South Warwickshire Emerging Local Plan:

Net Zero Carbon Policy Support

Policy options identification and evaluation via a risk matrix assessment

05 December 2025

Version 2

Written by: Marina Goodyear (Senior Consultant) and Jimin Oh (Analyst)
Edits & QA by: Marina Goodyear

Contents

Glossary of terms and acronyms

Carbon, or carbon emissions	Short for ‘carbon dioxide’ but can also include several other gases with a climate-changing effect (nitrous oxide, methane, refrigerants) that are emitted to the atmosphere from human activities.
Carbon budget	Amount of greenhouse gas that can be emitted before reaching a level of atmospheric carbon that causes severely harmful climate change.
CHP	Combined Heat and Power. A technology whereby fuel is burned to generate electricity and heat which are both utilised. Formerly considered an efficient and clean heating system, but no longer cleaner than individual building electric heat pumps, especially when the CHP is gas-fired.
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. This is also often shortened to ‘carbon’.
DESNZ	Government Department for Energy Security and Net Zero. Formerly styled the department of Business, Energy, Innovation and Skills (BEIS)
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.
Energy performance gap	The difference between the predicted energy use of a building at design stage, and the actual amount of energy use when the building is occupied. The size of this gap comes from the quality of the prediction modelling method, errors in construction, and unanticipated user behaviour.
EUI	Energy use intensity, a measure of how much energy a building uses per square metre of floor space. Expressed in kWh/m^2 floorspace/year.
FEE	Fabric Energy Efficiency – a metric used in Part L of Building Regulations to represent energy demand for space heating and space cooling, per metre of floor. Based only on fabric; not affected by building services like heating system, lighting, ventilation. See also TFEE / DFEE, below.
FHS / FBS	Future Homes Standard / Future Buildings Standard
kWh	Kilowatt-hour. A unit of energy.
LETI	Low Energy Transformation Initiative. A coalition of green building experts working to identify and implement targets for energy use and embodied carbon that would be compatible with the UK’s climate commitments.
LPA	Local Planning Authority
NPPF	National Planning Policy Framework.
Operational energy use	Energy used for the normal operation of a building. (As opposed to energy used in the production, construction or demolition of a building).
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	The uses of energy within a building that are regulated by Part L of building regulations. This covers fixed energy uses in the building – mainly space heating, space cooling, hot water, permanent lighting, fans/ventilation and pumps.
SAP	Standard Assessment Procedure – the national calculation method for homes' energy and carbon, used to satisfy building regulations Part L. SAP is updated periodically; the most recent version available at the time of writing is SAP10.2.
SBEM	Simplified Building Energy Model. The national calculation method for non-residential buildings' energy and carbon, used to satisfy building regulations Part L
SHD	Space Heat Demand. A measure of one aspect of buildings' energy efficiency: The amount of heat input needed to keep the building at a comfortable temperature. Expressed in kWh/m^2/floorspace/year.
South & Vale	South Oxfordshire & Vale of the White Horse. Two local district councils in Oxfordshire, which together prepared a joint local plan adopted in 2023. That local plan included one of pioneering new 'net zero new builds' policies referred to in a previous report.
Space Heat Demand	A measure of how much heat energy is needed to keep a building at the desired temperature, regardless of how that heat is delivered.
SWLP	South Warwickshire Local Plan. • SWLP team: the individuals from Warwick and Stratford respective District Councils who are together drafting the plan, including officers and elected council members. • SWLP area: The entire geographical area to which the SWLP applies, and all activities within that area.
tCO_2 (or tCO_2e)	Tonne of CO_2 (or tonne of CO_2 equivalent). See CO_2 and CO_2e, above.
TER	Target Emission Rate – limit set by Part L of building regulations on CO_2 emissions per square metre of floor.
(TFEE/DFEE)	First see 'FEE', above. TFEE Target Fabric Energy Efficiency – a limit expressed using the FEE metric, set by Part L of building regulations, reflecting a notional (imaginary) building with a standard quality of fabric that Part L sets. DFEE Dwelling Fabric Energy Efficiency – the FEE achieved by a specific building design. Part L requires that the DFEE must not exceed the TFEE.
TM54 (or CIBSE TM54)	Method to accurately calculate buildings' energy use. Devised by Chartered Institution of Building Services Engineers (CIBSE).
Unregulated energy	Energy uses within a building or its curtilage but that are not regulated by Part L of building regulations. Examples: plug-in appliances, catering, external lighting among other uses. This can represent 50% of the total energy used at a property, depending on the building type and use.
UKNZCBS	UK Net Zero Carbon Buildings Standard. A new emerging standard being developed by a coalition of energy and carbon expert organisations and standard-setting organisations in the built environment sector. The standard defines whether a building is sufficiently energy-efficient and low-carbon to be in line with the UK's trajectory to net zero carbon, within a carbon budget compatible with the UK's commitment to the international Paris Agreement. The UKNZCBS covers both operational energy (in use, including both energy use and renewable energy generation) and up-front embodied carbon (up to completion of the building; see also 'embodied carbon' in this glossary).
WMS (WMS2023)	Written Ministerial Statement. A formal statement of national policy made by a government Minister in the House of Commons or Lords. (WMS2023 refers to the specific WMS on energy efficiency made on 13th December 2023 on energy efficiency standards in local planning; see previous report for South Warwickshire for discussion of the WMS2023 and its implications.)

Introduction

This report is part of a suite of work to assist South Warwickshire Local Plan (SWLP) team in:

- Understanding the local plan's legal duties and mandates to reduce carbon emissions, and the powers or planning instruments available to deliver carbon savings
- Understanding the array of precedent policies from other local plans that have used those powers in different ways or extents
- Equipping South Warwickshire with a range of potential policy options for carbon reduction that could be pursued in South Warwickshire Local Plan, and the insight needed to decide between those policy options.

The current appointment (2025) comprises the following outputs:

1. Literature Review and position statement: Report identifying the duties and powers for climate mitigation action in local plans, including precedents of how those duties have been pursued and powers used, with draft recommended 'Position Statement' on how 'net zero' could be defined and pursued in the South Warwickshire Local Plan process
2. 'Policy Risk Matrix': Report identifying a range of potential options for local plan policy on carbon reduction in buildings, and evaluating the policy options' relative merits across a range of different criteria relevant to the local plan's desired outcomes.
3. Energy modelling: Identifying the energy performance that would be achieved in typical South Warwickshire new buildings under a range of possible policy standards.
4. Cost modelling: Identifying the build cost uplifts to meet the standards from Energy Modelling Report. Findings to be incorporated within the energy modelling report.
5. Carbon budget analysis: Identifying South Warwickshire's share of the legislated national carbon budgets, and the effect of local policy on whether those will be met.
6. Final Evidence Report drawing together headlines from all of the above as relevant to a recommended policy option for energy/carbon performance in new buildings in SWLP.

This current document is the Policy Risk Matrix. Its contents are as follows:

- First, it briefly recaps the Literature Review's headlines on climate duties and powers.
- It then identifies a range of policy options on energy/carbon in new homes, from most to least ambitious in terms of climate mitigation and WMS2023 alignment.
- It finally evaluates those policy options against a range of criteria, giving a broad-brush 'score' for how much risk is involved under each criterion for each policy option.

The criteria against which the policy options are evaluated represent a range of priority issues that are important both for the local plan's legal duties and national planning policy expectations, and also for the range of stakeholders that will be affected by the impact of the local plan. These are expressed as 'risks', i.e. risks of not meeting certain duties, obligations or commitments, and risks of negative impact on relevant stakeholders or resources.

Recap of previous report

Recap: Climate mitigation imperatives and powers

The local plan has a legal duty to mitigate climate change (deliver carbon reductions), established in the Planning & Compulsory Purchase Act 2004[i]. National planning policy (the NPPF[ii]) confirms that this mitigation should be in line with the Climate Change Act 2008.

The Climate Change Act includes both the 2050 goal for a net zero carbon UK, and sharply declining five-yearly carbon budgets between today and 2050. Analysis by the Committee on Climate Change sets those carbon budgets and reveals the changes needed in order to meet those carbon goals. Recent analysis, cited in our previous Literature Review, reveals that:

- Current and future Building Regulations Part L do not deliver the space heat demand needed for the UK carbon budgets (15-20kWh/m^2/year) nor make homes zero carbon.
- Building Regulations (Part L) calculations for energy and carbon are inaccurate (severely underestimating these) and only cover ~50% a building's energy use.
- Many other changes necessary for the carbon budgets are also off track – such as the rollout of heat pumps to existing buildings, and the rollout of solar PV generation.

To 'mitigate climate change in line with the Climate Change Act' therefore, local plan policy would need to expedite these changes that are currently lacking in national regulation.

The Planning & Energy Act 2008[iii] grants the local plan the power to require renewable energy provision, and energy efficiency standards beyond those set by Building Regulations.

Recap: The Written Ministerial Statement 2023 (WMS2023)

This WMS by the previous government urges any local plan energy efficiency policy to be expressed as a percentage reduction on the Building Regulations Target Emission Rate (TER). TER is in fact not an energy efficiency metric, hence several local plans in 2023 had used other metrics: space heat demand and energy use intensity (EUI). Following this WMS would thus make energy efficiency policy (thus climate mitigation) less effective than it could be.

This WMS only relates to *energy efficiency* policy – it does not mention the separate issues of *renewable energy* or *embodied carbon*. It also emphasises that any such policy must have a 'well-reasoned and robustly costed rationale [ensuring] development remains viable'. This is not really new, as we would expect this of any policy that may add significant build costs.

Like the NPPF, a WMS is a 'material consideration' in local plans but cannot lawfully inhibit the function of legislation (e.g. the climate mitigation duty and energy-related powers, above). This WMS faced a 2024 Judicial Review on the basis that it obstructs those legislations and lacked an environmental assessment required by the Environment Act. The judge deemed[iv] the Planning & Energy Act to allow for national policy influence, and that assessment can be retrospective; yet did not address whether the WMS inhibits the climate mitigation duty. The Court of Appeal in 2025 upheld that decision but reiterated that local plans can diverge from national policy if justified. Illustrating this, four local plans elsewhere passed examination in 2025 with policies that use EUI metric instead of TER (for detail see p.23 & Literature Review).

Policy opportunities in the current national legislative and policy context

Overview of the three proposed policy options for evaluation

Based on existing powers, duties and mandates, and in light of the purported restraints of the WMS2023, we next outline and evaluate the following three broad policy approach options for new buildings:

1. **Fully WMS-compliant policy**
2. **Testing WMS boundaries**
3. **Overcome the WMS.**

All three of these potential policy options are configured to achieve different definitions of "net zero carbon buildings", but they vary in the scope of which carbon emissions are part of what must be reduced to zero, how this is accounted for, and the steps that must be taken in order to achieve it. The reason for considering the use of different definitions of 'net zero carbon buildings' is because of the tension between different parts of national policy (some of which push the use of national building regulations definitions) versus the duty to mitigate climate change, which would be more effectively fulfilled using a non-national definition established by the green building industry, which more fully and accurately accounts for the carbon emissions of buildings. Each policy option is still assessed against the same set of criteria to evaluate the relative merits of different definitions of net zero carbon and the various approaches to accounting for it.

Approach 1 acts as a fully WMS-compliant option that is relatively 'safe' in terms of planning acceptability and less complex to defend at examination, but least helpful for climate.

Approach 2 uses the Building Regulations TER metric for the 'energy efficiency' part of the policy, but looks to push further in certain areas where the WMS is unclear or not prescriptive, while not technically diverging from the wording of the WMS.

Approach 3 pushes even further beyond the bounds that the WMS purports to place, resting on the justification that this far better fulfils the plan's legal duty to mitigate climate change.

Please note that there exists a potential multitude of different policy options that a local plan could consider within or beyond these three approaches. The three options we explore here reflect professional judgement of the broad categories of approach that exist, based on existing precedents and industry best practice. Each approach could be adapted by the Council to better align with the Council's degree of climate commitment and appetite for risk.

As noted in the introduction and in our previous separate report, the scope of the WMS2023 is limited to *energy efficiency* standards. Therefore, it does not inhibit the existing powers to set local policy on issues other than *energy efficiency*, for example requiring a proportion of on-site *renewable energy*, or *embodied carbon* standards (see previous report for precedents).

However, there are links between energy efficiency and renewable energy targets. Such as:

- There is evidence that in most home types it is feasible to meet a policy requirement to generate renewable energy on site equivalent to 100% of energy use *if* certain energy efficiency targets are met first. Without the energy efficiency targets, some building type's energy use may be too high to match with PV within the available roof space, thus would have to be met partially through offsetting to reach 'net zero'. This is part of the reason why industry bodies have proposed absolute energy use intensity targets in their 'net zero carbon building' definitions (emulated in 'Approach 3' in this report).
- If the policy requires onsite renewable generation to match 100% (or other %) of yearly energy use, then a decent energy efficiency target will reduce the cost of providing that renewable energy, as lower energy use means less renewables needed to match it. All policy options evaluated here require improved energy efficiency (to remedy national building regulations' failure to meet UK carbon goals; see separate Literature Review report for detail).
- Once the grid is fully decarbonised, there may be no need for each building to have 100% renewable energy provision on site in order to be 'zero carbon in operation' (if the building is 100% electrically powered). However, grid decarbonisation needs huge expansion of renewable energy generation – to which solar panels on buildings contribute by exporting to the grid at times when the building is not using all the energy it is generating. Having 100% renewable energy on site thus reduces the consumption of land for standalone renewables needed to decarbonise the grid.
- The distributed generation of power on buildings, rather than in centralised plants, can also help with grid resilience and reducing grid upgrade costs as it puts the power source closer to where it is consumed, rather than being transmitted long-distance across the grid (where it also would undergo losses in transmission, meaning more power would need to be generated in order to deliver the same amount to the user).
- Whether the required renewable energy for grid decarbonisation is delivered on the building by the developer, or by an energy company on greenfield, energy efficiency targets reduce the total necessary amount of investment in renewable energy capacity and grid capacity (whose cost would otherwise most likely be passed on to all energy consumers). On-site batteries can also reduce the need for grid upgrades, but do not affect a building's 'net zero' status (as all definitions of 'net zero building' reflect the building's exchange of power to/from the grid across the year).
- Finally, energy efficiency improvements, renewables and batteries all contribute to regional and national energy security, reducing reliance on gas imports.

Existing local planning policy context in South Warwickshire

Stratford-on-Avon and Warwick District Councils are preparing a joint local plan to cover the period 2025-2050. The dedicated SWLP website lists several 'Guiding Principles', of which the directly relevant one is "A resilient and Net Zero Carbon South Warwickshire".

