and_Construction_Supplementary_Planning_Document__February_2023_.pdf/605b9da2-02e0-9d0d-e762-19d61e715bdc?t=1702379922113

[lx] Rugby Borough Council (2024), *Local Development Scheme October 2024*, https://www.rugby.gov.uk/documents/20124/0/Local+Development+Scheme+2024.pdf/bd4f01db-b58a-65f1-7532-1ae9a3b0b12c?t=1729160087151

[lxi] HM Government Ministry of Housing, Communities and Local Government (2025), *Consultation outcome: Government response to the proposed reforms to the National Planning Policy Framework and other changes to the planning system consultation.* https://www.gov.uk/government/consultations/proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system/outcome/government-response-to-the-proposed-reforms-to-the-national-planning-policy-framework-and-other-changes-to-the-planning-system-consultation#:~:text=submitted%20for%20examination%20under%20the%20existing%202004%20Act%20system%20no%20later%20than%20December%202026

[lxii] Estelle Dehon KC on behalf of Essex County Council (2024). Updated open legal advice re: Ability of local planning authorities to set local plan policies that require development to achieve energy efficiency standards above Building Regulations. https://www.essexdesignguide.co.uk/media/2966/updated-open-advice-re-energy-policy-building-regs-26-2-24-final.pdf

[lxiii] Estelle Dehon KC on behalf of Essex County Council (2024). Updated open legal advice re: Ability of local planning authorities to set local plan policies that require development to achieve energy efficiency standards above Building Regulations. https://www.essexdesignguide.co.uk/media/2966/updated-open-advice-re-energy-policy-building-regs-26-2-24-final.pdf

[lxiv] HM Government HM Government Department for Levelling Up, Housing & Communities (2022), Policy paper: Local government and the path to net zero: government response to the Select Committee report. https://www.gov.uk/government/publications/local-government-and-the-path-to-net-zero-government-response-to-the-select-committee-report/local-government-and-the-path-to-net-zero-government-response-to-the-select-committee-report

[lxv] HM Government Department for Energy Security and Net Zero, Ministry of Housing, Communities and Local Government, Matthew Pennycook MP and The Rt Hon Ed Miliband MP (June 2025), *Press release : New homeowners stand to benefit from rooftop solar and cheaper bills, with the Future Homes Standard being published this Autumn.* https://www.gov.uk/government/news/rooftop-solar-for-new-builds-to-save-people-money

[lxvi] Redacted Treasury Solicitor / Government Legal Department (2024), *Pre-action Response to Proposed Judicial Review of Written Ministerial Statement: Planning – Local Energy Efficiency Standards Update* . https://www.tcpa.org.uk/wp-content/uploads/2024/07/2.-GLD-Letter-dated-19-March-2024-redacted.pdf

[lxvii] Estelle Dehon KC (2024), *Pre-action protocol letter for judicial review Re: The Written Ministerial Statement "Planning – Local energy efficiency standards update".* https://www.tcpa.org.uk/wp-content/uploads/2024/07/1.-LPA-Pre-Action-Letter-WMS-6-2-24-sent.pdf

[lxviii] Good Law Project (2024), *We have a date in court to demand greener, better homes.* https://goodlawproject.org/update/we-have-a-date-in-court/

[lxix] Rights: Community: Action Ltd, R (On the Application Of) v Secretary of State for Housing, Communities and Local Government [2025] EWCA Civ 990. https://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWCA/Civ/2025/990.html

[lxx] HM Government Ministry of Housing, Communities and Local Government (2021), *The Future Homes Standard: 2019 Consultation on changes to Part L (conservation of fuel and power) and Part F (ventilation) of the Building Regulations for new dwellings. Summary of responses received and Government response*. https://assets.publishing.service.gov.uk/media/60114c6c8fa8f565494239a7/Government_response_to_Future_Homes_Standard_consultation.pdf

