South Staffordshire Council Local Plan Review: Sustainable Construction Policy NB6

Implications of the 13th December 2023 Written Ministerial Statement on energy efficiency standards in local planning

(Addendum to Task A main report)

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Written by: Marina Goodyear (Senior Consultant) and Alex McCann (Senior Analyst)
Checked by: Lewis Knight (Head of Sustainable Places)

Introduction

This document is an addendum to the "Task A" report (version 2.1, dated 6th December 2023). That 'Task A' report had been produced as part of an appointment to assist the Council in:

- Understanding the local plan's legal duties and mandates to address carbon emissions
- Understanding 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, and how this was justified at examination
- Assessing the existing draft policies of South Staffordshire and ways to strengthen them.

That previous work explored the needs, powers, constraints and technical options available to the Council with regards to improving the emerging draft policy for the purpose this local area to playing its full role in delivering the national legally binding carbon reduction trajectory to net zero (as per the Climate Change Act 2008 and the Paris Agreement). This included both:

- Reducing the carbon emissions associated with development,
- And making that development compatible with the wider array of changes that need to happen in other sectors in order for the UK to achieve its legislated carbon saving goals.

The previous work came to the conclusion that, with regards to new buildings:

- **New development's energy demand must be minimised** so as to minimise the needed amount of new renewable energy generation and grid reinforcement, given that all other sectors' net zero transition (e.g. transport and industry) will also place high demands on the UK's finite capacity for renewable energy, and other land uses (e.g. afforestation and farming) – considering the limited land supply and the embodied carbon of new energy equipment. This energy efficiency is also vital to protect people from excessive energy bills in the ongoing cost of living crisis.
- **New development should not use fossil fuel on site** given that the UK needs to transition its building stock away from gas, not add new gas users to the grid – and also given that heat pump technology exists that is three times as efficient as gas
- **New development should come with enough new renewable energy generation to 'wash its own face'**, so that it does not worsen the existing huge challenge of weaning existing buildings, transport and industry off fossil fuel to electricity – when this condition is met, the building is 'net zero carbon in operation'. Evidence showed this is feasible in an array of typical types of building, so long as the building is energy efficient as above.
- **The energy/carbon metrics used in Building Regulations are unsuited to deliver the performance described above** therefore other more accurate methods are needed. As the national carbon budgets are absolute, the performance standards for new buildings should also be absolute limits, not percentage improvements on standard practice.
- **Therefore it was recommended to amend the draft policy to adopt absolute targets** for space heat demand, total energy use intensity per square metre, and 100% renewable energy on site (or payment towards off-site installation), and that all of the above should be demonstrated using an energy modelling approach known to be typically accurate in predicting the building's total energy performance.

National policy announcement in December 2023

That previous "Task A" piece of work was developed through Autumn 2023 and the draft completed in early December. As the report was undergoing internal review, the Government without prior notification or consultation released a **Written Ministerial Statement** that undermined much of the conclusions and recommendations made by that previous work.

This new Written Ministerial Statement (WMS) was made by Lee Rowley (Minister of State for Housing) together with Baroness Penn (Parliamentary Under Secretary of State for Levelling Up, Housing and Communities). Its stated topic is "Planning - Local Energy Efficiency Standards".

Content of the 13th December Written Ministerial Statement

The new WMS places severe new limitations on the exercise of existing powers held by local planning authorities to require improvements in the energy and carbon performance of proposed new buildings in their area. The WMS does not remove the ability to set improved local standards, but it limits them in this way:

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

The above will affect how the plan can exercise its power to require energy efficiency standards beyond those of building regulations (a power granted by the Energy & Planning Act 2008).

This WMS goes against several recent adopted local plans that used other more effective metrics to deliver buildings suitable for the UK's carbon goals, such as energy use intensity and space heat demand (Cornwall, Bath & North-East Somerset, and Central Lincolnshire).

The WMS also emphasises that **any such policies must have a "well-reasoned and robustly costed rationale that ensures that development remains viable, and the impact on housing supply and affordability is considered** in accordance with the National Planning Policy Framework". This is not really 'new' – we would expect any new policy on any topic to need to provide such justification. The Task A report for South Staffordshire aimed to do exactly that with reference to recent external evidence on feasibility and cost uplifts. Still, this reiteration in the WMS is likely to bring additional scrutiny upon the evidence put forward.

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How does a Written Ministerial Statement affect the planning system?

Written Ministerial Statements are one of the 'statements of national policy' that local plan-making and decision-taking must take into account, according to the NPPF (National Planning Policy Framework).

The NPPF forms the overarching set of principles by which the Inspector will conduct the Examination in Public of the submitted local plan, to see if the plan can be considered 'sound', before it can be adopted. The NPPF is also taken into account in individual planning decisions, alongside the local plan itself. The NPPF establishes that, to be 'sound', the plan must pass four tests (with detail given here where relevant to the current topic):

- **Positively prepared:** Proactively aiming to meet objectively assessed housing need
- **Justified:** Having considered reasonable alternative options, with proportionate evidence.
- **Effective:** Deliverable within the plan period and based on cross-boundary joint working.
- **Consistent with national policy:** "enabling the delivery of sustainable development in accordance with [the NPPF] and other [relevant] statements of national planning policy".

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

- "National policy statements form part of the overall framework of national planning policy, and may be a material consideration in preparing plans and making decisions on planning applications" (Paragraph 5)
- "Other statements of government policy may be material when preparing plans or deciding applications, such as relevant Written Ministerial Statements" (Paragraph 6)
- Specifically, requirements for the sustainability of buildings are expected to "reflect the Government's policy for national technical standards" (Paragraph 159)

Therefore this WMS is a 'material consideration', i.e. *one of the relevant considerations that the plan must take to account* in order for the plan to be found sound and adopted, despite the fact that a WMS can be (and was in this case) made unilaterally without consultation or other democratic process.

To deviate from the WMS and still be found sound might be possible if an argument can be made that identifies other 'material considerations' that hold more weight than the WMS.

In the past, other WMS on similar topics have, in the past, sometimes caused Inspectors to find other local plans unsound where the content of those local plans went against the content of a WMS, sometimes years after the WMS was made and overtaken by other pieces of policy. For example, see main Task A report commentary on a Written Ministerial Statement of 2015 and precedents such as Salt Cross (albeit noting that the Inspector's Salt Cross decision is now subject to an ongoing legal challenge). The WMS of December 2023 includes a sentence self-confirming its own status as a relevant statement of national planning policy.

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

The **WMS' stipulations make it much harder to fulfil local planning authorities' legal duty to mitigate climate change** (Planning & Compulsory Act 2004, section 19) and the expectation laid on them to support "radical reductions in greenhouse gas emissions … [taking] a proactive approach … in line with the objectives and provisions of the Climate Change Act 2008" (National Planning Policy Framework paragraphs 157-158 and footnote 56).

The main reason the WMS make this duty harder to fulfil is that the required metric, TER, is not in fact suitable to ensure that buildings have the energy efficiency performance that is known to be a necessary part of the UK's legally binding carbon goals (see overleaf). That unsuitability is why several recently adopted precedents (as above) had used alternative metrics that are effective for delivering energy efficiency and defining whether a building is 'net zero'.

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

In theory, legislation should hold far more weight than a WMS. Therefore, it might be possible to diverge from the WMS' stipulations if a strong case can be made that following the WMS would prevent the local authority from fulfilling its legal obligation to 'contribute to the mitigation of climate change' imposed by the Planning & Compulsory Purchase Act. This argument could be further strengthened by similar evidence relating to the ability to meet the NPPF expectation for carbon reduction *in line with the Climate Change Act*.

The most robust way to make such a case would be to produce modelling to evidence the difference that would occur as a result of following the WMS stipulations as opposed to using the more accurate energy metrics – that is both of the following:

- The difference in carbon emissions, and whether this moves the buildings sector's carbon reduction trajectory even further from what it needs to be within the 'balanced pathway to net zero' as analysed by the Committee on Climate Change to comply with the UK's legislated carbon budgets (set under the aegis of the Climate Change Act)
- The difference in energy efficiency compared to what the Climate Change Committee has shown to be necessary as part of the UK's wider energy system transition needed for all sectors (not just buildings) as part of those legislated carbon budgets as above.

Such modelling would require significant further time and cost to produce, affecting the plan timeline. There would remain a risk that it may not be possible to convince the Inspector of this argument as it will be a highly technical topic to explain, both in written form and verbally at the examination, to anyone not expert in net zero carbon building design. The WMS also states that any such policy will draw close scrutiny from central Government, meaning the local Council would have to defend it against not only the usual objectors but also the weight of central government pressure to comply with the WMS. Thus this would come with a **risk of the policy still being found unsound**. However, we note that it is possible that several local authorities or other interested parties **could mount a wider legal challenge to the WMS** on similar bases to the above, which if successful could reopen the door for the Council to revert to the more effective policy later on.