In light of our previous report's findings about industry best practice for energy-efficient low-carbon buildings, and the required performance needed to hit the UK's legislated carbon budgets, the fulfilment of these objectives would need a local plan policy well beyond current and anticipated future Building Regulations, most likely our Policy Approach 2 or Approach 3.

In addition, other of the SWLP's stated 'Guiding Principles' relevant to this work include:

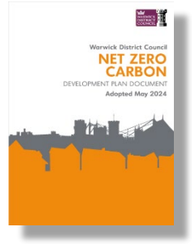
- Meeting South Warwickshire's Sustainable Development Needs (which SWLP Preferred Options Consultation 2025 defined as "meeting the needs of the current generation without compromising the ability of future generations to meet their own needs").
- A healthy, safe and inclusive South Warwickshire.

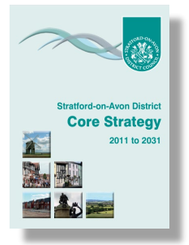
The point about 'sustainable development' is highly relevant in that the NPPF (2024) defines this as development that meets three objectives: Economic, social, and environmental, including "mitigating … climate change … moving to a low carbon economy".

'Net zero' buildings policy is also relevant to the NPPF's social objective and SWLP's focus on health, inclusivity and meeting the needs of all communities, as these policies can have a strong influence on people's overall health and energy bills. While there is no explicit NPPF requirement to consider bills or fuel poverty, clearly these affect whether development really meets people's needs. The affordability of accessing and occupying housing is clearly a universal need (although the NPPF definition of affordable housing only looks at the cost of access). Again, national building regulations on energy/carbon are unlikely to optimally fulfil these objectives, especially if SWLP team considers the *affordability of energy bills* to be part of this, on top of the upfront cost of accessing housing. This would be relevant to inclusivity, as bills impact most on those with low income, and on those likely to spend more time at home or need a warmer environment. This could foreseeably include the elderly and disabled, both groups that experience fuel poverty at a higher rate than average[v]. This in turn is relevant to health, as health can be harmed if homes are too expensive to keep warm. Our policy option Approach 1 would help deliver the 'low carbon' point, while Approach 2 and Approach 3 would furthermore also better help protect occupants from the recent spikes in energy prices.

We also note a 'low carbon economy' topic in SWLP 2025 consultation topic "Delivering South Warwickshire's Economic Needs". Within that consultation, "Draft Policy Direction 17" set an intent to support development of low-carbon employment premises and 'green economy' businesses. A 'net zero' buildings policy would also naturally support this by spurring on the development of green construction skills, as well as the business premises themselves.

Existing local plans belonging to the two relevant local planning authorities (whose areas SWLP will cover) include the following policies relevant to homes' energy/carbon:





- **Stratford-on-Avon District Council Core Strategy[vi] (2016):** Apply the energy hierarchy; yet no specific efficiency target. Renewable energy, decentralised energy systems and sustainable construction are encouraged, yet without specific targets. Non-residential development is required to achieve BREEAM 'Good' standard.
- **Warwick District Local Plan (2017):** Policies CC1, CC2 and CC3 outline a broad approach to climate change, energy and sustainability. Policy CC2 (Planning for Renewable Energy and Low Carbon Generation) is the most relevant to carbon reduction. It supports the deployment of renewable and low-carbon energy technologies, provided these minimise adverse environmental impacts, maximise local energy use, and align with broader decarbonisation strategies such as low-carbon district heating. Policy CC3 (Building Standards and Other Sustainability Requirements) requires non-residential buildings over 1,000 sq m to achieve BREEAM 'Very Good' or propose alternative sustainability strategies. Policy CC1 (Planning for Climate Change Adaptation) sit largely outside the scope of emissions performance in buildings.
- **Warwick Net Zero Carbon DPD[vii] (2024):** Achieve at least 63% carbon reduction versus the Building Regulations Target Emissions Rate, through a combination of on-site measures, including a 10% improvement on the Building Regulations Target Fabric Energy Efficiency metric. After that, add enough further renewable energy to reach net zero regulated carbon, or else pay to offset the first 30 years' worth of residual regulated carbon at the national carbon value (£245/tonne when the DPD was drafted).

At the time the Stratford plan would have been in draft, national regulation was expected to require 'zero carbon' buildings from 2016, but that regulation was cancelled in 2015. By contrast, the Warwick Net Zero Carbon DPD was drafted in 2020-22, when there was no imminent national policy for net zero carbon buildings but Government had indicated an incoming Future Homes Standard in 2025 that the Warwick DPD policy was built to reflect. Also, by 2020 several adopted local plans elsewhere had already set requirements to reduce new buildings' emissions, some going as far as 'net zero' albeit by various definitions.

The existing policies in Warwick and Stratford are partly echoed in our SWLP policy options:

- All of the policy approaches we explore in the current risk matrix document are structured by setting requirements at each step of the energy hierarchy – that is, firstly energy efficiency, then renewable energy, then offsetting as a last resort.
- The requirements in the Warwick Net Zero Carbon DPD are very similar to specifications in risk matrix Policy Approach 1. Warwick DPD also requires a 10% TFEE improvement as well as the overall TER % improvement; risk matrix Approach 2 echoes that approach but also goes beyond the Warwick DPD by expanding the renewable energy requirement.

Recap: The Energy Hierarchy

As established in a separate Literature Review report, the energy hierarchy is a widely accepted framework in planning and building policy for achieving low- and zero-carbon outcomes. It prioritises reducing energy demand first, then supplying energy efficiently, and finally integrating renewable energy where further emissions reduction is needed. This stepped approach reflects best practice across the built environment sector and ensures that the most effective and enduring carbon reduction measures are implemented before considering more resource-intensive solutions.

The rationale behind this hierarchy is that reducing energy demand at the outset avoids the need for larger energy systems, reduces material use and embodied carbon, and minimises long-term energy bills. It is a resource-efficient, cost-effective and performance-driven pathway to decarbonisation. The typical steps are:

- Be Lean: Reduce energy demand through fabric and passive design (energy efficiency of the building itself)
- Be Clean: Supply energy efficiently (e.g. communal systems, heat networks)
- Be Green: Use renewable and low-carbon energy sources
- Offset: As a last resort, offset residual emissions

All of our proposed policy options for SWLP have been deliberately structured to follow the energy hierarchy, starting with energy efficiency targets, then introducing renewable energy supply targets, and finally setting requirements for offsetting residual carbon or energy. Each approach sets out clear, progressive requirements at every stage to ensure that developments make meaningful, on-site carbon reductions before moving on to supply-side solutions or offsetting. This structure supports robust implementation and simplifies compliance monitoring through energy statements submitted at planning stage.

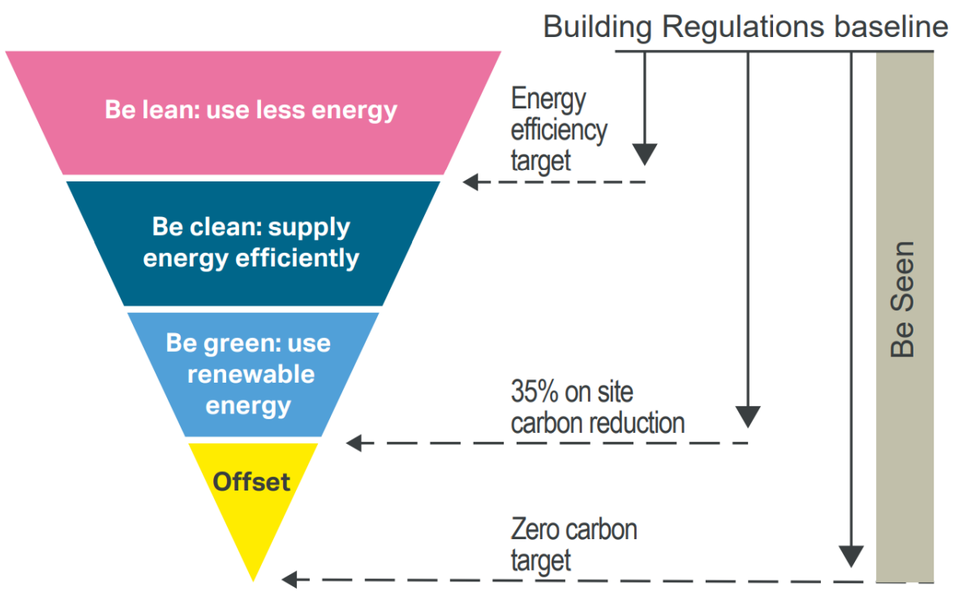


Figure 1: New London Plan (2021) Diagram of the energy hierarchy to reach 35% on-site reduction compared to baseline carbon emissions rate set by Building Regulations Part L 2013.

Risk matrix assessment

The three policy approach options will be assessed against the **criteria set out in Table 1 overleaf**, taking into account the context of the December 2023 WMS as outlined above.

Our previous literature review of planning duties, powers and precedents shows that to achieve net zero carbon buildings within a net zero carbon district and UK, several different requirements can and should be deployed in local plan policy. These form **four broad themes**:

- Energy efficiency (reducing energy use while performing adequately for the user)
- Efficient, fossil-free and renewable energy supply
- Carbon offsetting (or energy offsetting)
- Embodied carbon.

These themes follow the energy hierarchy, plus embodied carbon. An effective policy for zero-carbon buildings would cover all of these themes, allowing none to be neglected or concealed. Planning powers and precedents elsewhere exist for all of them. To deliver the necessary actions for the scale and urgency of the UK's carbon goals, we would need to emulate the more ambitious end of the range of existing precedents, which have been creatively testing the boundaries of the powers available (both before the WMS2023, and in 2025).

Secondary requirements, to reduce the energy performance gap (see glossary), could include:

- Post-occupancy evaluation
- 'Assured performance' schemes
- On-site construction supervision
- Airtightness tests prior to completion.

As noted in our previous reports, there is somewhat of a **mismatch between local plans' *duty* to radically reduce carbon, versus the potential constraints** around:

- The *extent* to which local planning authorities can wield their existing powers to require carbon reductions (depending on how the Inspector interprets the WMS2023 etc.),
- Local planning authorities' *duty to enable other outcomes* such as housing delivery.

This mismatch has caused some ambitious 'net zero' policies to fall at examination, despite other very similar policies having successfully passed that hurdle elsewhere

The well-tested, 'low planning risk' policy precedents tend to rely on requiring moderate reductions against Building Regulations Part L. Our 'Approach 1' reflects this. However, as noted, Part L is not suited to delivering actual energy and carbon reductions in practice.

Because of this mismatch, an approach that is low-risk for planning acceptability and viability is generally high-risk for climate, as it would fail to remedy the status quo of allowing new builds to add to the UK's carbon burden, and expose occupants to high costs of energy bills and future retrofit that almost all existing buildings will need if the UK is to reach its carbon goals. **It is thus necessary to differentiate the level of risk across several topics.** These topics reflect the key debates in the literature on the low carbon transition, emerging practice in local plans, and recent experience working with local authorities and developers.

Key messages

- The local plan has a **legal duty to mitigate climate change, and national policy says this should be done in line with the Climate Change Act 2008.**
- **Mitigation in line with the Act 2008** would logically need to deliver the built environment changes **shown to be necessary for the Act's carbon goals.**
- National government's current policies (including Building Regulations Part L) are **insufficient to deliver the necessary changes.**
- Local energy efficiency standards **are able to exceed Building Regulations**, as per the power granted by the Planning & Energy Act 2008.
- **There are local plan powers that can help deliver the changes**
  - There are perceived limits to how far these powers can be exercised – due to definition of powers, consistency with national policies, and potential to clash with other local plan duties (such as deliverability or viability).
  - Some adopted precedent local plans have now gone as far as necessary for the carbon goals for buildings' operational energy, e.g. Bath and North East Somerset, Cornwall and Central Lincolnshire.
- **A local plan policy could be 'low' or 'high' risk** depending on whether we focus on carbon and bills, or on viability and precedent.
- We therefore use a **'matrix' to assess risk across multiple topics.** This allows SWLP team to make an informed decision on which issues to prioritise.

Table 1: Scope of risk topics/criteria, across which policy options are next assessed.

Climate (2˚C carbon budgets)	Will this policy deliver carbon and energy savings consistent with what the Committee on Climate Change (CCC) has shown to be necessary for the UK to meet its legislated carbon budgets, and thus South Warwickshire's parallel 2050 net zero commitment? Consider also the even more ambitious Tyndall Centre carbon budgets for climate change ≤2˚C. Any new build that is not true net zero carbon will worsen the already-huge challenge faced (using up an excessive share of the carbon budgets, requiring even greater savings in other sectors, which CCC evidence implies is unlikely to be feasible). Any insufficiently energy-efficient buildings will place excessive demands on the region's limited renewable energy capacity (existing, and speed/scale at which future capacity can be added). Buildings without good thermal efficiency may not be safe or comfortable in a world that exceeds the global 2°C limit (possible by 2045).
Occupant energy bills	Might this policy permit or cause the developer to deliver a building that exposes its occupants to unnecessarily high energy costs or energy price volatility? Vice versa, is the resulting building likely to save energy bills long term?
Future retrofit costs / disruption	Will this policy induce the developer to deliver a building that is fit for the UK's zero-carbon future according to the Committee on Climate Change's identified necessity for minimal heat demand and low-carbon heat? (i.e. heat pumps or networks, not gas). If not, how disruptive and expensive would future retrofit works be? *(Note: This risk topic links to the 'climate' risk topic but considers the impact from the occupant / owner's point of view.)*
Electrical grid readiness	Will this induce the developer to minimise the burden that the new building places on the electricity grid, considering that the grid already faces the huge challenge of switching existing buildings and transport from fossil fuel to electricity? Will there be additional grid stress due to any energy exports from solar PV installed, and electrification (gas-free status) of net zero carbon homes? Might this policy induce the delivery of buildings that burden the grid more than they need to – beyond the grid upgrades that will need to happen anyway for the net zero carbon future and indicative Building Regs from 2025?
Delivery / sector readiness	How readily available are the materials, technologies and skills needed to comply with this – including energy calculation skills? How mainstream is this practice or level of performance, and are the relevant workers likely to understand how to deliver it? *(Note: Some of the necessary features have been signalled for several years to be in national building regulations Future Homes Standard from 2025 anyway – i.e. heat pumps and PV – therefore, much of the industry upskilling should already be occurring even without the local policy).*
LPA internal capability	How much resource and capacity will be needed internally at the local authority to accurately implement the policy including assessing information that developers would need to submit? Is there scope to upskill individuals in planning to assess net zero carbon policies? Is it likely that external consultants will be required to assess policy compliance? *(Note: all scores given in this topic are our best estimate of this challenge – South Warwickshire would have greater knowledge of its own capacity, or willingness to develop capacity).*
Viability / cost uplift (vs current Part L)	How much more would it cost to comply with this policy, compared to a business-as-usual new build? *(Note: This is based on estimates – by central government and evidence bases of various existing and emerging local plans – of cost uplift for various elements of improved building performance, and project experience of the cost of enhanced professional services in energy & carbon. Actual cost uplifts for the ambitious policy option are being produced for SWLP but are not yet available.)*
Planning powers / precedents	Is the local plan explicitly empowered to require this standard, via the Planning and Energy Act 2008, other legislation or other formal national policy (including the WMS2023)? Is there an existing adopted local plan precedent? If not explicitly empowered but also not explicitly prohibited: • Is there a precedent for this, implying that it can be acceptable to the Inspector? • Can it be shown that this is the only way to fulfil the need for 'radical' carbon reductions in line with the Climate Change Act, as per the NPPF?