[lxxi] Greater London Authority (2020/21 data released 2023), *London Plan AMR tables*. https://www.london.gov.uk/programmes-strategies/planning/implementing-london-plan/monitoring-london-plan/london-plan-amr-tables?ac-62378=62373. For a PDF version, see "London AMR 18" available here: https://www.london.gov.uk/programmes-strategies/planning/implementing-london-plan/monitoring-london-plan. In 2022 specifically (data release November 2023), the energy efficiency TER improvement average was 17.3%. https://www.london.gov.uk/sites/default/files/2023-12/GLA%20Energy%20Monitoring%20Report%202022_0.pdf

[lxxii] Low Energy Transformation Initiative (no date), *Embodied carbon target alignment*. https://www.leti.uk/_files/ugd/252d09_25fc266f7fe44a24b55cce95a92a3878.pdf

[lxxiii] Local Government Chronicle (21st February 2024), High court victory over district's net zero plan. https://www.lgcplus.com/services/regeneration-and-planning/high-court-victory-over-districts-net-zero-plan-21-02-2024/

[lxxiv] Rugby Borough Council (2025) *Rugby Borough Local Plan Preferred Option Consultation Document*. Local Plan review - Preferred Options public consultation document - Rugby Borough Council

[lxxv] ONS (2023), Census 2021 dataset TS046: Central heating. https://www.ons.gov.uk/datasets/TS046/editions/2021/versions/4?showAll=heating_type#heating_type

[lxxvi] Cornwall Council. (2023). Climate Emergency Development Plan Document. https://www.cornwall.gov.uk/media/uxgjk4jn/climate-emergency-dpd.pdf

[lxxvii] Bath & North East Somerset Council (2023) *Core Strategy and Placemaking Plan incorporating the Local Plan Partial Update - Volume 1: District-wide Strategy and Policies* https://www.bathnes.gov.uk/sites/default/files/2023-06/1.%20Districtwide%20Composite%20plan%20final.pdf#page=68

[lxxviii] Etude and Currie & Brown on behalf of Cornwall Council (2021), *Cornwall Council Climate Emergency DPD: EB042 Technical Evidence Base for Policy Sec 1 – New Housing* https://www.cornwall.gov.uk/media/fkzp45mv/eb042-20200359-climate-emergency-dpd-technical-evidence-base-rev-g.pdf

[lxxix] Etude and Currie & Brown on behalf of Cornwall Council (2021), *Cornwall Council Climate Emergency DPD: Eb042.1 Technical Evidence Base For Policy Sec 1 - New Housing Technical Appendices*. https://www.cornwall.gov.uk/media/dxchs1xq/eb042-1-20200359-climate-emergency-dpd-residential-energy-technical-evidence-base-appendices-rev-g.pdf

[lxxx] Central Lincolnshire Joint Strategic Planning Committee. (2023) *Central Lincolnshire Local Plan*. https://www.n-kesteven.gov.uk/sites/default/files/2023-04/Local%20Plan%20for%20adoption%20Approved%20by%20Committee.pdf

[lxxxi] Bioregional, Etude, and Currie & Brown on behalf of Central Lincolnshire (2021). *Central Lincolnshire Local Plan: Climate Change Evidence Base. Task G-Feasibility Assessment*. https://www.n-kesteven.gov.uk/sites/default/files/2023-03/CLC006%20Task%20G%20-%20Feasibility.pdf

[lxxxii] Bioregional, Etude and Currie & Brown on behalf of Central Lincolnshire (2021). *Central Lincolnshire Local Plan: Climate Change Evidence Base. Task H – Cost implications.* . https://www.n-kesteven.gov.uk/sites/default/files/2023-03/CLC007%20Task%20H%20-%20Cost%20Implications.pdf

[lxxxiii] Planning Inspectorate. (023). *Report on the Examination of the Central Lincolnshire Local Plan Review*. https://www.n-kesteven.gov.uk/sites/default/files/2023-03/EX040%20Central%20Lincs%20Local%20Plan%20-%20Inspectors%20Report%20-%20FINAL.pdf