What challenges does this bring for South Staffordshire's emerging policy?

The main difficulties presented by the WMS, compared to the context in which the Task A recommendations were made, are summarised as follows:

1. Forcing the use of a carbon metric, when contrarily the goal is energy efficiency

The biggest problem is that the WMS asks for energy efficiency policies to be expressed using the Part L TER metric – but **TER is in fact not an energy efficiency metric**. As the acronym suggests, it is instead a *carbon emissions* metric. It is unclear why this choice was made in the WMS, given that the Part L methodology (SAP) does also contain two energy efficiency metrics: the TFEE (Target Fabric Energy Efficiency) and TPER (Target Primary Energy Rate).

The **Task A report's recommended revised policy would have required the use of actual energy efficiency metrics**: 'space heat demand' (SHD) and 'energy use intensity' (EUI). They were chosen, and the targets set, for their essential role in delivering buildings fit for the net zero carbon transition (see full Task A report for the necessity and effectiveness of these metrics).

The WMS does not actually *prohibit* the use of such alternative metrics *alongside* TER. However, for reasons explained in the Task A report, these metrics are in fact so different from each other as to not be directly comparable because:

- The Part L TER takes into account many other factors other than energy efficiency (such as carbon intensity of grid electricity, and the generation of renewable energy on-site).
- The Part L TER is calculated using a methodology named SAP, which, as explained in Task A, drastically underestimates homes' actual energy usage and carbon emissions (partly because SAP ignores all plug-in devices and partly because SAP is simply not good at predicting actual thermal or total energy performance of the building). We are not aware of any existing method to credibly and robustly translate an actual energy efficiency metric into a % TER reduction or vice versa.

Even South Staffordshire's original draft policy NB6 (Publication Plan 2022) expresses its energy efficiency improvement requirement in homes as an improvement on the Part L TFEE (Target Fabric Energy Efficiency) metric. This, rightly, is an energy efficiency metric, unlike TER. The exact wording of the WMS does not appear to have allowed for this. However, TFEE does come from the same methodology that the WMS cites (Part L SAP) and is a metric that developers would have to use anyway in order to pass Building Control. Therefore it might be arguable that local plan policy targets set using the TFEE metric would follow the general intent of the WMS, which appears to be to overcome the "proliferation of multiple local standards" through use of "nationally applied standards [that] provide … clarity and consistency for businesses".

2. Forcing the use of a 'specified version of SAP' for the required metric

SAP is the method used to calculate all target metrics set by Part L of Building Regulations, including the TER metric named by the WMS.

SAP is periodically updated, more often than Part L is updated. Updates to SAP can include anything from changes to the assumptions about the baseline building characteristics or the performance of standard types of equipment therein, through to changes in the assumption made about the carbon intensity of grid electricity. The current version is SAP10.2.

Some precedent local plans had previously overcome this issue by stating that calculations must simply use 'the latest available version' of SAP. That way, the policy does not go out of date each time a new version of SAP is released.

The WMS does not make clear whether policy wording specifying 'the latest version of SAP' would be considered a 'specific version', or if it would have to be 'SAP10.2' or similar. If the latter, then the WMS will require the policy to be at risk of going out of date very quickly.

Beyond this, we note that SAP is due to be replaced with a new model, HEM (Home Energy Model) in 2025 when the Future Homes Standard (FHS) is introduced. This is a further way in which the WMS' instruction to use a 'specified version of SAP' would force local policies to be written in a way that will go out of date unduly quickly. The HEM is currently out for consultation alongside the FHS consultation – therefore HEM's final form, function and outputs are not yet known. Thus it is not yet possible to write a policy that uses HEM metric for targets, as it could not currently be robustly assured that these would be feasible or their cost uplifts assessed, even if the WMS had not failed to acknowledge HEM's imminent introduction.

3. Creating a generally hostile climate towards buildings energy and carbon improvement policies – thus impeding the legal duty to mitigate climate change

Beyond setting constraints on how policy is expressed and implemented, the WMS also sets a tone that is generally discouraging (albeit not prohibitive) towards any local policy that goes beyond "current or planned building regulations", stating that the government does not "expect" local policy to do this.

This general negative stance is likely to be used heavily in objections from developers during the next local plan consultation and examination. However, the WMS does not actually prohibit the use of such policies so long as they are well-justified. The Council will need to strongly and accurately counter any such claims that the WMS contra-indicates any and all local energy policy beyond that set by building regulations.

What options are still left within the parameters set by the WMS of 13th December 2023?

While the WMS makes it difficult to pursue a cohesive energy-metric-based policy as originally recommended for South Staffordshire, there is still some scope for improved energy and carbon performance in new buildings. We here explore the scope that remains for the three key factors in buildings' carbon emissions: Energy efficiency, renewable energy and embodied carbon.

Energy efficiency

There are ways that the policy's energy efficiency targets could **pivot to comply with the WMS.**

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

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

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

To make this policy workable, the London Plan precedent therefore had to come with guidance on what counts as an 'energy efficiency' feature. It treats heat pumps as a 'renewable energy' feature rather than an 'energy efficiency' feature, to ensure that the required 10% improvement from 'energy efficiency measures' is instead delivered through fabric improvements and other system improvements. South Staffordshire could choose to instead categorise heat pumps as an 'energy efficiency' feature and simply set the required % TER improvement at a higher level – for example, ~63% so as to reflect the approximate level of TER reduction that the Government has stated will be delivered by the Future Homes Standard.

Justifying the above approach could draw on existing evidence from the London Plan in terms of feasibility. However, there are **caveats to this**:

- Feasibility in non-residential: Anecdotally, London's requirement for a 15% TER improvement in non-residential buildings has proven difficult for the industry to achieve using the new baseline of Part L 2021 (the policy was originally set against a baseline of Part L 2013) and so London is having to apply the policy flexibly at present.
- Unclear alignment with climate duty:
    - Because TER is not actually an energy efficiency metric, and because its parent methodology SAP is so inaccurate at predicting buildings' actual energy performance, it may be difficult to robustly show exactly what %TER reduction would be justified by virtue of being a necessary part of new buildings' role in the transition to net zero and therefore a necessary way to fulfil the local plan's legal duty to mitigate climate change (by contrast, the previously recommended metrics of space heat demand and energy use intensity were clearly justified in that way).
    - Therefore, a 10-15% TER improvement from 'energy efficiency features' may not be ambitious enough for climate-aligned best practice. London's 10% TER improvement in homes may no longer be a truly ambitious level of performance compared to what the industry can technically achieve today (via products and techniques that have advanced since London first set this policy) nor what is necessary from new builds within the UK's net zero carbon future (that is, a space heat demand of 15-20kWh/m^2/year in new builds from 2025, as well as having low-carbon heating, not gas). London's applications monitoring[i] shows an average 19.8% TER reduction through energy efficiency, but this is from a 2013 baseline and excludes heat pumps. A significant benchmarking exercise may be needed to evidence whether it is possible to go further, unless categorising pumps as an energy efficiency feature, in which case there is evidence that a ~63%+ reduction can be achieved on the TER set by today's building regulations (Part L 2021) – in that this is the emerging Future Homes Standard target.
- Cost evidence: Further work may be needed to investigate the build cost uplifts associated with achieving a 10-15% TER reduction through efficiency features. If London has not made this public already through its own evidence base, new cost evidence may need to be produced to undertake the necessary viability testing.
    - Alternatively, if allowing heat pumps to be categorised as an 'efficiency' feature rather than a 'renewable energy' feature, there is cost evidence available from the Future Homes Standard consultation documentation and from other recent local authorities' policy evidence bases looking at the cost to upgrade fabric and to switch from gas heating to heat pumps.

A further option could be to retain the Space Heat Demand and Energy Use Intensity metrics that were already proposed in the Task A report – but only **as secondary metrics that are used alongside the primary metric of % TER reduction** from energy efficiency measures, as above. This would require additional analysis to estimate what % TER reduction might typically be represented by a building that achieves those SHD and EUI metrics. However, this could only ever be an estimation and not an exact conversion, because SHD and EUI are absolute metrics while TER is a 'relative' metric that is set at a different level depending on what shape, size and type the building is – and because TER is a carbon metric not an energy efficiency metric, as previously noted. Additionally, if SHD and EUI are used only as secondary metrics, it may prove unsuccessful to implement these in practice in getting developers to adhere to them.

Renewable energy

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

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

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

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

- Feasible to achieve
- Within a cost uplift that still allows for necessary development to remain viable
- An effective and socially beneficial means of working towards the NPPF goal of *sustainable development*, in particular:
    - The plan's legal duty to ensure that development and use of land contributes to mitigating climate change (Planning & Compulsory Purchase Act 2004)
    - The imperative to achieve 'radical reductions in greenhouse gases … tak[ing] a proactive approach to mitigating … climate change … in line with the objectives and provisions of the Climate Change Act 2008' and 'provide a positive strategy [to increase the supply of] renewable and low carbon energy and heat' (NPPF 2023, paragraph 157, 158, 160, and footnote 56).