Compatibility with national approach	To what extent would this policy component:
	• Use existing nationally endorsed methodologies / metrics for carbon and energy?
	• Help or hinder other changes that the government commits or intends to achieve with regards to carbon and energy? Such as:
	  ○ Future Homes Standard 2025 (2023 consultation)
	  ○ December 2023 WMS
	  ○ Net Zero Strategy (2021)
	  ○ Heat and Buildings Strategy (2021)
	  ○ Fully decarbonised electricity grid by 2035 (previous government) or 'Clean Power by 2030' meaning only 5% of generation from unabated gas (current government commitment, with acknowledgement that this will need a near-tripling of solar capacity and a doubling of onshore wind alongside at least a tripling of offshore wind, from today's levels).

We score each policy component from 0 (lowest risk) to 5 (highest risk). These scores reflect our professional judgement based on our extensive research into the topics at hand (see previous report) and our direct experience of supporting, defending and implementing policies.

Beyond the **themes** themselves (previously listed – e.g. energy efficiency, renewable energy supply, offsetting, embodied carbon), there are several different possible ways in which a local plan policy requirement could address each theme – using different mechanisms, calculations, standards, and degree of energy and carbon improvement that is required.

The risk level would vary depending on:

- *Means* by which each theme is addressed, for example –
  - Using national building regulation calculations for energy and carbon (lower risk in planning terms, but higher risk for climate due to these methods' inaccuracies).
  - … Or requiring the use of far more accurate calculation methods that exist in the industry (lower risk for climate but potentially higher risk in planning terms, as some of these may not so clearly align with Energy & Planning Act powers, or require specialist skills that are less abundant).
  - Replicating common existing precedents for offsetting (lower risk in planning terms)
  - … Or using a more effective mechanism for offsetting (medium risk in planning terms due to having fewer precedents; but lower risk in terms of climate outcomes).
- *Extent to which* the improvement is required, for example –
  - the *amount and type* of on-site energy and carbon improvement,
  - the *offset price* per tonne of carbon (or per kWh of energy) payable by developers.

We therefore assess a range of potential '**policy components**' that each represent a *means* and *extent* of requirements under each theme. These are arranged along the vertical axis of our full risk matrix (overleaf).

Each of these 'policy components' is scored against the full range of risk topics – climate, occupant bills, retrofit, sectoral readiness, build cost, powers/precedents, and consistency with national policies.

About the risks relating to a carbon offsetting policy in a local plan

Local plan offsetting usually means collecting payments from developers per tonne of carbon their building will emit, or per kWh of the building's total operational energy use that is not matched with on-site renewable energy generation. This is then spent on local projects to save the same amount of energy or carbon. This always involves some risks in the topic 'LPA internal capability' because of the burden of administering such an offset fund to deliver those local projects. 'Climate' risks arise when the amount paid is not enough to deliver the required verifiable amount of energy or carbon savings. Risks also arise in the topics 'occupant' and 'future retrofit' because offsetting may be used in lieu of creating an energy-efficient building.

A short note on the topic 'viability/cost risk'

Please note that our scoring in the 'viability/cost' risk column is in fact more related to 'cost uplift'. This is based on whether each policy component would drive measures that recent published data show are more costly than the current building regulations minimum, i.e.:

- Heat pumps (albeit building regulations Future Homes Standard (FHS) from 2025 imposes this in homes anyway)
- Fabric improvements (based on national government cost uplift figures)
- Solar panels beyond existing Building Regulations (albeit some will remain in the FHS)
- Cost to offset any remaining residual carbon or energy use
- Cost of specialist energy modelling or energy performance verification, where known.

Our 'viability/cost' risk estimation reflects the relative cost uplift that these policies might add to a typical base build cost, based on studies from central government and other local plans.

The actual impact on *viability of development in South Warwickshire* will depend on the land values, sales values, and changing industry build costs and labour. We note there is some evidence that sales[viii] value and rental economics[ix] improve in more energy-efficient buildings.

About the ever-changing landscape of precedents – how it affects 'planning acceptability'

Please note that several highly ambitious local plans have now been adopted with ground-breaking net zero carbon policies that have thoroughly tested the limits of existing planning powers. The most notable are Bath & North East Somerset 2023, Cornwall 2023, Central Lincolnshire 2023, and Tendring & Colchester Borders Garden Community DPD 2025. However, there have also been rejections at examination of some similar policies (e.g. Isle of Wight) or even less ambitious ones (Lancaster and Bracknell Forest), which suggests that risks and uncertainty remain over net zero planning powers. Nevertheless, the rejection of Salt Cross was recently overturned by the High Court as an unlawful interpretation of a previous WMS made in 2015, and the policies were approved by the Inspector in 2025 after re-examination.

Numerous other local authorities are either at examination or have emerging ambitious net zero carbon policies at Regulation 18 and 19 consultation stages. As these authorities work towards policy adoption, additional clarity and consistency will emerge regarding local authority net zero planning powers and the extent to which these can be used. Please see our previous South Warwickshire report (Literature Review + Position Statement) for more detail.

About risk scores in 'planning powers/precedents' & 'compatibility with national approach'

These two columns reflect any limitations placed (by the NPPF, PPG, WMS2023, and legislation) on the acceptability of the use of local authorities' powers for buildings' carbon reduction. The WMS2023 makes the risk levels in these two columns higher than they would have been previously. However, an element of uncertainty remains on whether the WMS really increases risk to such a level. This risk is shrinking as a slew of local authorities in 2025 have successfully put policies through examination with the WMS2023 in place. Those examinations help clarify the status of the WMS in balance against the climate mitigation

duty. For the purpose of this exercise, the risk level shows the higher end of the-possible range, to ensure South Warwickshire is not underinformed of the potential associated risk.

Matrix of all policy components (note: each approach will combine a selection of these – not all of them)

Scope	Policy requirements	Climate (2˚C carbon budgets)	Occupant energy bills	Future retrofit costs/ disruption	Electrical grid readiness	Delivery/ sector readiness	LPA internal capability	Viability / Cost	Planning powers/ precedents	Compatibility with national approach
Energy efficiency	63% improvement on Part L 2021 (residential)*/19% improvement on Part L 2013 (non-residential) TER, *from energy efficiency measures (including heat pumps)*	3	3	3-4	2	1	3	2	2	1
Energy efficiency	No fossil fuels (i.e. heat pump required)	0	2	0	2	1	1	1	1	0
Energy efficiency	SAP Fabric Energy Efficiency (FEE) *guideline* limit, e.g. 15-30kWh/m^2/year	2	2	2	0	2-3	2	3 (as limited cost data)	2-3	1-2
Energy efficiency	EUI *guideline* targets and mandatory reporting	No impact	No impact	No impact	No impact	3	2	No / little impact	1	4
Energy efficiency	EUI limits using PHPP/TM54 (Homes: 35kWh/m^2/year; Non-residential: varies by typology)	0	0	0	0	3-4	2	3	3-4	4-5
Energy efficiency	Space heat demand limit of ≤15-20kWh/m^2/year (predicted with PHPP/TM54)	0	0	0	0	3	2	3	3-4	4-5
Performance gap	Apply any one of several named proven processes to remedy the performance gap	0	0	0	0	3	3	2	2	2
Renewable energy	On-site renewable energy to match 100% of annual regulated energy use (residual energy use after the required reduction from energy efficiency)	3	3	2	3	2-3	2	2	2	2
Renewable energy	On-site renewable energy to match regulated and unregulated energy use (i.e. on-site net zero energy); or ≥120 kWh/m$^2_{\text{building footprint}}$/yr	0	0	0	2-4 depending on prior efficiency target	2	2	3-4 depending on prior efficiency target	2-3	4

Scope	Policy requirements	Climate (2˚C carbon budgets)	Occupant energy bills	Future retrofit costs/ disruption	Electrical grid readiness	Delivery/ sector readiness	LPA internal capability	Viability / Cost	Planning powers/ precedents	Compatibility with national approach
Offsetting	Offset 30 years' worth of regulated emissions at £273/tonne (DESNZ annual carbon valuation) via S106 fund (not tested to meet cost of local carbon saving schemes)	4	4	3	No impact	2	3	2	1	1
Offsetting	Offset any shortfall in on-site renewable energy generation to match total energy use (via S106 or direct investment); at the estimated cost of delivering that renewable energy (set as £/kWh)	1	1-3	1-3	3	1	2-3	2	3	3
Embodied carbon	Embodied carbon reporting only, for major development using RICS WLC methodology	4	No impact	No impact	No impact	2	2	1	2	No impact
Embodied carbon	Embodied carbon reporting for major development using RICS WLC methodology; target 900kgCO_2e/m^2 GIA for large-scale development	3	No impact	No impact	No impact	2	3	1	3	3
Embodied carbon	Embodied carbon reporting for major development using RICS WLC methodology; LETI-aligned [1] targets set for large-scale development	2	No impact	No impact	No impact	3	4	3	4	4

Actively reduces risk	0
Low risk	1
High risk	5

[1] LETI is the Low Energy Transformation Initiative. In addition to their work on setting energy targets aligned with the UK's carbon budgets, they have also done the same with embodied carbon targets (which they have in turn aligned with the similar target setting/benchmarking conducted by RIBA, the Royal Institute of British Architects). Their optimal recommended targets (especially for future years) represent significant improvement on current typical practice.

About this matrix

The matrix orders the policy components by theme from top to bottom according to the energy hierarchy (energy efficiency measures, then energy supply measures, then offsetting), and then embodied carbon.

It should be noted that although the majority of policy components above can be applied to both residential and non-residential development, the determined risk levels in the topic of 'planning powers' primarily reflect *residential* development. This is largely because the WMS2023, which is the main source of planning risk, has an overwhelming focus on residential development. The WMS2023 does refer to 'buildings' in general, but the calculation method it prescribes ("a specified version of SAP") is residential-only and thus logically cannot apply to non-residential buildings. Therefore, even though Part L-based approaches for energy efficiency improvements are proposed in Approaches 1 and 2 for both residential and non-residential development, our opinion is that the WMS2023 brings only minimal additional planning risk to Approach 3 for *non-residential* development. Policies for any building (regardless of type) may still be subject to additional scrutiny because of the general presence of the WMS2023 and its requirement to have a "*well-reasoned and robustly costed rationale that ensures... that development remains viable*". However, the WMS does not introduce any specific constraints on non-residential policies that would not have applied in its absence.

Most of the policy components have either a lower risk for climate and consumers but a higher risk for viability/planning powers, or vice versa. This is because of the current limitations on powers granted to local authorities, and the fact that this is a cutting-edge emerging policy area with few precedents that reduce emissions sufficiently to be in line with the Climate Change Act.

Key reasons for higher risk to climate and occupants are:

- **Failing to require use of accurate methodologies** to predict a building's actual carbon emissions in use
- **Requiring only % improvements on carbon and energy limits set by Building Regulations** (which fail to account for unregulated energy, and fail to incentivise thermally efficient building shape) instead of absolute energy and carbon targets
- **Failing to require steps to deliver energy performance as designed and predicted** (that is, failing to confront the energy performance gap)
- **Failing to ensure that the offsetting mechanism delivers** measurable and certain carbon savings that count towards the local area's carbon account and would not have happened otherwise, and that the offsetting is truly a last resort. Overly cheap offsets disincentivise the developer from making the feasible on-site energy and carbon improvements – raising the risk of new buildings that have high energy bills and need expensive, disruptive retrofit later.

Key reasons for higher planning risk are:

- **Setting requirements that are not based on the national calculation methodology** of building regulations (Part L and SAP), instead using more accurate methodologies
- **Higher (or unknown) cost of certain measures** – in particular, PV solar panels and some kinds of low carbon heating – although this will change as these become more mainstream and economies of scale take effect due to the fact that these technologies are part of the incoming national FHS. The FHS is expected to be published in 2025, come into force in 2026, and apply to all new builds from 2027.
- **Workforce skills at scale to deliver the higher standards** – but this will improve as the industry improves its normal practice in response to demand and the incoming FHS national building regulation as above. This is a good rationale for promoting growth of green construction skills within the district and wider region.
- **Non-compliance with the WMS2023**: Any policy component that exceeds Building Regulations using a metric other than the Target Emissions Rate in SAP will result in higher risk in the category 'compatibility with national approach'. However, since the WMS2023 has been in place, as of mid-2025 three precedents have diverged from it.

The right combination of policy components is vital

It is important to note that no single one of these policy components is enough *on its own* to achieve new buildings that deliver the required energy and carbon performance that is needed to support the national carbon budgets and local carbon commitments. Any fully effective net zero carbon buildings approach would need to adopt a suite of requirements covering all of the following themes:

- Energy efficiency improvements in design
- Energy performance gap
- Fossil-free and renewable energy supply
- Offsetting
- Embodied carbon.

Not all of the policy components (previously presented) are compatible with all others – but each policy approach presented here is combination of components, that *is* internally compatible. There is a degree of pick and choose available to South Warwickshire, but policy components must be carefully selected to ensure a holistic and complete policy suite that is internally consistent. The Council must therefore decide which combination of requirements it is willing to pursue, prioritising either the risk of challenge/delay to adoption, or the risk of failing to achieve the carbon reductions required by climate science and legislation. The three potential examples that we have explored in this report are summarised overleaf.

The diagram to the right summarises the three approaches that are assessed in detail below. Each approach has 5 sections:

- **Energy efficiency**
- **Reduction of energy performance gap**
- **On-site renewable energy generation**
- **Carbon/energy offsetting**
- **Embodied carbon**

As previously noted, it is only the energy efficiency boxes (orange) that are *directly* impacted by the WMS2023. The on-site renewable energy targets (green boxes in diagram) are indirectly impacted by the orange boxes because energy efficiency will control the total amount of energy use and thus the amount of renewable energy that is needed to become 'net zero carbon' (by the respective definition of each approach; i.e. Approach 1 covers only regulated energy, but Approaches 2-3 cover all operational energy).