[lxxxiv] Introba, Currie & Brown, and Etude on behalf of Essex County Council (2023). *Essex Net Zero Policy- Technical Evidence Base*. https://www.essexdesignguide.co.uk/media/2940/report-1-essex-net-zero-policy-technical-evidence-base-july-2023.pdf

[lxxxv] Tendring Colchester Borders Garden Community on behalf of Colchester City, Tendring District, and Essex County Councils (2025)Tendring Colchester Borders Garden Community Development Plan Document. Available from: https://talk.tcbgardencommunity.co.uk/examination-library

[lxxxvi] Dehon, E KC. (2025). *Essex Open Legal Advice A- Energy policy in plans and Building Regulations*. Cornerstone Barristers. essex-open-legal-advice-a-updated-may-2025-energy-policy-in-plans-and-building-regulations.pdf

[lxxxvii]Planning Inspectorate (2025). Report on the Examination of Tendring Colchester Garden Community Development Plan Document. a9aa0f9394a76eab063566d89b66f70d_TCBGC DPD - Inspectors Report - FINAL.pdf

[lxxxviii] Bioregional and Transition By Design on behalf of South Oxfordshire and Vale of White Horse councils (2023) *Task 3 – Feasibility study: Energy modelling*. https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2024/01/NZCS_Task_3_Dec_2023.pdf

[lxxxix] World Bank Group & Solargis s.r.o. (n.d.). *Global Solar Atlas*. https://globalsolaratlas.info/

[xc] The Met Office (2025) *Annual Heating Degree Days- Projections (12kms)*. *https://climatedataportal.metoffice.gov.uk/datasets/TheMetOffice::annual-heating-degree-days-projections-12km/explore?location=53.187889%2C-0.295022%2C10.00*

[xci] Alex McCann on behalf of Bioregional (2024). Analysis: setting ambitious net-zero targets need not hinder housebuilding. https://www.bioregional.com/news-and-opinion/net-zero-targets-need-not-hinder-housebuilding

[xcii]Simaitis, J et al (2023), *Pioneering Net Zero Carbon Construction Policy in Bath & North East Somerset: Investigating the industry's response to the introduction of novel planning policies.* University of Bath, Bath, United Kingdom. https://doi.org/10.15125/BATHRO-297388880 https://researchportal.bath.ac.uk/en/publications/pioneering-net-zero-carbon-construction-policy-in-bath-amp-north- or https://purehost.bath.ac.uk/ws/portalfiles/portal/299740738/Pioneering_Net_Zero_Carbon_Construction_Policy_in_Bath_North_East_Somerset.pdf (these are both the same article)

[xciii] CHAS. (2021). *Tackling the Skills Shortage in Construction. https://www.chas.co.uk/blog/tackling-construction-skills-shortage/*

[xciv] BNP Paribas Real Estate on behalf of Rugby Borough Council (2025), *Rugby Borough Council: Local Plan and Community Infrastructure Levy Viability Study*. https://www.rugby.gov.uk/documents/20124/57481257/Local+Plan+and+Community+Infrastructure+Levy+Viability+Study.pdf/d69e71a6-c70d-b4e4-b019-10cd2b1ca5d8?t=1742576431793

[xcv] Halifax via Lloyds (2021), *Press release: Homebuyers pay a 'green premium' of up to £40,000 for the most energy efficient properties.* https://www.lloydsbankinggroup.com/assets/pdfs/media/press-releases/2021-press-releases/halifax/halifax-green-homes-premium-press-release.pdf

[xcvi] Sustainable Homes (undated), *Touching the voids: The impact of energy efficiency on social landlord income and business plans.* https://www.passivhaustrust.org.uk/UserFiles/File/PH%20Social/touching-the-voids---Sustainable%20Homes.pdf