Feasibility, climate necessity and cost uplifts can be demonstrated through the evidence bases of many precedent plans cited in the main report to which the current document is an addendum. The cited feasibility evidence in particular shows that 100% on-site renewable energy is feasible *so long as sufficient energy efficiency improvements are made first* – therefore in the precedent policies cited, such a renewable energy approach had been paired with energy efficiency targets in terms of absolute fixed energy use intensity (EUI) targets. Although the latter (EUI targets) are unlikely to be accepted under the current WMS, the WMS itself does not prevent the setting of renewable energy targets that have the indirect effect of needing to design to sensible EUI targets.

An alternative approach could be to require a 100% reduction in TER through renewable energy generation on-site after the required reduction from energy efficiency has been achieved. This would follow the structure of earlier adopted precedents such as Milton Keynes Local Plan, which requires firstly a 19% reduction in TER, and then a further 20% reduction in TER through renewable energy (implying that the first 19% would be through energy efficiency).

Embodied carbon

Embodied carbon is not mentioned by the WMS2023 at all.

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

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

The phrase 'embodied carbon' does appear in a separate WMS of 18th December 2023 stating that the Government intends to eventually "develop an embodied emissions reporting framework that could serve future carbon leakage and decarbonisation policies". That WMS' focus is a 'carbon border adjustment mechanism', CBAM (a price on carbon emitted overseas in the production and transport of import goods, so as to avoid undermining global climate efforts through UK purchasing of import goods, and to avoid disadvantaging local goods). Relatedly, the equivalent EU 'CBAM' is a price paid at the border so that overseas goods' embodied carbon is paid for in the same way as EU goods' carbon. Thus that WMS does not regard how to specifically account for UK construction embodied carbon, in planning policy or otherwise.

Thus it appears there is still no relevant national approach with which local policy would need to be consistent in order to meet the NPPF test of soundness (NPPF 2023, paragraph 35d). **The scope of action available to the local plan with regards to embodied carbon therefore remains the same in the main 'Task A' report** to which this current document is an addendum.

Overheating

The WMS2023 does not mention overheating. Therefore the scope of action remains the same as it was in the main 'Task A' report to which this document is an addendum. We note that another separate WMS (15th December 2021) did recognise the introduction of the new Part O of building regulations (in 2021), which sets national minimum standards for mitigation of overheating performance. That WMS stated that there was 'no need' for local policy to 'duplicate' the requirements of Part O. However, Part O allows two different routes to compliance. One policy approach considered was to require the more rigorous of those routes. We consider that this is not a duplication nor a departure from Part O, but rather a clarification of the acceptable fulfilment of Part O. However, in February 2024, the local authority reached a verdict not to pursue this, due to a lack of capacity in the development management process to implement this effectively enough to bring substantial sustainability benefits.

Existing buildings

The WMS' rationale is heavily focussed on new builds, not existing buildings. Yet, its exact wording about metrics and viability could be interpreted to apply to *any* building. This may mean that any local policy energy efficiency standards for existing buildings would need to be expressed as % TER reduction. This should not obstruct South Staffordshire's previously considered approach, which did not set any specific targets but rather would recognise and reward proposals that would improve this, and require reporting of the improvements made in major proposals (including the WMS' stipulated metric). However, in February 2024 a verdict was reached that this local plan area experiences insufficient numbers and sizes of applications relating to existing buildings to warrant such a policy.

Updated policy recommendations in light of the WMS2023

Policy recommendations reflect findings emerging from the following elements of the evidence base to support amendments to Policy NB6 of the South Staffordshire Local Plan:

1. **Literature review 'Task A' (version 2.1, dated 6th December 2023)**
2. **Review of responses to most recent consultation on South Staffordshire draft local plan Policy NB6**
3. **Viability discussion**
4. **Cost uplift exercise**
5. **Written Ministerial Statement 2023**

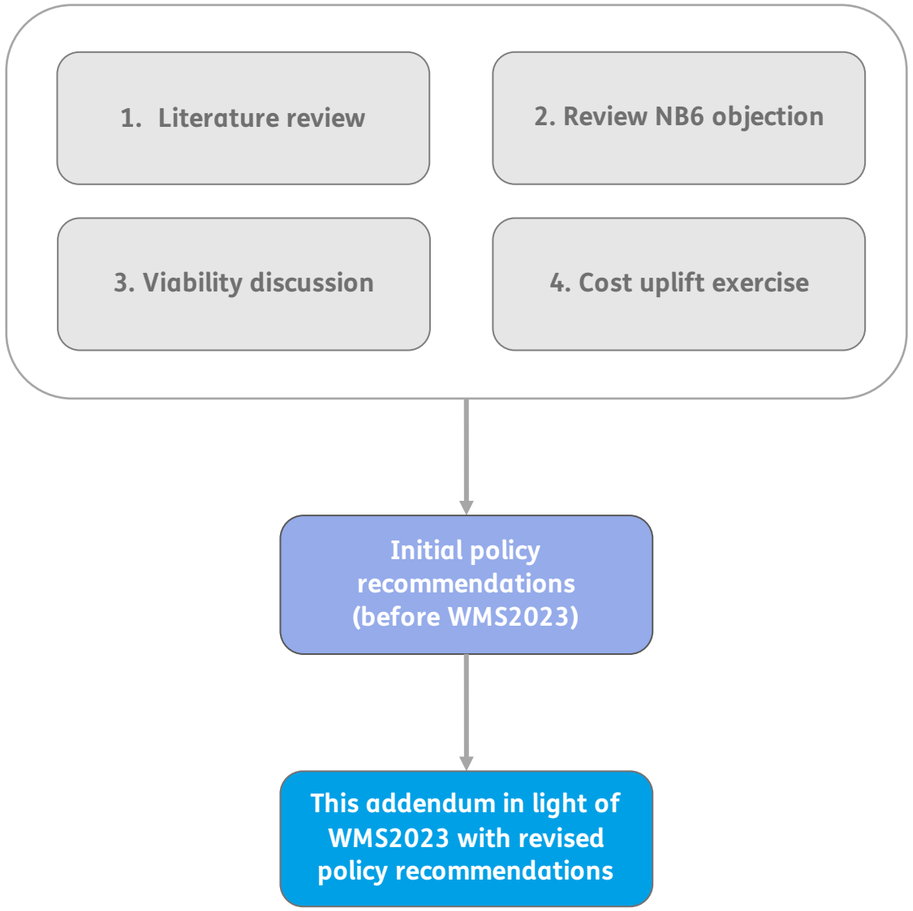
The 'Task A' report (to which the current document is an addendum) set the scene of what the local plan is able to achieve and importantly what it must do within the context of carbon reduction commitments at both local and national scales. Recommendations given in the current document are supported by the insights and policy precedents given in that literature review report, insofar as those insights can be emulated within the new parameters set by the Written Ministerial Statement of 13th December 2023 as previously outlined.

It should be noted that the policy wordings in this current document are not necessarily the final wording that must be taken forward word-for-word by the Council. Rather, they should be seen as a logical structure or reference point from which specific local plan policy wording can be adapted. The council may choose to use the content of this document's proposed wording with as little or as much alteration as they see fit for the local context and for ease of interpretation by development management officers and by planning applicants.

Structure of this section on policy recommendations

This section of the addendum proceeds as follows:

- **The structure and content of the existing draft NB6 policy** as expressed in the Publication Plan (Regulation 19) 2022
- **The structure and content of the recommendations to revise this policy** on net zero carbon new buildings, as made in our previous 'Task A' report, and a recap of why these were selected
- **A recap of alternative policy options that had been considered** during the process of producing the previous work, and consideration of which of these might be a suitable alternative in light of the WMS2023
- The confirmed new selected recommended option thought to comply with the WMS.



Evolution of the policy approach since 2022

Policy NB6 up to 'Publication' version for Regulation 19, 2022

The most recently published Local Plan Review had proposed to set the following key requirements:

1. **Residential development operational carbon reduction**
    a. Achieve net zero regulated carbon emissions
        i. Minimum 63% reduction in carbon emissions through on-site measures against Part L 2021 (this mandates the use of a heat pump or equally carbon-efficient heat, and is likely to rule out individual gas boilers)
        ii. Demonstrate at least a 10% improvement on Part L 2021 Target for Fabric Energy Efficiency
        iii. No fossil fuel-based heating systems
    b. On-site renewable energy generation or connections made to on or near site renewable/low-carbon community energy generation and storage networks must be sufficient to achieve zero regulated carbon, or offset any remaining residual regulated carbon emissions.