Embodied carbon policies (light blue boxes in diagram) are not constrained by the WMS2023. There is no prescribed national approach to embodied carbon, therefore no prescribed metric or approach with which local policy must be consistent. Still, across our three options here, we increase the embodied carbon requirements from lowest (approach 1) to highest (in approach 3), simply to reflect a differentiated level of ambition to mirror the approaches' increasing level of ambition in energy requirements (from lowest ambition in Approach 1 to highest in Approach 3). For the embodied carbon policies, the scale of ambition and risk scores are reflective only of existing precedents and cost impact, instead of being impacted by the 2023 WMS. Please note that none of policy options considered here would be 'zero embodied carbon' as that could only be done via offsetting, whereas it is more important and more reliable to reduce embodied carbon emissions at source (which is what Approach 2 and Approach 3 attempt to do).

Please note that the colours shown here are used to emphasise which 'energy hierarchy' stage each component sits within. This colour coding is echoed in the subsequent risk matrix tables' first columns (titled 'scope'). Those risk matrix tables also use other colours to emphasise the numbered levels of risk from level 0 (pale blue) to level 5 (pink) as shown in each risk matrix key. For the sake of readers with colour vision challenges, those numbers and scopes are also expressed directly in the tables as text.

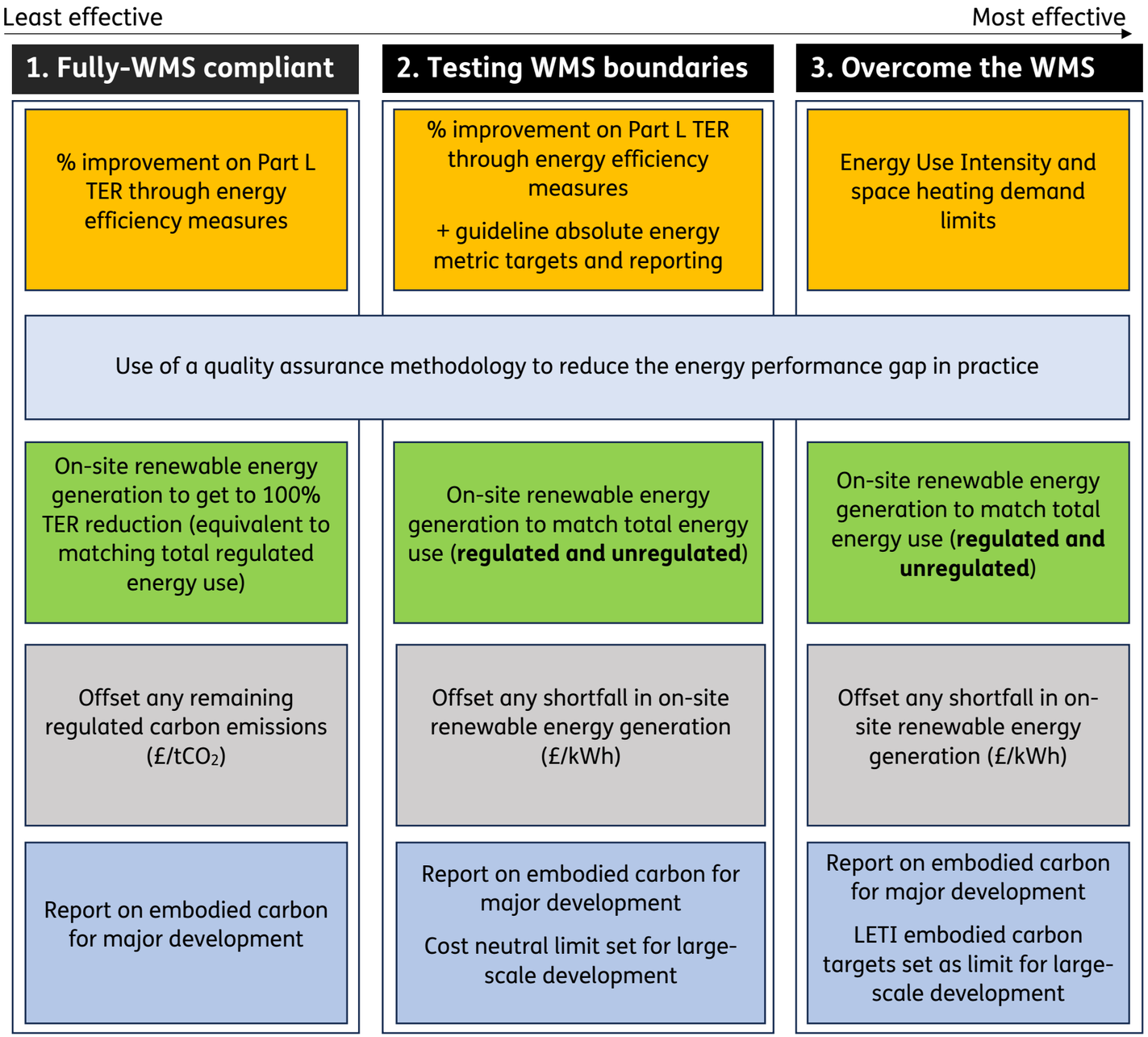


Figure 2: Three broad policy approaches in light of the Written Ministerial Statement 2023. From left to right: Approach 1, Approach 2, Approach 3. These are explored in more specific detail, and evaluated, in the subsequent pages.

Approach 1 – Fully WMS compliant

Medium-high risk for climate, low risk for planning

Scope	Policy requirements	Climate (2˚C carbon budgets)	Occupant energy bills	Future retrofit costs /disruption	Electrical grid readiness	Delivery / sector readiness	LPA internal capability	Viability/ cost	Planning powers/ precedents	Compatibility with national approach
Energy efficiency	63% improvement on Part L 2021 (residential)*/ other % improvement on Part L 2013 (non-residential) TER *from energy efficiency measures (including heat pumps)*	3	3	3-4	2	1	2 in Warwick (thanks to DPD experience) 3 elsewhere	2	2	1
Energy efficiency	No fossil fuels (i.e. heat pump or similar required)	0	2	0	2	1	1	1	1	0
Performance gap	Apply any one of several named proven processes to remedy the performance gap	0	0	0	0	3	3	2	2	2
Renewable energy	On-site renewable energy to match regulated energy use	3	3	2	3	1	2	2	2	2
Offsetting	Offset 30 years' worth of regulated emissions at £273/tonne (DESNZ annual carbon valuation[x]) via S106 fund (not tested to meet cost of local carbon saving schemes)	4	4	3	No impact	2	2 – 3 (or refer to Warwick DPD experience)	2	1	1
Embodied carbon	Embodied carbon reporting for major development using RICS WLC methodology	4	No impact	No impact	No impact	2	2	1	2	No impact

Actively reduces risk	0
Low risk	1
High risk	5

Approach 1 acts as a **policy approach that is fully compliant with the December 2023 WMS** and confidently sits within the bounds of mechanisms already adopted by many local plans to date, using only national building regulations metrics while still pursuing some degree of improvement within those metrics. It follows the structure of several 'net zero carbon buildings' policy precedents in local plans that have passed inspection and been successfully implemented with good compliance rates (e.g. London Plan 2021; Reading 2019; Milton Keynes 2019; Oxford 2020.

As previously stated, the scope of constraints the WMS inflicts is strictly focused on local *energy efficiency* standards. Therefore, the core requirement of Approach 1 (i.e. requiring a 63% TER improvement through energy efficiency measures only) does not include renewable energy generation measures. The 63% reduction aligns with the Future Homes Standard (FHS) approximate anticipated improvement on Part L 2021. Requiring this carbon reduction to be made solely through energy efficiency measures is positive for climate, occupant bills, electrical grid capacity and retrofit risks, in that it ensures developers cannot mask poor energy efficiency by adding more solar PV. The requirement is feasible in that the Government's previous draft FHS specification indicated that this FHS performance can be achieved solely through fabric improvements and a heat pump, without any solar PV. Energy efficiency is essential within the UK's carbon budgets, minimises demands placed on the grid, and is a more certain effective way of reducing energy bills. Energy efficiency is also much harder to retrofit later, thus is vital to achieve when first built (compared to the relative ease of adding solar PV later). Improved energy efficiency also reduces the amount of PV needed to get to net zero.

Although this approach is still based on metrics from SAP, which is known to be inaccurate, the approach allows us to push for improvements made solely through energy efficiency measures. By classifying heat pumps as an energy efficiency measure (whereas the industry often classifies heat pumps as a renewable energy measure), the policy recognises the **efficiency gains of heat pumps (300% efficient compared to 100% maximum value of direct electric and gas boilers)**. Due to the efficiency gains provided by heat pumps, the new **building will add less stress to the grid** because fewer units of electricity are required to produce the units of heat needed to sufficiently heat the building (and because less PV is needed for the onsite net zero balance, resulting in a lower 'peak export' of PV energy to the grid at the times when PV is producing more electricity than the home can immediately use, such as midday in summer).

It is almost guaranteed that the Future Homes Standard will prohibit the use of gas boilers, as indicated by the 2019-20 FHS consultation and 2023-24 FHS consultation. However, for the sake of clarity, fossil fuels are stated as unacceptable for all approaches proposed in the current risk matrix document in case this position of future national policy is delayed, diluted or withdrawn. This is compatible with the 63% TER reduction through energy efficiency measures, as that reflects the FHS (2019-20 consultation spec) which will also be fossil-free.

Because this Approach does not use absolute energy targets, it is **not guaranteed that the building will completely avoid retrofitting in the future**. This is because the standards vital[xi] to meet the UK's legally binding carbon targets of the Climate Change Act include a space heating-demand value of 15-20kWh/m^2/year. By contrast, this policy is based around the national Future Homes Standard specification (as per Government's consultation specifications[2] in 2019-20, or 2023-24 consultation option 2), which would have a space heat demand per m^2 per year of 20-29kWh in terraced and semi-detached homes, or 43-47kWh in detached and bungalows if calculated with the current version of SAP[xii] (or double these numbers if calculated with a more accurate energy modelling method such as PHPP, as SAP underestimates heat demand specifically[xiii]). Subsequently, for the home to operate at the 15-20kWh level in the future, the retrofit required could be disruptive to the occupant, may damage the building (especially insulation[xiv, xv]), and could cost the future occupant three-to-five times the price it would have cost the developer to include in the first place[xvi]. Future retrofit also comes with extra embodied carbon as outdated building elements are replaced.

As the **2023 WMS does not impact what local policies can require regarding on-site renewable energy**, we are able to set the policy requirement as high as possible within the framing of SAP and Building Regulations (i.e. provide solar PV to match 100% of residual *regulated* energy use that remains after the initial 63% TER reduction from energy efficiency improvements). As the scope of the renewable energy requirement in Approach 1 is *regulated* energy only, it remains safely within the bounds of the WMS and national technical standards (see separate Approach 2 for how this scope could be expanded to include unregulated energy use too). Matching regulated energy use with solar PV output means that the building could be considered 'net zero energy' under a SAP/Building Regulations definition (although it may not achieve a 100% TER reduction, because SAP gives less carbon 'credit' per kWh of PV energy exported than the carbon it associates per kWh of grid energy used). However, we cannot consider this to be truly 'net zero', because unregulated energy is not accounted for.

Also within Approach 1, it is **essential that a proven scheme to address the performance gap is implemented** alongside operational measures. This is particularly pertinent for this Approach as its requirements are based on metrics from Building Regulations SAP calculation methodology, which is known to suffer from a large performance gap (a difference between predicted and actual energy performance), due to modelling inaccuracies and insufficient quality verification during construction. Having a process in place to mitigate the performance gap can help compensate for that weakness. Suitable methods could include the NEF/GHA Assured Performance Process, BSRIA Soft Landings Framework, or NABERS UK (offices only).

[2] Both of the Government's indicative FHS specifications from consultations (2019-20, and 2023-24 Option 2) are ones which achieved the FHS' targeted carbon reduction without the use of solar panels, therefore only via energy efficiency measures as we define them in our policy approach options (i.e. including heat pumps). The 2019-20 consultation indicated that the FHS would achieve the desired carbon reduction through a combination of improved fabric and switching from a gas boiler to a heat pump (no solar PV). The 2023-24 consultation appeared to claim that its 'option 2' FHS spec would achieve it just by switching to a heat pump without making any fabric efficiency improvements (and without any solar PV).

Within Approach 1, the **carbon offsetting approach** is designed to reflect several existing local plan precedents. In most of those precedents, the policies followed the London Plan carbon offset payment price per tonne of carbon was originally set to reflect the national valuation at the time when London's policy was devised; other local plans have followed London's approach without updating the price to reflect changes in that national valuation of carbon. A further precedent is the existing Warwick Net Zero Carbon DPD adopted in 2024, which was devised in 2020-22 and did use an updated national carbon price for that time. The Approach 1 shown here as an option for SWLP remedies that pricing issue as follows:

- The up-to-date national valuation of carbon 2025 price is set to low, medium and high values of £137, £273 or 410/tCO_2 respectively.
- The central value of £273 has been quoted in the policy.
- This is the same source from which Greater London sourced its original carbon prices of £60-90/tonne in 2015 [xvii], but Greater London and its boroughs (and those other local plans that emulate London) have not kept this price up to date with the increases to that nationally recognised price.
- These increased prices in the national valuation (since the London Plan set its price) flow partly from the cost of delivering the UK's increased carbon saving targets in the Climate Change Act update 2019, but also inflation and grid decarbonisation.

Despite this update, there still remains a risk here in that even the up-to-date price might not cover the actual cost of local projects that deliver the same amount of measurable and demonstrably additional carbon savings. For example, a study in Bath & North East Somerset found that the local cost of such projects could be as high as £652/tCO_2 [xviii]. However, selecting the up-to-date national valuation of carbon is an approach that can be reliably defended at examination due to precedents and alignment with the recognised national figure (thus 'consistent with national policy', as per the 'tests of soundness' in local plan examinations).

Any offsetting price should include not just the project itself, but also the administrative cost of devising projects with a measurable carbon benefit, identifying a pipeline of opportunities, project management, legal negotiation with third-party asset owners (such as buildings that are to receive energy retrofitting), fund administration, and potentially land acquisition (if the project involves tree planting or standalone renewable energy generation). SWLP team may find it useful to compare the national carbon price against any recent experience it has of adding solar panels to the respective District Councils' own estate.

Offsetting in Approach 1, as with both other Approaches evaluated later in the current document, is strictly seen as a last resort because benefits will always be maximised when on-site performance is prioritised and achieved as intended under policy requirements.

It is recommended that if such an offsetting approach is followed, the funds raised should be spent on *renewable energy generation capacity* within South Warwickshire, or possibly as a fallback option other energy saving interventions in South Warwickshire that are guaranteed [3] to save the required amount of carbon. Often, the question is raised of whether offset funds could be spent on other carbon saving projects such as tree planting. However, as noted in our previous report for South Warwickshire (literature review):

- The UK's carbon budgets will need the buildings and energy sectors to reach zero emissions within their own scope several years in advance of the 2050 net zero goal, whereas the UK's limited capacity for carbon *removals* (including that achieved by woodlands) needs to be reserved to counteract the emissions of sectors that are technically unfeasible to get to zero emissions (such as aviation and agriculture).
- The assumed capacity for carbon removals in the UK's carbon budgets already assume an increase in tree planting so that forest cover rises from circa 13% today to circa 18% by 2050 – that is, this afforestation increase needs to happen *as well as, not instead of* the drastically improved energy efficiency and 'true zero' carbon emissions in new buildings from 2025 as outlined in our previous report.
- That afforestation increase already requires a drastic acceleration of tree planting rates from their very low recent levels, and therefore it is highly unlikely that local carbon offset fund would be achieve any carbon removals that are *additional* to this.
- As well as the above issue regarding the need for carbon savings by sector, tree planting is also subject to long-term risks in the amount of carbon it will actually save, as trees' survival is impacted by quality of care, extreme weather, wildfires, or simply change of land use/ownership. Should carbon savings be reversed through any of these threats, it is unclear who is responsible for remedying this.

Embodied carbon is increasingly important to consider as operational carbon is reduced. Yet there is still no national position on embodied carbon, and so far only one local authority (Bath & North East Somerset Council) has had an embodied carbon limit requirement tested at examination. Therefore, to ensure the overall approach remains fully WMS-compliant and does not significantly depart from national policy (or lack thereof), Approach 1 only requires that embodied carbon is reported on for major development and does not set a limit.

To summarise, Approach 1 is considered to be fully WMS-compliant by using the WMS' prescribed metric for its energy efficiency target (%TER reduction) and aligning that target with anticipated future national building regulations. This makes the approach **high risk to climate, retrofit and bills,** because unregulated energy is not counted and fabric and solar PV standards are far from the level needed for the UK's carbon goals. **Planning and costs/viability risks are relatively low** in comparison to our other approaches, as many adopted local plans have similar policies, having been tested at examination before.

[3] An example of an intervention that would not be guaranteed to save the required amount of carbon would be energy efficiency improvements in existing homes, because these are at risk of not achieving the predicted energy savings due to behavioural factors – e.g. when insulation is retrofitted to an existing home, the occupant may choose to simply enjoy a warmer home while spending the same amount on energy, rather than maintaining the previous indoor temperature and enjoying reduced energy bills. This of course is positive for the occupant's wellbeing, but would not save carbon as is the essential function of a carbon offset fund.

Approach 2 – Testing WMS boundaries

Medium risk for climate, medium risk for planning

Scope	Policy requirements	Climate (2˚C carbon budgets)	Occupant energy bills	Future retrofit costs /disruption	Electrical grid readiness	Delivery/ sector readiness	LPA internal capability	Viability/ cost	Planning powers/ precedents	Compatibility with national approach
Energy efficiency	63% improvement on Part L 2021 TER (residential)*/19% improvement on Part L 2013 (non-residential) TER *from energy efficiency measures (including heat pumps)*	3	3	3-4	2	1	3	2	2	1
Energy efficiency	Space heat demand *guideline* limit 15-20kWh/m^2/year* using SAP Fabric Energy Efficiency (FEE) [**exact figure could change in final policy]*	2	2	2	0	2-3	2	3 (as limited cost data)	3	1-2
Energy efficiency	EUI *guideline* targets and mandatory reporting	No impact	No impact	No impact	No impact	3	2	No impact	No impact	4-5
Energy efficiency	No fossil fuels (i.e. heat pump or similar required)	0	2	0	2	1	1	1	1	0
Performance gap	Apply any one of several named proven processes to remedy the performance gap	0	0	0	0	3	3	2	2	2
Renewable energy	On-site renewable energy to match regulated and unregulated energy use (i.e. on-site net zero energy); output at least 120 kWh/m^2$_{\text{building footprint}}$/yr	0	0	0	3	2	2-3	3	4	4
Offsetting	Offset any shortfall in on-site renewable energy generation to match total energy use (via S106 or direct investment); at cost of delivering that renewable energy (set as £/kWh)	1	1-3	1-3	1-3	1	2	2	2	2-3
Embodied carbon	Embodied carbon reporting for major development using RICS WLC methodology[xix]; target of 900 kgCO_2e/m^2 GIA for large-scale development	3	No impact	No impact	No impact	2	3	1	3	4

Actively reduces risk	0
Low risk	1
High risk	5

Approach 2 looks to **utilise the ambiguities of the WMS** to assume the maximum possible freedom that the WMS could be interpreted to allow. The basic structure of Approach 2 is similar to the fully-WMS compliant requirements of Approach 1 but builds upon this by maximising policy requirements on topics where the position of the WMS and national policy is not entirely clear. The requirements in Approach 2 **test the WMS boundaries whilst remaining robust and defensible** against the letter of the WMS' constraints and anticipated challenges throughout the examination process. There may be other ways that the WMS boundaries can be tested, but we feel this collection of requirements are most defensible and simultaneously ambitious in the context of the WMS2023 and its purported constraints.

The TER percentage improvement by energy efficiency measures is the same as in Approach 1, but is now supported by additional metrics to further ensure energy efficiency of the fabric:

- Setting an absolute space heat demand limit of 15-20kWh (using the FEE metric in SAP) means the **home must have an inherently thermally efficient form**. This component does not apply to non-residential development, as there is no FEE metric in SBEM (the non-residential equivalent to the SAP methodology).
- This component makes the policy approach stronger than adopted precedents that only require a percentage improvement on the Part L baseline – because the Part L baseline is not absolute but relative: it is derived from a 'notional' building of the same size and shape. If the proposed building has a complex form with many joins and surface areas that leak heat, Part L would simply allow leeway to use more energy. Setting an absolute limit on this metric will remove this weakness of 'relative' improvement and move towards the level of performance vital to make new buildings compatible with the UK's carbon budgets (which are absolute, not relative).
- We do however **recognise that the building may not achieve this performance level in actual** operation, due to the aforementioned fact that Part L calculation methods dramatically underestimate space heat demand. Please also note that the exact figure in the policy could be adjusted to reflect feasibility and cost evidence (discussed later in this section). The stated 15-20kWh/m^2/year target reflects the space heat demand target needed for the UK's carbon targets (see previous report). While space heat demand is not precisely equal to FEE, Part L does not set a target for space heat demand and so FEE is used as the closest proxy metric. 15-20kWh would equate to a 39-54% reduction on current Building Regulations (Part L 2021) modelled in SAP10.2 [xx].

As set out above, Approach 2's absolute target in FEE is an improvement for energy efficiency versus Approach 1. However, this brings **additional risk in terms of compliance against the 2023 WMS** because the FEE requirement is an improvement upon Building Regulations that is not expressed as % reduction on TER. On one hand, this policy requirement steps outside the exact wording of the WMS2023, but on the other hand it adheres to NPPF and Planning & Energy Act 2008 requirements stating that national technical standards should be used – and it is a step that would feed into the % TER reduction target rather than being separate from TER. We are aware of two precedent adopted local plan policies that include an FEE target that were adopted post-WMS2023: Warwick Net Zero Carbon DPD sets a % improvement on Part L TFEE, while West Berkshire sets absolute FEE targets by home type.

Setting the FEE target as low as 15-20kWh/m^2/year does raise risk in the topic of cost, because there is little cost data for homes built to that level. Evidence from the Future Homes Hub [xxi] indicates that even with the strongest fabric standard they had modelled, some home types would still exceed 20kWh FEE. This is not to say that it is unachievable but that there is not existing published cost evidence that can be drawn upon for viability testing. Therefore, for soundness reasons, it might be necessary to vary this target to reflect a fabric standard for which there *is* cost data, such as for the 'Future Homes Standard Fabric Only' specification released by Government in 2021, which has been costed by Government [xxii] and by third parties in other local plans' evidence bases [xxiii, xxiv, xxv]. That specification would give an FEE of about 21-45kWh in most homes (but could be as low as 13.5kWh for mid-floor high rise flat or as high as to 51kWh for a bungalow), according to the Future Homes Hub modelling cited above. However, this would not reflect the necessary energy efficiency for the UK's carbon budgets (see previous report). Therefore, for the purposes of this comparison of approaches, we use a 15-20kWh FEE target and assign a higher risk in the topics of 'cost' and 'industry readiness'. If the FEE target were revised upwards (to 21-51kWh as cited above to match the available cost evidence), then the 'cost' and 'industry readiness' risk would be lower but the 'climate', 'energy bills', 'retrofit' and 'electrical grid readiness' risks would all be higher.

In addition to the FEE limit, Approach 2 proposes that a *guideline-only* Energy Use Intensity (EUI) target is included in the policy suite. EUI represents the amount of *total* energy use per square metre of floor space. This is expressed as non-mandatory because a mandatory EUI metric would go against the 2023 WMS and is not a standard Building Regulations Part L metric. Instead, the proposed non-mandatory EUI target would provide a benchmark for applicants to work towards and understand how the building performs against best practice metrics and standards such as those set by LETI [xxvi] and RIBA [xxvii] which align with the energy efficiency needed in new builds to align with the sectoral changes necessary for the UK's carbon budgets. EUI can be crudely estimated with data produced by SAP, but it would be encouraged that the applicant uses a more accurate energy prediction method such as PHPP (or CIBSE TM54 in non-residential). The requirement for TM54 calculations in non-residential is less divergent from national standards, in that TM54 is endorsed in Building Regulations Part L 2021 as a suitable method for the energy forecasting that Part L 2021 requires in new build non-residential over 1,000m^2.

Alternatively, to address the problems of the inaccurate FEE metric and the lack of a true total EUI metric in SAP, South Warwickshire could explore using emerging tools such as the South West Net Zero Energy Hub SAP Energy Adjustment Tool [xxviii], which is now being utilised in practice by Cornwall Council and Bath & North East Somerset Council (titled 'Energy Summary Tool'). This tool starts with SAP calculations for a home, then adjusts these to reflect the probable actual performance (in total energy use and space heating) by remedying SAP's underestimation of space heat demand and other regulated energy, and SAP's overestimation of unregulated energy.

Since the WMS does not affect the local plan's ability to require on-site renewable energy, **Approach 2 pushes the on-site renewable energy requirement further than Approach 1** by requiring that both regulated *and* unregulated energy use is matched by solar PV output,

meaning the development is 'net zero' for *total* operational energy (whereas Approach 1 only required this for *regulated* energy, which can represent as little as 50% of the total). A supplementary target of 120 kWh/$m^2_{\text{building footprint}}$/yr is included under this policy requirement, which acts as a metric to ensure a building truly maximises solar PV on rooftops. That 120kWh figure reflects the feasible provision of PV demonstrated in other local plans' evidence bases (including Cornwall, Bath/Somerset, Essex and South Oxfordshire/Vale of White Horse ["South & Vale"] where energy modelling proved that this was feasible[xxix]). If SWLP chooses to adopt that target, this should ideally be supported by evidence of whether SWLP area's annual sunlight levels are sufficient to meet this; the separate energy modelling aspect of our work for SWLP will explore the amount of PV generation that can be feasibly met in this location.

It is important to note that because there is no mandatory fixed EUI limit in Approach 2, a **large amount of solar PV may be required to match total energy use**, which in some cases may not be feasible on-site and/or may significantly increase the build cost uplift. By contrast, if there were an EUI limit in place (as in Approach 3 described later), this would limit the amount of solar PV needed (and indeed it would allow the modelling of the exact specific amount of necessary solar PV to reach net zero). Without an EUI limit in place, the amount of solar PV needed for net zero can significantly vary from house to house depending on the degree of energy efficiency and amount of floor space.

In Approach 2, assuming a building has reduced energy demand sufficiently that the resulting annual energy demand can be annually matched by solar PV that can fit on the building's own rooftop, true net zero in operation would *technically* be achieved. However, the building would still most likely not fulfil the industry best practice frameworks for compatibility with the UK's carbon goals (as per LETI, RIBA and UKNZCBS cited in our previous report), which are instead defined by EUI and space heating demand limits in addition to the PV. Essentially, **true net zero in Approach 2 may require more solar PV than in Approach 3**. This additional solar PV comes with associated embodied carbon, cost and grid infrastructure burdens.

Another key improvement from Approach 1 is the offsetting approach. Where Approach 1 involved *carbon* offsetting (i.e. any residual *carbon* to a 100% TER reduction, with a payment per tonne of *carbon* emissions), **Approach 2 instead uses *energy* offsetting (a payment per kWh of energy use not matched by onsite renewable energy generation)**. Only the shortfall in renewable energy can be offset, thus the 63% TER reduction via energy efficiency must be achieved on site. The offset price per kWh of missing renewable energy generation can specifically be set a value that directly represents the cost of installing renewable energy, thus should will be sufficient to install the residual renewable energy elsewhere in South Warwickshire. This simplifies implementation, thus improving risk in 'LPA capability' topic.

Additionally, offsetting through renewable energy projects ensures that this policy **avoids forcing other sectors (land use or existing buildings) to pick up avoidable excess carbon of new buildings**. As discussed in the previous report, the UK's carbon budgets will need steep drops in carbon emissions from all sectors, meaning every sector faces a large challenge and is unlikely to have ability to pick up slack from other underperforming sectors. This aspect of the 'energy offsetting' approach helps with overall climate outcomes, given that the offset fund will directly deliver what was missing on site (i.e. renewable energy generation, not tree planting or other uncertain interventions whose carbon saving cannot be reliably measured). Offsets may be via Section 106 payments to follow precedents, or the developer could contribute directly to expand local renewable energy schemes. The price could be set to align with national estimates of PV installation costs, if these reflect actual costs in SWLP area.