2. **Non-residential major development sustainability standards and operational energy**
    a. Demonstrates compliance with the latest BREEAM 'Excellent' standard as a minimum, targeting compliance with BREEAM 'Outstanding' wherever possible;
    b. Whilst achieving compliance with the standards in (a), priority must be given to maximising credits achieved under BREEAM criteria Ene01 in all cases;
    c. Demonstrates the fullest viable use of onsite renewable energy generation measures to meet operational energy demand from the scheme

3. **Embodied carbon and closing the performance gap**
    a. Major development to demonstrate how embodied carbon has been considered and reduced
    b. Large-scale development to complete a nationally recognised Whole Life Carbon Assessment and demonstrate actions to reduce life-cycle carbon emissions
    c. Major development to implement a recognised quality regime that ensures the as-built performances matches calculated design performance
    d. Developers must ensure that a recognised monitoring regime is put in place to allow assessment of energy use, indoor air quality and overheating risk for 10% of the proposed dwellings for the first five years of their occupancy

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

In light of recently adopted precedent local plans elsewhere and recent feasibility and cost evidence, it was concluded that points 1 and 2 (above) were no longer the most effective way to mitigate new builds' operational carbon emissions in line with the Climate Change Act.

Previously agreed policy approach for NB6 amendments, prior to the WMS2023

As agreed with officers at South Staffordshire upon discussion and a cost uplift exercise of various policy options, a revised approach was subsequently selected to inform Policy NB6 amendments, with the following key elements for **new residential development**:

- **Space heat demand (SHD)**: ≤30 kWh/m^2/year
- **Energy use intensity (EUI)**: ≤45 kWh/m^2/year (TOTAL energy use including unregulated uses)
- **Reduce the energy performance gap by using accurate energy modelling and an assured performance process** (so that the actual performance is as close as possible to the modelling)
- **On-site renewable energy generation:** to match 100% energy use
    - Or where unfeasible to match 100% of energy use, then provide 120kWh/m^2/year (of building roof footprint) and offset the remainder via Section 106 payments at a set cost per kWh of unmet energy demand, which will fund installation of off-site renewables.
- **Post-occupancy energy monitoring** & reporting for major developments (over 10 homes.)

Recommendations were also made around embodied carbon (and possible approaches were also considered for overheating existing buildings). These are not repeated here as they are not affected by the WMS. The recommended required limit on embodied carbon, for new residential and non-residential development, was based upon recent modelling of the embodied carbon of today's 'business-as-usual' home construction (with a house that would comply with the legally required energy/carbon standard of Part L 2021) and is therefore cost neutral.

Equivalent targets for non-residential were recommended as guidelines, not requirements. An SHD of ≤15kWh/m^2/year, and total EUI depending on use: Warehouses and retail (35kWh/m^2/year), offices and schools (55kWh/m^2/year). For other uses, a regulated-only EUI of 30kWh/m^2/year was recommended. The requirement for BREEAM Excellent was to be retained as per the 2022 draft plan.

Other elements of Policy NB6 were not expected to be subject to major recommendations for new requirements, due to potential viability implications that could result from further cost uplift.

The components above were selected on the basis that this would result in 'true' net zero carbon buildings, while the SHD and EUI targets would provide significant energy cost savings for building occupants and reduced strain on grid infrastructure. Additionally, as seen in the cost uplift summary of various policy options for new residential development[1], the approach described above would have resulted in a **cost uplift of 6% over a Part L 2013 baseline, or 1.3% over a Part L 2021 baseline**. This approach therefore remained within the 7% already tested in the viability assessment.

Other policy approaches had also been explored, ranging from 'do nothing', to an approach based on Part L SAP/SBEM metrics (TER reduction; TFEE reduction and offsetting per tonne of SAP-calculated carbon emissions) through to an approach with even tighter SHD and EUI targets. These alternatives' cost impacts would range from zero to 8.6% cost uplift. The approach selected was the most carbon-effective option that remained within the 7% uplift that the viability assessment had tested.

[1] For an overview of the range of policy options and their estimated cost uplifts, please see the main report (to which this current document is an addendum).

Other approaches previously considered, now being reconsidered in light of the WMS2023

When estimating the cost uplift of the original and revised NB6 approaches described above, several other options were also considered for their climate merits and cost uplifts. We considered 2 cost baselines: the current Part L 2021, and the previous Part L 2013 (as most of the existing build cost data was collected before the current Part L came into force). The full range of options was as follows.

Firstly, a 'do nothing on site' approach (rely on national building regulations), with sub-options:

a. Part L 2021 (baseline)

b. Part L 2021 + offsetting:
   i. Cost uplift on Part L 2013: Cost uplift of between 8.9% - 11.5%, depending on whether the offsetting is for regulated carbon only or also unregulated carbon, and depending on whether the calculation includes future grid decarbonisation.
   ii. Cost uplift on Part L 2021: Cost uplift between 0.3% to 5.6%, varying as above.

These were ruled out because their carbon and energy performance was not 'in line with the objectives and provisions of the Climate Change Act 2008' (an expectation set by the NPPF). Also, approach (b) would have unacceptable cost impacts as well as climate risks of relying entirely on offsetting (e.g. that the offset fund might not deliver enough permanent carbon savings in the required period).

Secondly, a range of alternative options were considered:

- **Option 1: Maintain the existing draft Policy NB6**, as described in the previous section (Meet an on-site TER regulated carbon equivalent to the govt's previously indicated Future Homes Standard, then pay to offset 30 years' worth of remaining regulated carbon [DER x floor space] at the nationally set carbon price per tonne taking into account future grid decarbonisation). No requirement about unregulated carbon. Cost uplift of 3.9% from Part L 2013, or 0.3% from Part L 2021 (due to removal of solar panels that are present in Part L 2021 specification, largely negating the cost uplifts of improved fabric and the switch from gas to heat pump).
- **Option 2: As per Option 1, but with renewable energy *on-site* to hit zero *regulated* carbon** (100% TER reduction), and pay to offset 30 years' worth of carbon emissions from *unregulated* energy. Cost uplift of 2.6% on Part L 2021, or 7.2% on Part L 2013, assuming the offset payment takes into account grid decarbonisation.
- **Option 3: As per Option 1+2, but with on-site renewables to hit zero *regulated+unregulated* carbon**; therefore no offsetting. Regulated carbon to be calculated using SAP; unregulated carbon calculated via a SAP-compatible method. Cost uplift 3.7-8.6% depending on baseline.
- **Option 4: Meet cutting-edge definition of 'true operational net zero building' fit for UK's carbon budgets**, with tight energy efficiency targets (space heat demand and EUI) and on-site renewable energy to match annual demand (or if the latter is unfeasible, then pay to offset per kWh of unmet annual energy demand). Cost uplift 3.9-10.8% depending on baseline.
- **Option 5: As per Option 4, but with slightly relaxed targets for energy efficiency** (space heat demand and EUI) so as to reduce the cost uplift while still minimising energy demand to a level that can be 100% matched with on-site renewable energy generation, proven feasible by other recent local plans' evidence bases. Cost uplift ~1.5% (current Part L 2021) or 6% (Part L 2013). This was the previously agreed recommended approach, as noted above and in 'Task A' report.

Revised agreed approach in light of the WMS2023

Originally, Options 1–3 were rejected because Options 4-5 were far more effective towards Climate Change Act goals, and Option 5 specifically is thought to have lower cost uplift than Options 2-3.

However, Options 1-3 are now reconsidered because they comply more closely with the WMS2023, in that they use (or could be adapted to use) the metric of % TER reduction as an energy efficiency requirement.

Options 4 – 5 would now be challenging to get through examination due to how they diverge from the WMS2023 (by using energy efficiency metrics other than TER). While it might be possible to defend a divergence from the WMS on the grounds of greater effectiveness in climate mitigation, this is likely to involve greater expense and delay to produce even further justification evidence for the specific local context, and would ultimately still depend on the individual inspector's interpretation at examination (and potential intervention by the Secretary of State, who the WMS states will "closely monitor" how it is implemented). Council officers thus reached a verdict to avoid Options 4-5 due to these risks.

Of Options 1 – 3, Option 2 is the approach that is believed to be most effective for delivering climate while remaining within or close to the 7% cost uplift that the separate viability assessment had already made room for with regards to sustainability improvements.

A summary table is provided overleaf comparing Options 1, 2, 3 and 5 for their components, their cost uplift, and their compatibility with the WMS2023. (That summary table excludes Option 4 for brevity reasons because it does not differ sufficiently from Option 5 in terms of WMS impact).

The new agreed policy approach to new homes' operational carbon performance is to pursue Option 2, as agreed via liaison with lead officers at South Staffordshire in December 2023 shortly after the WMS was announced.