Embodied carbon standards in Approach 2 are also improved over Approach 1. As previously noted, there is no national policy on embodied carbon with which to be consistent. In Approach 2, embodied carbon reporting is required for major schemes (same as in Approach 1), but also a backstop target is set for large scale schemes to prevent excessive embodied carbon emissions. This backstop target is here set to reflect a 'business-as-usual' embodied carbon figure which is therefore cost neutral[xxx] and thus does not impact viability. As it does not improve on business-as-usual, it does not represent best practice design. However, it does however ensure that applicants do not perform worse than average. This limit has been used in at least on adopted precedent (Bath & North East Somerset 2023[xxxi])

There may be scope to tighten this embodied carbon target, as other more recent studies have estimated that current standard practice may now be as low as **600 $kgCO_2e/m^2$ GIA** (see 2023 evidence[xxxii] from South and Vale emerging local plan). That study found that this 600kg figure was the typical embodied carbon value across residential and non-residential typologies with current building regulations (Part L 2021). Therefore, this target can also be considered cost neutral, as the materials and specification assumed under this scenario of current Building Regulations are already applied to already reflect current 'business as usual' construction methods and materials. However, as yet there is no *adopted* precedent for embodied carbon policy requiring this exact target figure, meaning additional planning risk would be associated with this lower emissions limit versus the limit of 900 $kgCO_2e/m^2$ shown in the Approach 2 risk matrix. The policy's mandatory embodied carbon reporting would generate data that could be used to set a custom benchmark from which to base future targets in future iterations of the South Warwickshire Local Plan.

In summary, the required standards in this Approach test the boundaries of the 2023 WMS, yet all of the mandatory energy standards are based on the national calculation models SAP and SBEM (as used in Part L of Building Regulations). Therefore, **they all are safely within the Planning and Energy Act 2008 powers to set "reasonable requirements"** for energy efficiency and a proportion of energy to be met with local renewable supply, which is primary statute and cannot be overruled by non-legislated policy such as the 2023 WMS. Given the climate crisis and the UK's carbon budgets, it is 'reasonable' to require 100% renewable energy so long as this can be demonstrated viable using appropriate cost estimates.

There is still 'medium' climate risk because of the shortcomings of SAP in terms of inaccurate prediction of energy use, but this weakness is somewhat reduced in the following ways:

- Requiring use of a methodology proven to reduce the energy performance gap.
- Encouraging use of a guideline EUI target.
- Requiring that on-site renewable energy generation matches not only regulated, but also unregulated energy use (as opposed to Approach 1 which only covered regulated).

Approach 3 – Overcome the WMS

Low risk for climate, high risk for planning

Scope	Policy requirements	Climate (2˚C carbon budgets)	Occupant energy bills	Future retrofit costs/ disruption	Electrical grid readiness	Delivery/ sector readiness	LPA internal capability	Viability/ cost	Planning powers/ precedents	Compatibility with national approach
Energy efficiency	EUI limits using PHPP/TM54 (Homes: 35kWh/m^2/year; Non-residential: varies by typology)	0	0	0	0	3	2	3	3-4	5
Energy efficiency	Space heat demand limit of 15kWh/m^2/year (predicted with PHPP/TM54)	0	0	0	0	3	2	3	3-4	4-5
Energy efficiency	No fossil fuels (i.e. heat pump or similar required)	0	2	0	2	1	1	1	1	0
Performance gap	Process to remedy performance gap	0	0	0	0	3	3	2	2	2
Renewable energy	Onsite generation to match total energy use, including unregulated (estimated with PHPP/TM54); output must demonstrate at least 120 kWh/m$^2_{\text{building footprint}}$/yr	0	0	0	3	2	2-3	3	4	4
Offsetting	Offset any shortfall in on-site renewable energy generation to match total energy use (via S106 or direct investment); at cost of delivering that renewable energy (set as £/kWh)	1	1-2	1-2	3	1	2	1	3	2-3
Embodied carbon	Embodied carbon reporting for major development using RICS WLC [xxxiii] methodology; LETI-aligned targets set for large-scale development	2	No impact	No impact	No impact	3	4	3	4	4

Actively reduces risk	0
Low risk	1
High risk	5

The final policy option proposed, Approach 3, supports a position that **diverges from the 2023 WMS,** specifically the WMS' stipulation to express any energy efficiency requirements as % TER reduction. This would involve justifying this divergence from the WMS, making the argument at examination on the grounds that the WMS' purported constraints are unjustified in that to follow the WMS would inhibit or even prevent the fulfilment of the local plan's legal duty to mitigate climate change (Planning & Compulsory Purchase Act) proactively in line with the Climate Change Act (NPPF 2024). Clearly this policy approach comes with additional planning risk due to divergence from the WMS2023 but should still be considered due to the climate mandate and its protection against high energy bills and grid infrastructure impacts.

Although this Approach will come under greater scrutiny at examination and opposition from objectors due to the WMS2023, a WMS is not a fixed and final rule that must always be followed. The Courts have emphasised[xxxiv] that planning guidance from the Secretary of State "does not amount to a legal rule, and that **local decision-makers are free to rely on local or exceptional circumstances** as to why a departure from that national guidance is considered to be justified". We later note three precedent plans that succeeded in this sense in 2025.

If local circumstances are demonstrated to show that there is a need for alternative metrics and standards such as those proposed in Approach 3 and that these are viable in the local area, then it can be defensible to diverge from the WMS. This will **still need to be backed by robust evidence of viability based on costings of the proposed policy**. This could draw on the itemised costs in evidence bases of existing and emerging plans that have similar requirements, such as Cornwall, Bath & North-East Somerset, Central Lincolnshire, Essex, and South Oxfordshire and Vale of White Horse.

Demonstration of such local circumstances would require a substantial evidence base to support departure from Building Regulations. An evidence base of local feasibility and cost assessments testing energy-based metrics against Building Regulations would constitute strong evidence. This could be further strengthened by the aforementioned evidence that the specified energy metrics are necessary to hit the national and local carbon reduction commitments (this argument relating to national carbon budgets, and insufficient national action towards them, was outlined in the previous report, and the ways in which policy Approach 3 remedies this are discussed on this page). Engagement with local residents might further strengthen this approach if it demonstrates that residents are unsupportive of Building Regulations metrics and prefer industry-proven metrics that will deliver energy efficient homes with low running costs and help directly deliver the committed carbon goals. **Emphasising the local plan's duty to meet local carbon budgets that align with the UK's legally-binding 2050 net zero target** is an essential piece of evidence to support the need for stronger policy that departs form Building Regulations.

As previously discussed, it is the view of Bioregional that the 2023 WMS places only minimal additional planning risk on Approach 3 for non-residential development. The general position of the WMS places constraints on the energy efficiency metrics that can be sought in *residential* development, but its preferred metric (% TER reduction) is not applicable to non-residential development. Therefore, the **elevated planning risk levels in the matrix above primarily apply to residential development** and would be reduced if this EUI-based approach were only applied to non-residential development.

Approach 3 essentially reflects the operational net zero carbon definition proposed by the range of industry experts that form LETI and UKNZCBS, as detailed in our previous report. Central Lincolnshire successfully adopted this policy approach in April 2023, whilst Cornwall Council and Bath and North East Somerset had slightly less stringent versions of this approach adopted in January 2023. Various other councils are in the process towards bringing identical or similar approaches to be tested at examination (e.g. Greater Cambridge, South Oxfordshire & Vale of White Horse, and others). Where these policies have successfully been adopted, the success at examination is largely down to robust evidence bases that include feasibility[xxxv] and cost[xxxvi] assessments on policy delivery, in addition to demonstrating the necessity for these policies in order to deliver on their duty to mitigate climate change. **Three of these successfully adopted plans to date that use policies like Approach 3 were examined before the WMS2023, but four more have passed examination in 2025** (Tendring & Colchester, Uttlesford, Winchester, and Salt Cross – see previous literature review report).

The use of PHPP or TM54 energy modelling methods (to evaluate performance against the targets) reduces risk to climate, occupants, and future retrofit needs, by providing a far more accurate prediction of energy use compared to the industry's usual Part L SAP.

The space heat demand limit reduces risk of in-use carbon emissions, energy costs, infrastructure impacts, and future retrofit needs. It also supports health and comfort as the home will be less subject to temperature fluctuations or condensation. Note that this metric has the same numeric target sought in Approach 2 but is calculated with the more robust and accurate PHPP modelling tool, instead of using the proxy metric of SAP FEE.

The **EUI limit effectively mandates the use of a heat pump** as these are ~300% efficient (allowing them to fulfil a 15kWh heat demand using only 5kWh of electricity, thus reducing the overall energy use). This ensures the use of low carbon heat which is a crucial element required for the achievement of the UK's carbon budgets as noted in the previous report. This implicitly **rules out fossil gas systems and direct electric heating**, thus saving energy bills, minimising the additional demand on the electricity grid, and sparing the occupant from the disruption and cost of future retrofit. Because of the superior efficiency of heat pumps, their running costs are typically similar to gas (or less in some cases depending on what tariff the occupant is signed up to), but here the occupant may benefit from even lower bills because onsite solar PV is also required.

The limits on space heat demand and EUI both reduce the demand placed by the development on electrical grid capacity (however, see also commentary further down regarding the potential additional grid capacity demand that may be exerted by on-site PV).

It important to note that overheating risk can becomes a greater concern as buildings become more energy efficient and thermally insulated. Overheating risk can decrease comfort or even safety of residents. Integrating overheating risk mitigation assessment requirements into policy alongside operational energy/carbon requirements would works towards a well-rounded policy approach, that can address climate change mitigation and adaptation holistically.

Overheating and operational energy/carbon should ideally be treated together, for example to ensure that the development does not increase overheating risk by excessively pursuing solar gain to reduce heating demand, and that the design does not require energy use for active cooling now or in future predicted climate conditions within the building's lifespan. Therefore, it is important that passive cooling measures are prioritised and active cooling measures are only used as a last resort, because active cooling would increase energy consumption and subsequent associated carbon emissions. Design elements such as building form, orientation, shading and passive ventilation should be explored from the earliest design stage to ensure passive measures are maximised and overheating is sufficiently addressed.

However, please note that there also exists a separate WMS that inhibits the setting of local planning policy standards on overheating assessments since overheating was integrated into Building Regulations (as Part O 2021). We do not go into detail on that separate WMS or overheating policy here, because the focus of our current work is about policy for carbon reduction specifically and overheating is not suitable for the same risk criteria that we use here, thus could not be clearly compared through this same policy options assessment.

The renewable energy targets will mean that the building's roof must be oriented to maximise solar PV generation. This may require volume builders to adjust their standard designs on some sites, but the **target has proven achievable without changing the design or orientation of existing ordinary new builds** in various plans including one as far north as Central Lincolnshire[xxxvii]. Please note that as with Approach 2, the 120kWh/$m^2_{building\ footprint}$/year target for PV is taken from the feasible target evidenced in other local plans' evidence bases, but equivalent evidence is now being produced for SWLP as a separate part of this consultant team's current appointment.

Aside from non-compliance with the WMS2023, another high-risk policy element to planning acceptability is the setting of targets using PHPP, which is not a method used to fulfil national Building Regulations (SAP / SBEM), thus could be argued to diverge from the definition of an 'energy efficiency standard' that the Energy and Planning Act empowers local plans to require. Still, there are three local plans that had adopted such policies before the WMS2023 was created, and three more were approved by the inspector in 2025 (as cited in our previous report). A slew of other draft local plans are also now emerging with similar targets. Acceptability is expected to become ever clearer in the next year as those emerging local plans continue to push ahead with EUI-based policies and progress through examination, in the context of the WMS2023.

Some adopted plans with this policy approach have set requirements for major development's energy target compliance to be shown using PHPP or TM54, in supplementary guidance documents at Bath & North East Somerset Council[xxxviii] and Cornwall Council[xxxix]; albeit these documents were not tested at examination. This risk primarily applies to PHPP, given that TM54 is now acknowledged in Part L 2021 (non-residential) as a suitable method for energy forecasting, thus should now be considered to have been 'endorsed … by the Secretary of State' as per the definition of an 'energy efficiency standard' laid out in the Planning & Energy Act 2008.

This approach is also subject to potential risks relating to the industry's readiness to deliver all of the measures at scale – such as availability of construction systems that perform well enough, and also potential constraints in the number of professionals familiar with the required skillset to design, deliver and verify such high-performing buildings. That is not to say that these skills and materials do not exist, but that further studies may help to bolster the evidence on whether this could constrain the speed of housing delivery to a point that would affect South Warwickshire's achievement of housing targets beyond the existing construction skills shortage that already constrains housing delivery even without the policy.

This approach has **some level of risk relating to infrastructure readiness**. The extensive on-site PV will export energy to the grid at times of peak generation and low onsite energy demand. This is part of the necessary solution to net zero carbon: the export of clean energy reduces the need for fossil fuel use at power stations, balancing out the times when the building must draw power from the grid. However, in some locations, the grid may not be ready for these exports without capacity upgrades. This **risk could be reduced by energy storage** (batteries; hot water tanks) or other smart 'demand side response' system. Additionally, the ambitious energy efficiency targets (EUI and space heat demand limits) will reduce the total amount of PV needed to match total energy demand, therefore the amount of PV peak export (and thus grid stress) is less than in Approach 2. It should also be noted that extensive upgrades to grid capacity and 'smart grids' will be essential as part of South Warwickshire's (and the UK's) net zero carbon transition of the *existing* buildings and transport sectors anyway even in the absence of this local plan policy; these capacity upgrades should not be assumed to be triggered solely by a local plan policy for new development rooftop PV.

The renewables and offsetting approach would mean that the building must have enough renewable energy capacity to generate an equal amount of energy to what the building uses per year. The policy would expect this to be delivered on-site, but if necessary it can be delivered on other buildings' roofs or separate land in South Warwickshire. This is the **most reliable and climate-safe offsetting option we have identified**, as it is easily measurable, and clearly additional to what would happen without the funding. This offsetting approach aligns with best practice but still has a minor level of risk to the climate as some offsetting projects may not achieve entire equivalency or pure additionality.

Like Approach 2, this policy Approach 3 uses '**energy offsetting'** instead of 'carbon offsetting'. This requires a £/kWh cost metric, which is agnostic to the carbon factor of the grid and allows more specific allocation of funds on projects based on what specifically has been offset (either residual total energy use or deficit in on-site renewable energy generation).

Nevertheless, this offsetting approach has 'low' rather than 'zero' risk for climate. This is because the carbon budgets require such drastic cuts that all buildings and most sectors will need to become net zero carbon on their own terms, meaning that as we near the net zero carbon end-goal there will be very little room for trading carbon savings between sectors. The **built environment is one sector that is expected to be able to become net zero without offsetting**; the UK's capacity to generate 'carbon credits' should therefore primarily be reserved for hard-to-abate sectors, such as aviation and agriculture. This would mean that existing buildings will probably eventually need their own roof space to deliver their own renewable energy to eliminate their own carbon, rather than being able to lend that roof space to eliminate the carbon of new buildings. Alternatively, delivering the renewable energy generation equipment on greenfield land could compete with other land uses vital to the UK's carbon reduction trajectory such as woodland creation to capture carbon, or local food production. Any impact on Green Belt, AONB or other landscape protection designations could also potentially constrain the ability of South Warwickshire to bring forward off-site large scale renewable energy as scheme to offset new builds' carbon.

In this Approach (Approach 3), embodied carbon policy ambition is maximised to industry best practice (LETI embodied carbon targets). The policy requirement for an embodied carbon limit is only applicable to large-scale development (i.e. more than 50 dwellings or more than 5000 m^2 non-residential floorspace) so that major and minor development is not subject to a riskier viability level (as the cost of assessment itself can be more of an impact on smaller developments, compared to larger developments that can spread the cost of assessment across their larger sale value). The **2023 WMS poses no additional risk regarding embodied carbon,** as the WMS2023 only relates to energy efficiency policies.

Please note: **This higher level of embodied carbon targets shown in Approach 3 would also be equally compatible with Approaches 1 or 2,** provided the overall policy suite remains viable. These enhanced embodied carbon standards have here been shown only for Approach 3 so as to fully differentiate the three Approaches so that they represent three distinct levels of ambition in each of the different policy themes; from lowest ambition (Approach 1), to medium (Approach 2) or high ambition (Approach 3). As Approach 3 represents the highest level of energy-related ambition, it is here shown with the highest level of embodied carbon ambition too.

Note: What about district heat or other low-carbon energy?

District heating, or heat networks, are a heat delivery mechanism, not a heat or renewable energy generation technology. Many different generation sources can supply the heat to a heat network, ranging from electrical heating, to waste heat, to biomass, to even gas boilers.

In past decades, many local planning authorities and green building initiatives had promoted the use of heat networks as an efficient and clean option for heating. This was because at the time, the UK's electricity grid had a high proportion of fossil fuel generation, while the standard option to heat buildings was individual gas boilers. In that context, even gas-fired heat networks were thought cleaner than individual gas or electric heating, as their large boilers burn more efficiently and can generate electricity and heat simultaneously ("CHP").

However, the UK's electricity grid is now dramatically cleaner than it was even just ten years ago (about 65% less emissions per kWh generation[xl] in 2025 compared to 2015), thanks to the phase-out of coal power and the increase in wind and solar generation. This makes electric heating a serious contender for clean heating. When combined with heat pump technology, which outputs several kWh of heat for each kWh of electricity it consumes, the amount of carbon per kWh of heat is extremely small and will continue to fall further as the UK's electrical grid will gain more renewables, reaching near-zero carbon in the mid-2030s according to national plans[xli], commitments[xlii] and projections[xliii]. By contrast, gas-fired heat networks – even when 'combined heat and power' – are no longer a clean solution. Also, heat losses occur from distribution pipes, eroding the overall efficiency the longer the pipe run.

Other heat networks may perform less poorly, depending on how the emissions of their generation source are accounted for. Heat from waste incineration is sometimes claimed to be 'low-' or 'zero-' carbon because the incineration would happen whether or not the heat is used, but the creation and incineration of waste is not overall a sustainable long-term practice, and in a net zero carbon UK there will need to be significantly less waste created and incinerated anyway. However, other networked heat sources may be genuinely positive, such as where a network takes heat rejected by refrigerated premises such as server farm. The ultimate facts on whether a heat network is or is not a lower-carbon solution than individual electric heating will depend on many factors that are unique to each development: Heat source, proximity to the heat source (thus length of pipework via which heat is lost), operation of the heat network, and the carbon intensity of the electricity that would be used in the alternative individual heating system (whether grid-supplied or from onsite solar).

Therefore, we do not here suggest any policy options requiring connection to heat networks. Rather, the policy would be technology-agnostic. This means that a heat network may be *one way* a building could meet the targets in the various policy options, *if* the aforementioned site-specific factors all result in a heat network being lower-carbon than heat pumps, which are the system that our policy options are designed to reflect. Similarly, any renewable electricity technology could contribute to the targets, albeit solar PV is the only competitive solution today in terms of cost, availability, maintenance, visual /amenity impact and ability to generate a useful amount of energy.

Evidence requirements for policy approaches

The higher the level of ambition in the policy (and the more it diverges from national metrics and national building regulations standards), the more robust evidence is likely to be required. Therefore, it is important to consider the scale of evidence that would be desirable to appropriately defend the preferred policy position.

The table below sets out general evidence requirements that would be preferable in support of each of the three assessed policy approaches in order to be able to robustly defend them. It is important to highlight the risk that not everything we have identified as desirable evidence may be readily available, which we have recognised in the table with the red and orange ticks. Some cells have been merged across the policy options for one evidence requirement, which means that the evidence content will not differ significantly between approaches. Cells that have not been merged, even though the status of the evidence requirement is the same across the three approaches, means that the content of the evidence is specifically tailored to the policy standards under the respective policy approach.

Where two colours have been given for an evidence requirement of a particular policy approach, this means that the status of two evidence sources are different, but both contribute to the same evidence requirement. Looking at item 11 (in table overleaf) as an example, application acceptance rates – to demonstrate that housing supply is not impacted higher policy standards – may be readily available from SWLP team, but local supply chain data on materials and presence of a skilled workforce may not be available.

The majority of evidence requirements apply to all three approaches, primarily because they are needed to satisfy the four NPPF tests of soundness. For example, no matter the standards set, feasibility and viability are core issues that South Warwickshire must be ready to demonstrate at examination. Additionally, since all options exceed standards proposed under the emerging national Future Homes Standard, all options should be supported by evidence that the FHS is insufficient to deliver on local and/or national carbon budgets (table overleaf, item 6) and all would benefit from any evidence that the FHS will have an excessive impact on grid infrastructure upgrades and capacity (table overleaf, item 8) due to a lack of energy demand mitigation because of poor fabric measures in the FHS.

The three instances where evidence is not required are all because the evidence item is out of scope and is not associated with any policy component in that Approach. There are also several evidence items that may not be entirely vital for an Approach's policy component yet would be desirable to maximise robustness of the evidence base. One example is demonstrating the effectiveness of absolute energy metrics over Building Regulations, in the case of Approach 2. That Approach requires that absolute energy metrics are reported on, but does not set any mandatory target limit using those metrics. Therefore, no cost uplift is associated with this policy component for that Approach, but if that Approach were selected then the evidence base should still address why this requirement is necessary or desirable, to fully justify its inclusion (i.e. that this policy requirement educates and compels developers to understand the building's actual energy use rather than relying on inaccurate Building Regulations metrics, and that data gathered through this requirement can form the basis of benchmarks vital to inform future policy targets in later iterations of the local plan).

As the blue ticks show, input may be needed from South Warwickshire to maximise robustness for certain evidence items. For evidence item 2 (feasibility of offsetting), this entails an understanding of the willingness and capacity of South Warwickshire to deliver offsetting projects and spend the resulting offset fund. This could follow a council-led or partnership-led approach, with the latter being driven by project delivery through external organisation mechanisms such as a local community energy group or housing provider. Item 8 (impact on grid capacity) may also need input from South Warwickshire such as interpretation of any local studies or data on grid connectivity issues in particular areas.

Please note that some elements of desirable evidence may not be readily available. In these cases, a low/medium or high risk of availability has been marked. For example:

- A detailed assessment of grid connectivity across South Warwickshire would be helpful but would need highly specialist input, and instead the Council might choose to revert to a high-level overview on grid connection trends in South Warwickshire. Some regional grid operators may be helpful in engaging on such topics including by providing specialist tools such as 'Your Local Net Zero Hub', however such tools might not cover the SWLP area and even if they do, the information they provide may still not be so simple to interpret as to be classed as 'readily available' evidence.
- A detailed South Warwickshire-specific assessment of supply chain readiness to deliver on these standards (and its impact on housing supply) could be challenging as there is no standard assessment approach for this.

Overall, the evidence requirements are similar throughout all options, but Option 1 is the least intensive in evidence needs, because items 4, 9 and 11 (overleaf) are not necessary.

- The only difference between the necessary requirements for Options 2 and 3 relates to item 1 (overleaf), where standards and associated cost data for Option 2 are more bespoke and therefore would take more work to robustly amalgamate.
- Contrarily, there are multiple proven existing evidence bases that directly align with the standards proposed under Option 3, thereby providing a highly reliable collection of cost and feasibility data. This includes evidence from local plans both adopted (Central Lincolnshire, Cornwall, Bath & North East Somerset; Tendring & Colchester Borders Garden Community DPD), approved by the inspector but not yet adopted (Salt Cross; Uttlesford) and emerging (South Oxfordshire & Vale of White Horse and others), as cited in our separate previous report to South Warwickshire.

Key: ✓ Evidence required (✓) or preferable (∞) – would need input from Council ✓ Evidence required (✓) or preferable (∞) – readily available ✓ Evidence required (✓) or preferable (∞) – medium/high risk of availability ✓ Evidence required (✓) or preferable (∞) – low/medium risk of availability ✗ Evidence not required for this policy approach	**Option 1 – Fully WMS compliant**	**Option 2 – Testing WMS boundaries**	**Option 3 – Overcome the WMS**
1. Feasibility and viability of operational carbon/energy build standards	✓ Readily available, or ✓ Low/medium risk of availability	✓ Readily available, or ✓ Low/medium risk of availability	✓ Readily available – being produced by this consultant team
2. Offsetting is viable and feasible	✓ Would need Council input on feasibility of implementing offset fund	✓ Would need Council input on feasibility of implementing offset fund	✓ Would need Council input on feasibility of implementing offset fund
3. Embodied carbon requirements are viable and feasible	✓ Readily available	✓ Readily available	✓ Readily available
4. Arguments why the 2023 WMS should not be applied	✗ Evidence not required	✓ Readily available – in previous Literature Review report	✓ Readily available – in previous Literature Review report
5. Demonstration of local circumstances to justify departure from Building Regs	✓ Readily available, or ✓ Low/medium risk of availability	✓ Readily available, or ✓ Low/medium risk of availability	✓ Readily available, or ✓ Low/medium risk of availability
6. Future Homes Standard insufficient to deliver on local carbon budgets	✓ Readily available – being produced by this consultant team	✓ Readily available – being produced by this consultant team	✓ Readily available – being produced by this consultant team
7. Feasibility of grid connection for on-site PV generation at new buildings	∞ Would need Council input, or ∞ Medium/high risk of availability	∞ Would need Council input, or ∞ Medium/high risk of availability	∞ Would need Council input, or ∞ Medium/high risk of availability
8. Impact of building to FHS on grid capacity/infrastructure	∞ Readily available (logical argument) ∞ Medium/high risk of availability (specific local evidence)	∞ Readily available (logical argument) ∞ Medium/high risk of availability (specific local evidence)	∞ Readily available (logical argument) ∞ Medium/high risk of availability (specific local evidence)
9. Demonstrate effectiveness of PHPP over SAP/SBEM	✗ Evidence not required	✓ Readily available	✓ Readily available
10. Demonstrate effectiveness of absolute energy metrics over Part L metrics	✗ Evidence not required	✓ Readily available	✓ Readily available
11. Supply chain readiness/housing supply	∞ Readily available (partially) ∞ Medium/high risk of availability (partially)	∞ Readily available (partially) ∞ Medium/high risk of availability (partially)	∞ Readily available (partially) ∞ Medium/high risk of availability (partially)
12. Arguments why the policy option aligns with the 2023 WMS	✓ Readily available	✓ Readily available, or ✓ Low/medium risk of availability	✗ Not applicable

Which parts of this evidence are already being produced?

As noted in the introduction, this consultant team is currently appointed to produce a suite of evidence to equip the SWLP team to pursue ambitious 'net zero carbon' policies should they decide to do so. Our current appointment includes the most vital pieces listed in the table on the previous page. The following table indicates where these items appear in the current appointment.

Which of these evidence items are already part of the scope of outputs being produced by this consultant team for SWLP?	**Option 1 – Fully WMS compliant**	**Option 2 – Testing WMS boundaries**	**Option 3 – Overcome the WMS**
1. Feasibility and viability of operational carbon/energy build standards	Not main focus, but supported by "Literature Review". "Final Evidence Report" could cover this using existing third party) evidence if this Option is chosen.		✓: "Energy Modelling", "Cost Modelling*", "Final Evidence Report". [*To inform separate viability study).
2. Offsetting is viable and feasible	"Final Evidence Report" could cover this if one of these Options is chosen, but would still need Council input on feasibility of implementing offset fund		✓: "Energy Modelling", "Cost Modelling", "Final Evidence Report". Would need Council input on feasibility of implementing offset fund
3. Embodied carbon requirements are viable and feasible	No special local modelling being produced, but "Final Evidence Report" could cite existing published third-party data if SWLP team does choose to include an embodied carbon policy requirement.		
4. Arguments why the 2023 WMS should not be applied	✗ Evidence item not required for this Option	✓ "Literature Review"; "Final Evidence Report"	✓ "Literature Review"; "Final Evidence Report"
5. Demonstration of local circumstances to justify departure from Building Regs	Not main focus of work to date, but general logical argument is in "Literature Review" and can be repeated in "Final Evidence Report" if this Option is chosen.		✓"Carbon Budget Analysis"; "Final Evidence Report"
6. Future Homes Standard insufficient to deliver on local carbon budgets	✓"Carbon Budget Analysis"; "Final Evidence Report"		
7. Feasibility of grid connection for on-site PV generation at new buildings	Not part of current scope		
8. Impact of building to FHS on grid capacity/infrastructure	Logical argument made in Literature Review; but current scope does not include specific local analysis of this.		
9. Demonstrate effectiveness of PHPP over SAP/SBEM	✗ Evidence not required	✓Cited in "Literature Review"; to be repeated in "Final Evidence Report"	
10. Demonstrate effectiveness of absolute energy metrics over Part L metrics	✗ Evidence not required	✓Cited in "Literature Review"; to be repeated in "Final Evidence Report"	
11. Supply chain readiness/housing supply	General logical argument provided in "Literature Review" (due to reflecting FHS) and can be repeated in "Final Evidence Report" if this option is chosen. No specific local evidence is in current scope.		No specific local evidence in current scope, but "Final Evidence Report" can cite studies elsewhere showing little impact on application rates.
12. Arguments why the policy option aligns with the 2023 WMS	✓ "Literature Review"; "Final Evidence Report"		✗ Not applicable

Next steps and summary of conclusions

South Warwickshire now has the opportunity to select a policy approach that represents its desired level of ambition and risk, depending on the Council's appetite for risk and its prior commitments made to specific carbon reductions across the local plan area (net zero by 2050, as per Climate Change Action Programme (CCAP) cited in our previous report). Any of the options assessed throughout this risk matrix exercise could be selected (although Approach 1 would most likely not meet those climate commitments) or used as a basis to develop a more tailored policy suite to suit needs and ambition of South Warwickshire.