Please note: The current changes from the previous recommendations relate *only* to the *operational* (energy-related) policy components, as this is what the WMS2023 affects. Other parts of the original recommendations are unaffected by the WMS and so the original recommended approach still stands for the following elements:

- Embodied carbon was not mentioned or constrained by the WMS2023 and therefore the current recommended approach retains the same embodied carbon targets that were previously recommended, as these are believed to be cost-neutral, as outlined previously.
- Overheating was not mentioned in the present WMS – therefore no changes are made to any previous recommendations on that topic.
- Existing buildings – the previous report's exploration of this topic did not recommend setting any specific *requirements* for existing buildings' energy efficiency. Instead, it explored scope to actively welcome proposals that provide a significant improvement to existing buildings' energy and carbon performance, placing additional weight on those benefits in favour of granting permission. A further possibility was to require that major proposals regarding existing buildings (10+ dwellings or 1,000m^2+ floor space) provide 'before and after' calculations of their carbon and energy performance using SAP metrics. This remains aligned with the general thrust of the WMS2023, which is to use the SAP carbon metric. However, as noted previously, a view has now been taken that the District receives an insufficient number and scale of 'existing buildings' applications to warrant a specific policy on this.

Link to glossary

Summary of previously considered potential policy approaches for new builds, and reassessment in light of the WMS of 13th December 2023

Please note: The options numbering used here is consistent with the numbering of options explored for cost uplifts during the previous work provided to the Council before the WMS. **The missing Option (4) not listed here was similar to Option 5 but with tighter targets** for energy efficiency. It is not reproduced here as it is so similar to Option 5 (therefore not WMS-compatible), and had higher cost uplift.

Policy requirement (in order of energy hierarchy)	Option 1: As per Policy NB6, South Staffordshire emerging local plan Publication 2022	Option 2: 63% to 100% TER reduction on-site, + offset carbon of regulated+unregulated energy.	Option 3: 100% reduction in TER and unregulated carbon, all via on-site features.	Option 5: True & effective net-zero approach using energy metrics (original recommendation)
Overarching expectation	Homes: Net zero carbon (regulated carbon emissions only, as calculated by Part L SAP). Minimum on-site: 63% reduction on Part L 2021 TER. Gas-free. Non-residential: BREEAM Excellent; aim for full credits in BREEAM 'Ene01'.	Homes: • Net zero regulated carbon, *preferably* on site (onsite ≥63% versus Part L 2021 TER) • AND: Net zero unregulated carbon through other means if not achieved on-site. Non-residential: Net zero regulated carbon.	Homes: • Net zero regulated carbon through on-site measures (100% reduction versus Part L 2021 TER) • Net zero carbon from estimated unregulated energy use	Net zero carbon new development, achieved via a net zero energy balance. Calculated using a methodology known to accurately predict energy use (not Part L SAP/SBEM). (Threshold: 1 new home or 100m² new non-residential floor.)
Energy efficiency	Homes: Achieve 10% reduction on Part L TFEE. All major: Use a quality regime to reduce performance gap.	Homes: Minimum 63% reduction on Part L 2021 TER through efficiency measures (which can include heat pump and should include fabric equivalent to 'Future Homes Fabric' as stated by Government in the 2021 Response to the FHS Consultation) Non-residential: 19% reduction on Part L Target Emission Rate via energy efficiency.	Homes: Minimum 63% reduction on Part L TER through efficiency measures (which can include heat pump and should include fabric equivalent to 'Future Homes Fabric' as stated by Government in the 2021 Response to the FHS Consultation) Non-residential: 19% reduction on Part L Target Emission Rate via energy efficiency.	Homes energy limits (required): • 45kWh/m²/year total energy use (EUI) • 30kWh/m²/year space heat demand. Non-residential energy limits (encouraged): • 35-55kWh/m²/year EUI (varies by type) • 15kWh/m²/year space heat demand. All: Quality regime against performance gap.
Renewable energy (on-site requirement)	Homes: Sufficient to at least achieve 63% reduction in Part L 2021 TER (when combined with TFEE improvement). Aim for 100% reduction in TER if possible.	Homes: Sufficient on-site to achieve net zero *regulated* carbon after the first 63% is made through energy efficiency. If demonstrably unfeasible, proceed to offsetting.	Sufficient to achieve on-site net zero regulated carbon (calculated with Part L SAP) and net zero carbon of unregulated energy use (with SAP-compatible calculation)	Match 100% of annual total energy demand (regulated + unregulated) unless unfeasible. Otherwise, ≥120 kWh/m² projected building footprint/year.
Offsetting (operational only)	Offset 30 years' worth of any residual regulated carbon, via payment to Council.	Offset 30 years' worth of residual regulated + unregulated *carbon* via payment to Council.	Not permitted	Offset per kWh of annual *energy* demand that is not met with on-site renewables.
Embodied carbon	Whole-life carbon assessment for new build schemes over 50 homes or 5,000sqm.	Large-scale new development (50+ homes or (5000m²+ commercial floorspace) limit up-front embodied carbon (RICS modules A1 – A5) to 550 $kgCO_2/m^2$ GIA. (Cost-neutral.)	Large-scale new development (50+ homes or (5000m²+ commercial floorspace) limit up-front embodied carbon (RICS modules A1 – A5) to 550 $kgCO_2/m^2$ GIA. (Cost-neutral.)	Large-scale new development (50+ homes or (5000m²+ commercial floorspace) limit up-front embodied carbon (RICS modules A1 – A5) to 550 $kgCO_2/m^2$ GIA. (Cost-neutral.)
Estimated cost uplift (homes)	On Part L 2013: 3.8% to 5.5%. On Part L 2021: 0.3% to 1.5%	On Part L 2013: 7.2% On Part L 2021: 2.6% to 2.9%.	On Part L 2013: 8.6% On Part L 2021: 3.7% to 4.3%.	On Part L 2013: 6% On Part L 2021: 1.3% to 1.5%.
Assessment in light of WMS 2023	WMS may require removal of TFEE and BREEAM. Otherwise compliant with the WMS. Not sufficiently effective for climate, as unregulated energy is neglected and no embodied carbon target is set.	Compliant with the WMS. More effective for climate than Option 1, because unregulated energy is offset and an embodied carbon limit is set. Cost uplift similar to the 7% level already tested in separate viability assessment.	Mostly WMS-compliant except must become flexible to feasibility. More effective for climate than Option 1+2, as both regulated and unregulated energy are addressed on-site and an embodied carbon limit is set. BUT: Cost uplift could exceed the 7% level tested in separate viability assessment.	Energy efficiency requirements primarily based on SHD and EUI are likely to no longer be acceptable according to the WMS. These renewable energy, offsetting and embodied carbon requirements are still theoretically acceptable.

Link to glossary

Detail of recommended revised policy approach

Please note that we previously made recommendations for policy along five themes:

A. Net zero new build residential development (operational energy)

B. New build non-residential development (operational energy)

C. Embodied carbon

Consideration was also given on the potential scope for policy on overheating and existing buildings.

We here only make revisions to the recommendations for the new build operational energy policies (A. Residential and B. Non-residential), because those are the policy elements that are affected by the WMS2023.

By contrast, any recommendations around other policy themes remain the same as they were in the previous report and are not repeated here (such as recommendations made on embodied carbon, and general commentary on the possibilities to address overheating and existing buildings).

The previous report also assessed the following aspects of each policy theme:

- Links to other policy,
- Scope for future improvements in next local plan review,
- Alignment with national policy,
- Implementation considerations,
- Development industry capability to deliver policies,
- Development Management capability to assess policies.

For the policies for which we now make revised recommendations in light of the WMS, much of the original assessment on the above bullet points will remain the same as in the previous work. However, we have made updates to these assessments where necessary, in particular some of the points about 'alignment with national policy', 'implementation', 'development industry capability' and 'development management capability'.