To summarise:

Approach 1 represents clear and direct compliance with the WMS, whilst exceeding Building Regulations standards to an extent via renewable energy and offsetting, 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. This option therefore represents the safest option in terms of planning risk, but poses significant risk to the climate, and by failing to optimise energy efficiency it fails to protect occupants from the future disruption of retrofit. The combination of requiring 100% renewable energy, while having suboptimal energy efficiency, is likely to place additional stress on the electricity grid, necessitating larger grid upgrade investment.

Approach 2 represents 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, could theoretically create true net zero carbon buildings (operational carbon, not embodied carbon) due to the requirement that on-site renewable energy matches both regulated and unregulated energy use. However, the energy used within the building will still be higher than recommended, resulting in additional strain on local grid infrastructure. Additionally, a performance gap (gap between energy prediction and actual energy use) is likely, due to the use of SAP to calculate the energy use and carbon reductions.

Approach 3 is the ambitious best practice approach that aligns with the scale of action needed in new builds for the UK's carbon budgets, and importantly has the lowest risk for occupant bills and future retrofit disruption/costs. However, to reiterate, this option diverges from the WMS2023 thus will need extensive evidence to support such an ambitious approach at examination, which must importantly demonstrate local circumstances to justify departure from Building Regulations metrics. Our current appointment for South Warwickshire will produce the most vital evidence items needed for this, including energy and cost modelling, and local carbon budget analysis. Importantly, Approach 3 would require developers to use a sophisticated energy modelling tool, PHPP (or TM54), to predict energy use and space heating demand that will better align with in practice energy performance.

As mentioned previously, the three Approaches represent three selections of individual policy components that could be adjusted upwards or downwards, or in some cases could be combined differently to some extent. (For example the embodied carbon requirements could be mixed/matched across any of the three Approaches). We present these three options to best represent the low, medium and high levels on the sliding scale of ambition.

Ultimately, the choice is a trade-off between WMS2023 compliance and fulfilling the NPPF imperative to mitigate climate change in line with the Climate Change Act (and South Warwickshire's parallel commitments). We do not make a single recommendation because it is uncertain how the Inspector will prioritise the WMS or the climate duties/imperatives, especially given the change of government. Approach 1 certainly does not mitigate climate change to the extent sought by the NPPF. Nor does Approach 2, yet it pursues that aim to the greatest extent possible without directly contravening the WMS. If the Council's priority is climate, then Approach 3 is most effective.

Optimism remains throughout industry that the 2023 WMS will not act in practice as the previous Government may have intended – i.e. to derail or slow progress of local authorities developing ambitious net zero policies. Given the 2025 news of three local plan documents elsewhere that have passed examination intact with policies similar to Approach 3 (see previous Literature Review report for details), it is clear that such approaches can be found sound despite the WMS2023, so long as sufficiently robust evidence is presented and arguments made effectively at examination.

Additionally, pre-action legal correspondence between a coalition of local authorities and the Secretary of State shows that the Secretary of State concedes[xliv] that the WMS2023 does not constrain or inhibit the exercise of local planning powers granted by legislation. That correspondence also conceded that the WMS2023 is only a material consideration alongside the various other material considerations – which we note logically must include the NPPF's exhortations for 'radical reductions in carbon emissions in line with the Climate Change Act' as well as the plan's legal duty to mitigate climate change. Similar points were made in a 2025 Court of Appeal judgement[xlv] which refrained from overturning the WMS2023 but reiterated its status as guidance only and the established legal principle that local plans can diverge from national policy where justified. Therefore, although the WMS2023 is bluntly worded, the degree to which it constrains the formulation of net zero local planning policy should not be over exaggerated. The inspector approvals of three separate 'Approach 3' plans in 2025 (as above, see Literature Review) underscore this view.

If eventually the WMS2023 is overturned or officially has its material weight minimised by some national or legal decision, then it is likely that there would no longer be any need to even consider Approach 1. In that case, the Council would have a clearer route to pursue Approach 3, as several local plans had successfully done prior to the WMS. Yet it might still be relevant to consider Approach 2 as a comparator and for awareness of risks around how legislated powers on energy efficiency could be interpreted (see Literature Review report for detail on those legislated powers).

References

[i] Planning and Compulsory Purchase Act 2004, section 19. https://www.legislation.gov.uk/ukpga/2004/5/section/19

[ii] HM Government Ministry of Housing, Communities and Local Government (2024), *National Planning Policy Framework*. https://assets.publishing.service.gov.uk/media/675abd214cbda57cacd3476e/NPPF-December-2024.pdf#page=48

[iii] Planning and Energy Act 2008. https://www.legislation.gov.uk/ukpga/2008/21/section/1

[iv] Mrs Justice Lieven (2024), Decision on High Court case: Rights Community Action Ltd v Secretary of State for Levelling Up, Housing and Communities. https://www.ftbchambers.co.uk/images/uploads/documents/R_%28Rights_Community_Action_Ltd%29_v_SSLUHC__2024__EWHC_1693_%28Admin%29.pdf

[v] For example, Age UK research found that in 2023, "energy bill costs have left around three-in-ten (29%) older households in England in fuel poverty … up from around one in ten (10%) only last year". This is significantly higher than the average rate of fuel poverty across England in 2023, which national health statistics estimate at 11.4%. The same Age UK 2023 report noted that "While it is important that older age is not automatically equated with vulnerability, it is important to recognise that people in later life are more likely to have a disability or long-term health condition" and that "The fuel poverty rate for disabled households is also 60% higher than for households not containing a disabled resident and over a third of disabled adults report that their impairment or condition has had an impact on their energy use". Sources: https://www.ageuk.org.uk/siteassets/documents/reports-and-publications/reports-and-briefings/safe-at-home/age-uk-energy-public-policy-report-march-2023.pdf and Fingertips | Department of Health and Social Care

[vi] Stratford-on-Avon District Council (2016), *Core Strategy 2011 to 2031*. stratford.gov.uk/templates/server/document-relay.cfm?doc=173518&name=SDC CORE STRATEGY 2011 2031 July 2016.pdf

[vii] Warwick District Council (2024), *Net Zero Carbon Development Plan Document*. https://www.warwickdc.gov.uk/info/20799/development_plan_documents/1713/net_zero_carbon_development_plan_document

[viii] Lloyds/Halifax (2021), *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

[ix] Sustainable Homes (2016), *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

[x] HM Government Department for Energy Security and Net Zero (2023), Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal. Data tables 1-19. Version downloaded 20th June 2024, in which the 2025 central value of carbon is £273/tonne. Our check of this page in September 2025 shows that no updates have been made by Government since November 2023 and therefore there is no need to download a new copy of the data. https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal

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

[xii] 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

[xiii] Etude and Currie & Brown on behalf of Cornwall Council (2021), *CORNWALL COUNCIL CLIMATE EMERGENCY DPD: 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

[xiv] BRE (2016), *Solid wall heat losses and the potential for energy saving*. Appendix A: Summary of major 29 unintended consequence categories.

[xv] BRE & Constructing Excellence in Wales (2017), *Post Installation Performance of Cavity Wall & External Wall Insulation*. http://www.cewales.org.uk/files/3014/7671/0110/Post_Installation_Performance_of_Cavity_Wall__External_Wall_Insulation.pdf

[xvi] Currie and Brown (2019), *The Costs and Benefits of tighter standards for new buildings*. See page 4 (9th page of the PDF) for reference to the cost of retrofit being five times the cost of including these measures during initial construction. https://www.theccc.org.uk/wp-content/uploads/2019/07/The-costs-and-benefits-of-tighter-standards-for-new-buildings-Currie-Brown-and-AECOM.pdf

[xvii] AECOM on behalf of Greater London Authority (2017), *London Carbon Offset Price*. https://www.london.gov.uk/sites/default/files/london_carbon_offset_price_-_aecom_.pdf

[xviii] South West Energy Hub (2022), *Adapting London Plan Offsetting Rates for 2022 Building Regulation Updates, Evidence for Bath & North East Somerset Council*. https://beta.bathnes.gov.uk/sites/default/files/CD-RCC028%20SWEH%20BNES%20Offsetting%20Evidence.pdf

[xix] Royal Institute of Chartered Surveyors (2023), *Whole Life Carbon Assessment for the Built Environment, 2nd edition, version 2*. https://www.rics.org/content/dam/ricsglobal/documents/standards/Whole_life_carbon_assessment_PS_Sept23.pdf

[xx] Based on the TFEE figures given in the Future Homes Hub (2023) "Ready for Zero" report appendix F, averaged across all home types modelled. That appendix used SAP10.2 modelling therefore its energy predictions will be subject to the energy performance gap (underestimation of actual energy use in operation) as outlined in our previous report. This means that in reality, the homes would have a much higher space heat demand and total energy use intensity than modelled in the Future Homes Hub report appendix. https://irp.cdn-website.com/bdbb2d99/files/uploaded/Appedix%20F%20-%20final.pdf

[xxi] Based on the TFEE figures given in the Future Homes Hub (2023) "Ready for Zero" report appendix F, averaged across all home types modelled. That appendix used SAP10.2 modelling therefore its energy predictions will be subject to the energy performance gap (underestimation of actual energy use in operation) as outlined in our previous report. This means that in reality, the homes would have a much higher space heat demand and total energy use intensity than modelled in the Future Homes Hub report appendix. https://irp.cdn-website.com/bdbb2d99/files/uploaded/Appedix%20F%20-%20final.pdf

[xxii] HM Government Ministry of Housing, Communities & Local Government (2019), *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: Impact Assessment*. https://assets.publishing.service.gov.uk/media/5d976b8ce5274a595bf5da8a/REQUEST.pdf

[xxiii] Etude and Currie & Brown (2021) on behalf of Cornwall Council, *CORNWALL COUNCIL CLIMATE EMERGENCY DPD: ENERGY REVIEW AND MODELLING*. https://www.cornwall.gov.uk/media/mfob2hbj/eb004-energy-review-and-modelling-report.pdf

[xxiv] Etude and Currie & Brown (2021) on behalf of Cornwall Council, *CORNWALL COUNCIL CLIMATE EMERGENCY DPD: 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

[xxv] Transition by Design and Currie & Brown (with Bioregional) (2023), South Oxfordshire and Vale of White Horse Joint Local Plan: Net Zero Carbon Study Task 4: Cost analysis https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2024/01/NZCS_Task_4_Dec_2023.pdf

[xxvi] Low Energy Transformation Initiative (2019) Net Zero One-Pager. https://www.leti.uk/one-pager

[xxvii] Royal Institute of British Architects (2021), *RIBA 2030 Climate Challenge Version 2*. https://www.architecture.com/about/policy/climate-action/2030-climate-challenge/sign-up

[xxviii] South West Energy Hub (2021 – onwards), *SAP Energy Adjustment Tool*. https://www.swenergyhub.org.uk/seat/

[xxix] Transition by Design and Bioregional on behalf of South Oxfordshire & Vale of White Horse District Councils (2023), *South Oxfordshire and Vale of White Horse Joint Local Plan: Net Zero Carbon Study. Task 3 – Feasibility study: Energy modelling*. https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2024/01/NZCS_Task_3_Dec_2023.pdf

[xxx] WSP and Gardiner & Theobald LLP (2021), *Evidence base for West of England Net Zero Building Policy* [embodied carbon]. https://beta.bathnes.gov.uk/sites/default/files/CD-RCC008%20WOE%20NZB_Evidence%20Base_Embodied%20Carbon%20study_FINAL.pdf

[xxxi] Bath & North East Somerset Local Plan Partial Update (2023). https://beta.bathnes.gov.uk/sites/default/files/2023-01/Adopted%20LPPU%20Jan%202023.pdf

[xxxii] Bioregional, Transition by Design and Currie & Brown (2023). *South Oxfordshire & Vale of White Horse Joint Local Plan: Net Zero Carbon Study. Task 3 – Feasibility study: Energy modelling.* https://www.southoxon.gov.uk/wp-content/uploads/sites/2/2024/01/NZCS_Task_3_Dec_2023.pdf

[xxxiii] Royal Institute of Chartered Surveyors (2023), *Whole Life Carbon Assessment for the Built Environment, 2nd edition, version 2.* https://www.rics.org/content/dam/ricsglobal/documents/standards/Whole_life_carbon_assessment_PS_Sept23.pdf

[xxxiv] (Keep Bourne End Green v Buckinghamshire CC & SSHCLG [2020] EWHC 1984 (Admin) at §105). https://www.bailii.org/ew/cases/EWHC/Admin/2020/1984.html#:~:text=use%20of%20judgment.-,105.,-According%20to%20the

[xxxv] Bioregional, Etude and Currie & Brown (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

[xxxvi] Bioregional, Etude and Currie & Brown (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

[xxxvii] Bioregional, Etude and Currie & Brown (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

[xxxviii] Bath & North East Somerset Council (2023). *Sustainable Construction Checklist Supplementary Planning Document*. https://beta.bathnes.gov.uk/sites/default/files/2023-01/Sustainable%20Construction%20Checklist%20SPD%20%28PDF%29.pdf

[xxxix] Cornwall Council (2023), *Climate Emergency Development Plan Document Policy Guidance*. https://www.cornwall.gov.uk/media/bvphj2or/policy-guidance-climate-emergency-dpd-v5-25-april.pdf

[xl] HM Government Department for Energy Security and Net Zero (2025), *Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal.* Figures calculated from excel download 'Data tables 1-19', tab 'Table 1', 'Generation-based', comparing 2025 to 2015. *https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal*

[xli] HM Government Department for Energy Security and Net Zero (2024 and 2025), *Clean Power 2030 Action Plan*. https://www.gov.uk/government/publications/clean-power-2030-action-plan

[xlii] HM Government Prime Minister's Office 10 Downing Street (undated), *Plan for Change – Missions – Make Britain a Clean Energy Superpower*. https://www.gov.uk/missions/clean-energy

[xliii] HM Government Department for Energy Security and Net Zero (2025), *Green Book supplementary guidance: valuation of energy use and greenhouse gas emissions for appraisal.* Figures calculated from excel download 'Data tables 1-19', tab 'Table 1', 'Generation-based', comparing 2025 to 2015. *https://www.gov.uk/government/publications/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal*

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

[xlv] Rights Community: Action Limited, R (on the application of) v The Secretary of State for Housing, Communities and Local Government. [2025] EWCA Civ 990. Case No: CA-2024-001754 https://caselaw.nationalarchives.gov.uk/ewca/civ/2025/990?from_date=2025-07-25&to_date=2025-07-25