A. Net zero new build residential development (operational energy)

A1. Overarching carbon reduction	New residential development of 1 or more homes shall achieve **net zero regulated and unregulated carbon emissions**, through the application of requirements A2 – A4 laid out below. Regulated carbon emissions should be calculated with **SAP10.2 or any more recent replacement methodology**. These calculations must reflect the same specification and performance that are submitted for Building Control. Unregulated energy use should be calculated using either SAP Appendix L, BREDEM, TM54, PHPP or any accurate predictive energy model, and shall be converted using SAP carbon factors. The **regulated carbon reduction should be achieved through on-site measures**, unless this is demonstrated to the Council's satisfaction that it is unviable or unfeasible with reference to site-specific factors.
A2. Energy efficiency	**A 63% reduction on the Part L 2021 TER (regulated carbon emissions), is to be achieved through energy efficiency features.** 'Energy efficiency' includes **any feature that reduces the energy demand of a building compared to the equivalent feature specified in the Part L notional dwelling**, regardless of whether the energy supply is conventional or renewable. This includes not only fabric, lighting, other efficient equipment and heat-recovery, but also heat pumps or any other heating system more efficient than the notional building heating system specified in Part L. Renewable energy generation is not an 'energy efficiency feature'. Alternatively, where Passivhaus certification is proposed (or a space heat demand of ≤20kWh/m^2/year and a total energy use intensity of ≤45kWh/m^2/year) and the proposal is fossil fuel free, the applicant will not need to submit SAP calculations. In that case the applicant's Energy Statement should instead cite their PHPP calculations, and a condition will be set requiring evidence of fulfilment on completion.
A3. Renewable energy supply	Subsequent to point A2, a **further reduction in regulated carbon emissions to net zero is to be achieved through on-site renewable energy generation** and/or connection to a certified renewable or low-carbon (fossil-free) local energy network. Where it is proven unfeasible or unviable to include enough on-site renewable energy to achieve a 100% reduction in TER in this way, and this can be demonstrated to the Council's satisfaction with reference to site-specific factors, the applicant will first demonstrate inclusion of as much renewable energy as feasible and viable, then address the remaining regulated carbon emissions by offsetting as per point A4.
	Where a building in a multi-building development cannot individually achieve the requirements of A3, this shortfall is to be made up across other units on-site before offsetting (A4) is considered. Large-scale development (50 residential units or more) should demonstrate that opportunities for on-site renewable energy infrastructure (on-site but not on or attached to individual dwellings), such as solar PV canopies on car parks, have been explored. Proposals are encouraged to demonstrate that the amount of on-site renewable energy generation equates to ≥120 kWh/m^{2}projected building footprint/year. Where an application proposes to also reduce *unregulated* carbon to zero via on-site renewable energy or connection to a community renewable scheme, this sustainability benefit will afford weight in favour of the proposal.
A4. Offsetting	Only in exceptional circumstances and as a last resort where it is demonstrably unfeasible to achieve the requirements of A3 above, any residual carbon emissions from regulated and unregulated energy are to be offset via **S106 financial contribution reflecting 30 years of the building's operation**. The price per tonne of carbon will be £256 or the latest year's central value set by the Treasury Green Book Valuation of Energy and Carbon at the time of application, whichever is higher. The calculation can include the nationally projected electrical grid decarbonisation across that 30-year period from the date of application. Grid decarbonisation figures are to reflect those found in the Treasury Green Book or future national equivalent.
A5. Reduced performance gap	Applicants are encouraged to submit, alongside their SAP figures, a set of total energy performance predictive calculations using Passivhaus Planning Package (PHPP), CIBSE TM54, or other method demonstrably proven to produce accurate predictions of total in-use energy. An assured performance method must be implemented throughout all phases of construction to ensure operational energy in practice performs to predicted levels at the design stage.
A6. Smart energy systems	Proposals should demonstrate how they have considered the difference (in scale and time) of renewable energy generation and the on-site energy demand, with a view to maximising on-site consumption of energy generated on site and minimising the need for wider grid infrastructure reinforcement. Where the on-site renewable energy generation peak is not expected to coincide with sufficient energy demand on-site, resulting in a need

	to export or waste significant amounts of energy, proposals should demonstrate how they have explored scope for energy storage and/or smart distribution systems. The purpose is to optimise on-site or local consumption of the renewable energy that is generated by the site. Where appropriate, proposals should demonstrate that they have integrated these to optimise these carbon- and energy-saving benefits and minimise the need for grid reinforcements. This may include any combination of smart local grids, energy sharing, energy storage, demand-side response.
A7. Post-occupancy evaluation	Large-scale development (over 50 homes) should monitor and report total energy use and renewable energy generation values on an annual basis for 5 years from first occupation. An outline plan for the implementation of this should be submitted with the application. Monitored data are to be reported to the local planning authority.

Policy elements A1, A2 and A3 are to be addressed at design and post-completion stages, to ensure that the development has been built to the intended standards. Post-completion resubmission of the original energy statement including energy performance calculations, informed by the relevant tests to systems and fabric, should be required as a condition as part of the planning application process. A5 and A7 compliance should also be demonstrated post-completion through planning conditions.

A1 – A7 are to be demonstrated at planning application stage through submission of an energy statement (or sufficiently detailed energy chapter within a wider sustainability statement), alongside associated output reports from energy modelling software.

Links to other policies

These policy recommendations are linked to examples previously explored in the 'Task A' report. A5 specifically is related to the previous section on the energy performance gap.

If South Staffordshire later chooses to also pursue a separate overheating policy, Policy A2 would be linked that due to the potential link between improved space heating demand standards and increased overheating risk (albeit this can be remedied with careful design).

Policies A3 and A6 are linked to any standalone renewable energy policies, as any on-site renewable energy development will form part of the larger energy network of the area. Policy A2 would also support wider goals for the roll-out of renewable energy as a proportion of the District's overall energy supply, as reduced energy consumption will demand less renewable energy from the grid in cases where an on-site net zero energy balance is not achieved. Thermally efficient buildings are heated 'lower and slower' thus don't place the sudden large peak demands on the grid that necessitate rapid response in power input that currently drives dependency on fossil fuelled power stations.

Scope for future improvements

Policy A2 (energy efficiency) could be further improved as further evidence emerges about ongoing advances to the energy efficiency performance of available technologies and construction techniques.

Policy A1, A2 and A3 may become less subject to the need for flexibility around viability and feasibility as technologies become more efficient and less costly thanks to economies of scale.

Should the Written Ministerial Statement of 13th December 2023 be later revoked or a legal challenge mounted that confirms it is overruled by the legal duty to deliver climate mitigation, then the policy could be revised to make the space heat demand and energy use intensity targets mandatory in place of the SAP TER-based targets.

Alignment with national policy

All of these policies are aligned with national policy goals, since their implementation works towards achieving the legally-binding UK target of net zero by 2050, as set out in the Climate Change Act 2008, and carbon budgets subsequently legislated under the aegis of that Act. These associated carbon budgets are linked to the Climate Change Committee's Balanced Pathway to Net Zero report, which in turn is supported by analysis that sets out that all new buildings must be net zero by 2025 have a space heating demand of 15-20 kWh/m^2/year. While the 13th December 2023 Written Ministerial Statement requires the energy efficiency requirement to be expressed as a % carbon reduction instead of an actual space heat demand target, Policy A2 is designed to set the % TER reduction at a level that reflects the emerging Future Homes Standard, which will include a heat pump and may include uplifts to fabric which would improve the space heat demand of a home compared to today's (Part L 2021) standards.

Policy A6 stipulations around smart energy system features to reduce pressure on grid capacity help to address the WMS2023's concern about feasibility or viability problems that could otherwise arise through local energy infrastructure constraints.

The Planning and Energy Act 2008 establishes that local standards for energy efficiency in new homes are able to exceed those set in Building Regulations, and that local policy can require a proportion of renewable energy supply. Detail on why objections in relation to this local planning authority power are invalid is set out in detail previously in the 'Task A' report.

Implementation considerations

Although all of the required carbon reduction targets are set using metrics that developers must produce and submit to Building Control already, given that development management is a separate department it would be helpful to produce supplementary guidance for the benefit of Development Management officers and planning applicants. This is particularly important for A1, A2, A3, A4 and A5 because specific information for policy compliance must be set such as:

- Examples of assured performance processes
- Acceptable scenarios where feasibility and viability would represent valid reasons to pursue offsetting instead of on-site improvements
- An indicative range of acceptable energy/carbon calculation methodologies, and how to proceed when SAP10.2 is eventually replaced (by a new version of SAP or by the future 'HEM' Home Energy Model, proposed by Government to replace SAP when the Future Homes Standard is introduced)
- Further guidance on how to produce offset payment calculations taking into account future grid carbon reductions and future carbon price increases, perhaps with worked examples
- Clarity on which features are 'energy efficiency' (contributing towards policy A2) and which are 'renewable energy' features (contributing towards policy A3).

Regarding the final bullet point above: This is because the South Staffordshire A2 energy efficiency requirement is expressed similarly to that of Greater London with which developers may be familiar, but differs from the London policy in that South Staffordshire would count heat pumps as an energy efficiency feature whereas London counts them as a renewable energy feature. If developers do not read the policy carefully, they may mistakenly presume that the London categorisation applies and thus mistakenly conclude that the target is not feasible. Other such differences may also exist. Clear supplementary guidance would help to avoid such errors, and this guidance could later be further refined in consultation with developers after a period of policy implementation.

For A3, renewable energy installations should be accompanied with calculations of expected outputs required under the policy by an MCS certifier, which should be set as a planning condition. This is to ensure renewable energy technology is correctly installed and operates at the predicted output.

Industry capability

With appropriate engagement with developers operating in the area throughout the local plan process, the local development industry should be well prepared to deliver on these policies. The policies require additional levels of care to be applied through design and construction phases but do not introduce any new skills not currently known and utilised by developers.

The standard of energy efficiency (combination of insulation, glazing, equipment efficiency and heating system efficiency) typically required to meet the initial 63% TER reduction are similar to those set out in the indicative specification for the Future Homes Standard (FHS, as per the Government's FHS Consultation Response 2021). This 63% improvement is strongly linked to the use of a heat pump, which equally is part of both options for FHS specification now under national consultation at the time of writing, as well as the 2021 indicative FHS specification. Therefore, the development industry should be well prepared to deliver on A2, particularly as the South Staffordshire local plan and the FHS are both likely to be introduced in 2025.

The wider development industry needs to upskill to deliver buildings that actually perform with net zero carbon emissions rather than just being 'net zero' on paper. Delivery of buildings to that standard requires quality construction standards to mitigate the energy performance gap, which the implementation of policies A5 and A7 will work towards improving at a larger scale. Additionally, the policy acceptance of Passivhaus certification or PHPP calculations to meet certain energy performance targets, as an alternative route to compliance, encourages the uptake of these more effective methods of design and performance delivery.

Development Management capability

The capability of Development Management officers to accurately assess these policies is reliant on the degree of training and guidance documents available. It is essential that officers have guidance on hand against which to assess policies, to ensure that compliance is achieved in accordance with methodologies set out in a subsequent guidance document. This guidance document could be combined with the aforementioned developer guidance, or could be separate. Specific upskilling of at least one officer on climate change policies to gain a technical understanding will greatly assist the overall ability of the team to assess policy compliance.

Training sessions for Development Management officers on technical processes involved with net zero carbon development can strengthen internal capabilities to assess and scrutinise applications that may have submitted overly-optimistic building performance values for the sake of policy compliance. These training sessions could include:

- Understanding how the National Calculation Methodology works (SAP, or in future HEM)
- Understanding of more accurate modelling techniques and tools (e.g. PHPP)
- Building elements' energy performance values (e.g. U-values) in comparison to those of the notional building set by the current Building Regulations (Part L 2021) and the Future Homes Standard
- Low- and zero-carbon heating and ventilation systems/technologies, and their relative merits in comparison to those of the notional building in Part L and the FHS, as above
- Orientation, form factor and design features for solar PV generation
- Familiarisation with national carbon valuation and national projections about grid carbon reduction.

B. New build non-residential development (operational energy)

B1. BREEAM	Major non-residential development is to **demonstrate compliance with the most recent applicable BREEAM Excellent standard**. BREEAM Outstanding should be targeted and the proposal will be afforded weight in favour where this is achieved. Maximum credits under BREEAM criteria Ene01 should be achieved.
B2. Energy efficiency	New non-residential development proposals are expected to achieve a **15% improvement in Part L 2021 TER through energy efficiency features** unless demonstrated unfeasible or unviable to the satisfaction of the Council with references to site-specific and/or use-class specific characteristics. Where this target is not met, applications must demonstrate that energy efficiency measures (and TER reductions from these) have been pursued to the greatest extent feasible and viable, in comparison to the notional standards set by Building Regulations Part L. This is to be demonstrated using the latest non-residential National Calculation Methodology (currently SBEM). Additionally, proposals are **encouraged** to meet the following targets: • Warehouses: ≤ 35 kWh/m^2/year total energy use • Offices: ≤ 55 kWh/m^2/year total energy use • Schools: ≤ 55 kWh/m^2/year total energy use • Retail: ≤ 35 kWh/m^2/year total energy use • Other building types: 30 kWh/m^2/year regulated energy uses • All typologies: Space heat demand: ≤15kWh/m^2/year. Where accurate energy modelling (PHPP, CIBSE TM54 or equivalent subject to Council approval) demonstrates that the proposal will achieve the relevant one of the above optional targets or Passivhaus certification, this benefit will be afforded weight in favour of the proposal and it will not be necessary to also submit evidence of the 15% TER reduction cited above.
B3. On-site renewable energy	Non-residential development must **demonstrate the fullest feasible and viable use of on-site renewable energy generation and/or connection** to local renewable and low carbon energy network, with the aim to annually match operational energy use. All non-residential buildings are **encouraged** to demonstrate that the amount of on-site renewable energy generation equates to ≥120 kWh/m^{2}projected building footprint/year. Where this is fulfilled, the sustainability benefit of this will be recognised and afforded weight in favour of the proposal. Large-scale development (5000m^2 non-residential floorspace or more) should demonstrate that opportunities for on-site renewable energy infrastructure (on-site but not on or attached to individual buildings), such as solar PV canopies on car parks, have been explored. In new developments, the **use of fossil fuels and connection to the gas grid will not be considered acceptable**.
B4. Reduced performance gap	Proposals are **encouraged** to take the following steps, and planning decisions will recognise the sustainability benefits where these are demonstrated to have been fulfilled: • Produce accurate energy use predictions using Passivhaus Planning Package, CIBSE TM54, or other method demonstrably proven to produce accurate predictions of total in-use energy (subject to local authority approval of the method). • Implement an assured performance process throughout design and construction to ensure operational energy in practice performs to predicted levels at the design stage.
B5. Smart energy systems	Proposals should demonstrate how they have considered the difference (in scale and time) of renewable energy generation and the on-site energy demand, with a view to maximising on-site consumption of energy generated on site and minimising the need for wider grid infrastructure reinforcement. Where the on-site renewable energy generation peak is not expected to coincide with sufficient energy demand, resulting in a need to export or waste significant amounts of energy, proposals should demonstrate how they have explored scope for energy storage and/or smart distribution systems. The purpose is to optimise on-site or local consumption of the renewable energy (or waste energy) that is generated by the site. Where appropriate, proposals should demonstrate that they have integrated these to optimise these carbon- and energy-saving benefits and minimise the need for grid reinforcements. This may include any combination of smart local grids, energy sharing, energy storage and demand-side response.
B6. Post-occupancy evaluation	**Large-scale development (5,000m^2 floor space or more) should monitor and report total energy use and renewable energy generation values on an annual basis for 5 years** from first occupation. An outline plan for the implementation of this should be submitted with the application. Monitored data are to be reported to the local planning authority.

B1 – B6 are to be demonstrated at planning application stage through submission of an energy statement (or suitably detailed energy chapter within a wider sustainability statement), alongside associated output reports from the relevant energy modelling software in the case of B2-B3.

Policy element B1 – B4 are to be addressed at design and post-completion stages, to ensure that the development has been built to intended standards. Post-completion resubmission of the original energy statement including energy performance calculations, informed by the relevant tests to systems and fabric, should be required as a condition as part of the planning application process. B5 and B6 compliance should also be demonstrated post-completion as a planning condition.

Links to other policies

These policy recommendations are linked to examples previously explored in the 'Task A' report.

If South Staffordshire later chooses to also pursue a separate overheating policy, Policy B2 would be linked to that due to the potential link between improved space heating demand standards and increased overheating risk (albeit this can be remedied with careful design).

Policies B3 and B5 are linked to any standalone renewable energy policies, as any on-site renewable energy development will form part of the larger energy network of the area. Policy B2 would also support wider goals for the roll-out of renewable energy as a proportion of the District's overall energy supply, as reduced energy consumption will demand less renewable energy from the grid in cases where an on-site net zero energy balance is not achieved. Thermally efficient buildings are heated 'lower and slower' thus don't place the sudden large peak demands on the grid that necessitate rapid response in power input that currently drives dependency on fossil fuelled power stations.

Scope for future improvements

Should the Written Ministerial Statement of 13th December 2023 be later revoked or a legal challenge mounted that confirms it is overruled by the legal duty to deliver climate mitigation (or if it is later clarified that the WMS only applies to residential development and the impact on housing supply), then Policy B2 could be revised to make the space heat demand and energy use intensity targets mandatory in place of the SAP TER-based targets.

Should further evidence emerge on costs and feasibility to support this, the required minimum BREEAM target (Policy B1) could be raised to 'Outstanding' rather than 'Excellent'.

Alignment with national policy

All of these policies are aligned with national policy goals, since their implementation works towards achieving the legally-binding UK target of net zero by 2050, as set out in the Climate Change Act 2008, and carbon budgets subsequently legislated under the aegis of that Act. These associated carbon budgets are linked to the Climate Change Committee's Balanced Pathway to Net Zero in the Sixth Carbon Budget report, which sets out that all new buildings should be zero carbon from 2025, with high levels of energy efficiency and low-carbon heat. It also found that non-residential buildings should phase out high-carbon fossil fuel boilers no later than 2026, and phase out gas boilers in 2030-33, less than 10 years from today (2023), while boilers have a typical lifetime of 15 years. Therefore, new buildings today should not have these, to avoid the need for expensive disruptive retrofit less than 10 years after completion which would also waste embodied carbon (even if the need for 'net zero carbon new builds from 2025' did not already effectively rule out fossil fuel boilers). The policy supports these targets by prohibiting fossil fuel connection and by the guideline EUI targets, which would need a heating technology similarly efficient to a heat pump (which a fossil boiler cannot meet).

The policies also align with the national policy statement formed by the Written Ministerial Statement of 13th December 2023, in that the required energy efficiency improvement (Policy B2) is expressed as a % reduction in carbon emissions compared to Part L SAP 2021, and because the policy has built-in flexibility to the potential challenge of viability and feasibility. Policy B5's stipulations around smart energy system features to reduce pressure on grid capacity help to address the WMS' concern about feasibility or viability problems that could otherwise arise through local energy infrastructure constraints.

Any policy for non-residential is unable to follow the WMS2023 expectation to be expressed 'using a specified version of SAP'. This is because SAP is not used for non-residential buildings; instead the equivalent national calculation methodology for non-residential building regulation compliance is 'SBEM'. Presumably the WMS' intent was therefore to only set that stipulation for residential policies, unless the minister who made the WMS did not understand that non-residential buildings use a different calculation method.

Implementation considerations

It would be helpful to produce supplementary guidance for the benefit of Development Management officers and planning applicants. Specific information for policy compliance must be set such as:

- Examples of assured performance processes
- Acceptable scenarios where feasibility and viability would provide valid reasons to pursue offsetting instead of on-site improvements
- An indicative range of acceptable energy/carbon calculation methodologies and how to proceed when SAP10.2 is eventually replaced (by a new version of SAP or by the future 'HEM' Home Energy Model, proposed by Government to replace SAP when the Future Homes Standard is introduced)
- Further guidance on how to produce offset payment calculations taking into account future grid carbon reductions and future carbon price increases
- Clarity on which features are 'energy efficiency' (contributing towards Policy B2) and which are 'renewable energy' features (contributing towards policy B3).

For B3, renewable energy installations should be accompanied with calculations of expected outputs required under the policy by an MCS certifier, which should be set as a planning condition. This is to ensure renewable energy technology is correctly installed and operates at the predicted output.

The wider development industry needs to upskill to deliver buildings that actually perform with net zero carbon emissions rather than just being 'net zero' on paper. Delivery of buildings to that standard requires quality construction standards to mitigate the energy performance gap, which the implementation of policies B4 and B6 will work towards improving at a larger scale. Additionally, the policy acceptance of PHPP or TM54 calculations to meet certain energy performance targets, as an

alternative route to compliance to Policy B2 and an optional bonus in Policy B4, encourages the uptake of these more effective methods of design and performance delivery.

Industry capability

With appropriate engagement with developers operating in the area throughout the local plan process, the local development industry should be well prepared to deliver on these policies. The BREEAM policy specifically may require high levels of skill to be applied through design and construction phases but do not introduce any new skills not currently known and utilised by developers, as BREEAM is commonly required in other local planning areas around the country and commonly required by commercial tenants and commercial custom-build clients.

The required 15% improvement in TER through energy efficiency measures is set to reflect the level required in the London Plan. Therefore any major developer in South Staffordshire that is also active in London should be familiar with this requirement or able to learn from abundant guidance online. However, recognising that recent anecdotal evidence suggests some developers have initially struggled to meet the requirement in London using the new Part L 2021 baseline, the South Staffordshire policy builds in flexibility to this eventuality where it can be validly demonstrated that it is not feasible or viable.

Development Management capability

The capability of Development Management officers to accurately assess these policies is reliant on the degree of training and guidance documents available. It is essential that officers have guidance on hand to assess policies against to ensure that compliance is achieved in accordance with methodologies set out in a subsequent guidance document. Specific upskilling of at least one officer on climate change policies to gain a technical understanding will greatly assist the overall ability of the team to assess policy compliance.

Training sessions for Development Management officers on technical processes involved with net zero carbon development can strengthen internal capabilities to assess and scrutinise applications. These may include:

- Understanding how the National Calculation Methodology for non-residential works (SBEM)
- Understanding the structure and content of the BREEAM certification and rating system
- Understanding of more accurate modelling techniques and tools (e.g. PHPP and TM54)
- Building elements energy performance values (e.g. U-values; heating system type and efficiency) in comparison to those of the notional building set by the current Building Regulations (Part L 2021) and the Future Buildings Standard (FBS)
- Low- and zero-carbon heating and ventilation systems/technologies, and their relative merits in comparison to those of the notional building in Part L and the FBS, as above
- Orientation, form factor and design features for solar PV generation
- Familiarisation with national carbon valuation and national projections about grid carbon reduction.

Link to glossary

Glossary of terms and acronyms

BREDEM	Buildings Research Establishment Domestic Energy Model. A methodology for estimate calculations of the energy use and fuel requirements of a home based on its characteristics. BREDEM is the basis for SAP (see elsewhere in this glossary) but BREDEM retains more flexibility by allowing the user to tailor some assumptions made in the calculations to better reflect the project.
Carbon	Short for 'carbon dioxide' but can also include several other gases that warm the climate. 'Carbon emissions' is when human activities emit these gases to the atmosphere.
Carbon budget	Amount of greenhouse gas that can be emitted by an individual, organisation or geographic area. Usually set to reflect a 'fair share' of the global amount that can be emitted before reaching a level of atmospheric carbon that causes severely harmful climate change.
Carbon intensity/ carbon factors	A measure of how much carbon was emitted to produce and distribute each kWh of grid energy at a certain point in time. For electricity, this has been falling as coal-fired power stations have been phased out over years. It also varies on an hourly basis: at times of high renewable energy generation, the carbon intensity is lower than at points where gas-fired electricity dominates the generation mix.
CO_2	Carbon dioxide. Often shortened to 'carbon'.
CO_2e	Carbon dioxide equivalent. The sum of a mixture of gases, in terms of their climate-changing impact in a 100-year period expressed as the amount of CO_2 that would have the same effect. Often shortened to 'carbon'.
DER	Dwelling Emission Rate. A metric from Part L of building regulations estimating the proposed home's annual CO_2 emissions per square metre of floor, from regulated energy use in the home. Must not exceed TER (see TER definition in this glossary).
Embodied carbon	Carbon that was emitted during the production, transport and assembly of a building, infrastructure, vehicle or other product, before the product is in use. As opposed to 'operational carbon' which is emitted due to energy use when operating the building / infrastructure / vehicle / other product.
EUI	Energy use intensity, a measure of how much energy a building uses per square metre of floor. Expressed in kilowatt-hours per square metre of floor space per year.
GHG	Greenhouse gas (CO_2 and several other gases: methane, nitrogen dioxide, and fluorinated refrigerant gases). Often collectively referred to as 'carbon'.
MVHR	Mechanical Ventilation with Heat Recovery
Part L	Building regulations section that sets basic legal requirements regarding buildings' energy and CO_2.
Performance gap	The 'energy performance gap' is the difference between the amount of energy a building is predicted to use during design, versus the actual amount of energy it uses. The gap is due to poor prediction methodologies, errors in construction, and unexpected building user behaviour.
PV	Photovoltaics: solar panels that generate electricity.
PHPP	Passivhaus Planning Package – a tool to accurately calculate a building's energy use. It is used to design buildings that seek Passivhaus certification, but can be used without pursuing certification.
Regulated energy or carbon	Carbon emissions associated with energy uses that are 'regulated' by Building Regulations Part L. This covers permanent energy uses in the building, (space heating, space cooling hot water, fixed lighting, ventilation, fans and pumps).
SAP	Standard Assessment Procedure – the national calculation method for residential buildings' energy and carbon, used to satisfy building regulations Part L. SAP is based on BREDEM model, but with fixed assumptions and thus less flexibility.
SBEM	Simplified Buildings Energy Model – the national calculation method for non-residential buildings' energy and carbon, used to satisfy building regulations Part L.
Sequestration	Removal and storage of carbon dioxide (or other GHGs) so that it cannot perform its harmful climate-changing role in the atmosphere. Currently only achieved by trees/plants and soil. May be achieved by technologies in future.
Space heat demand	Amount of energy needed to heat a building to a comfortable temperature. Expressed in in kilowatt-hours per square metre of floor space per year.
TER	Target Emission Rate – a limit set by Part L of building regulations on annual CO_2 emissions per square metre of floor, from regulated energy use in the building.
TPER	Target Primary Energy Rate – limit set by Part L of building regulations on 'primary energy' use per square metre of floor. Unlike metered energy, 'primary energy' takes into account energy lost to conversion inefficiencies during power generation and distribution.
TFEE	Target Fabric Energy Efficiency – limit on space heat energy demand per square metre of floor, set by Part L of building regulations. Based only on fabric performance; not affected by building services like heating system, lighting, ventilation[ii].
TM54	A method to accurately calculate buildings' energy use. Devised by Chartered Institution of Building Services Engineers (CIBSE).
Unregulated energy or carbon	Carbon associated with energy use in a building or development but which is not covered by Building Regulations Part L. Includes plug-in appliances, lifts, escalators, external lighting, and any other use not covered by Part L.
WMS (and WMS2023)	Written Ministerial Statement. Made by a government minister, forming an official statement of national policy on a specific topic. 'WMS2023' specifically refers to a WMS made on 13th December 2023 about local plan energy efficiency policies.

Link to glossary

Appendix: References and endnotes

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

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